ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

March 29, 2004

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813-2437

Dear Ms. Salmonson:

Re: Final Environmental Assessment for Kai Makani Project

At its meeting of March 9, 2004 the Maui Planning Commission voted to accept the Final EA prepared for the Kai Makani Project, and issued a Finding of No Significant Impact (FONSI). The Maui Planning Commission respectfully request publication of the Final Environmental Assessment (FEA) in the April 8, 2004, OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form. The four copies of the FEA are being sent under a different cover letter. If you have any questions, please call Mr. Joseph W. Alueta, Staff Planner, of this office at (808) 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:JWA:lar
Enclosures
c: Clayton I. Yoshida, AICP, Planning Administrator
Joseph W. Alueta, Staff Planner
Project File
General File
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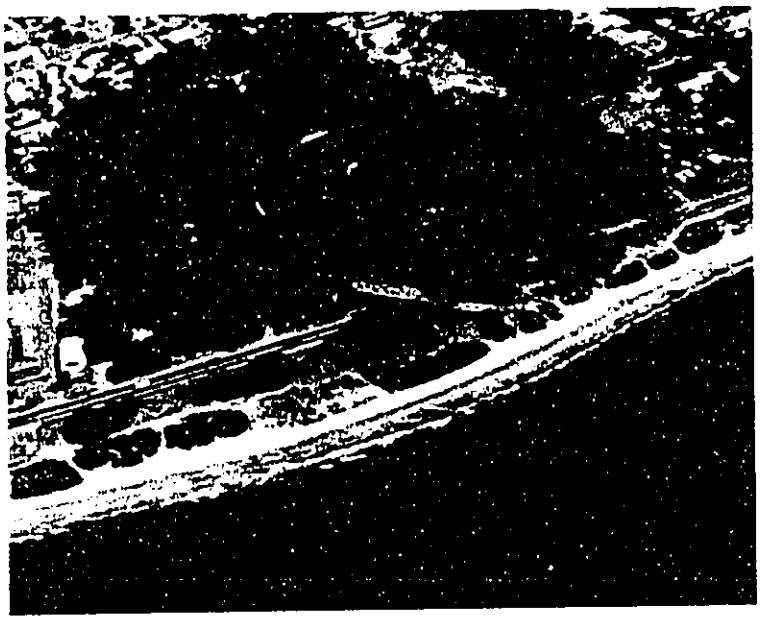
2004-04-08 FONSI
KAI MAKANI MULTI-FAMILY RESIDENTIAL PROJECT

Final
Environmental Assessment
For

KAI MAKANI



TMK Nos.: (2) 3-9-041:002, 003, 026, 038
& TMK No. (2) 3-9-001:025
Kihei • Maui • Hawai`i

CHRIS HART &PARTNERS

March 2004

Final
Environmental Assessment
For

KAI MAKANI

Prepared for

Maui County Planning Commission

County of Maui

250 South High Street

Wailuku, HI 96793

Kihei ● Maui ●Hawaii

Prepared by

Chris Hart & Partners, Inc.

1955 Main Street

Wailuku, Maui, Hawaii 96793

CHRIS HART & PARTNERS

March 2004

ENVIRONMENTAL ASSESSMENT

TABLE OF CONTENTS

ATTACHMENTS

FIGURES

APPENDICES

- Archaeological Assessment Post-Field Summary for parcels 3-9-041:002, 003, and 026 by Bishop Museum, October 8, 1990;
- Archaeological Monitoring Plan for Parcels 3-9-041:002, 003, and 026 by Scientific Consultant Services, April 2000;
- Letter dated May 10, 2001, from the State Historic Preservation Division;
- Archeological Inventory Survey for parcel 3-9-041:038 (previously identified as a portion of TMK Parcel No. 3-9-041:027) by Scientific Consultant Services, January 2002; and
- Letter dated March 4, 2002, from the State Historic Preservation Division.

Appendix C	Cultural Impact Assessment
Appendix D	Botanical Assessment
Appendix E	Maui Scenic Coastal Resources Study, Kihei Map
Appendix F	Preliminary Engineering and Drainage Report
Appendix G	Traffic Impact Assessment
Appendix H	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 development of a 112-unit multi-family residential development, supporting on- and off-site infrastructure, and required improvements to Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park) on property situated in Kihei, Maui, Hawaii; TMK Nos: (2) 3-9-041:002, 003, 026, 038 and TMK Parcel No. (2) 3-9-001: 025.

B. PROJECT PROFILE

Proposed Project:	112 multi-family residences; recreation cabana; swimming pool; bicycle/pedestrian path linking Kenolio Road with South Kihei Road; landscape planting and on-street parking improvements to South Kihei Road; and demolition of the existing restroom facility and construction of a new restroom facility/pavilion at Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park)
Development Concept:	Planned Development
Existing Land Use:	Kai Makani Parcels: Undeveloped Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park): Active Beach Park
Project Area:	Kai Makani: 10.442-acres

	Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park): Portion of 5.6-acres
Access:	South Kihei Road; Kenolio Road

C. REQUIRED LAND USE AND DEVELOPMENT PERMITS

The following land use, development permits and approvals are required for the project, and all, except building permits, are in the process of being obtained:

- Special Management Area (SMA) Permit
- Planned Development Approval
- National Pollution Discharge Elimination System (NPDES) Permit
- Grading Permit
- Flood Hazard Development Permit
- Final Subdivision Approval
- Building Permits

D. IDENTIFICATION OF THE APPLICANT

Owner:	Aheahe Makani LLC.
Address:	825 Van Ness Ave. #301 San Francisco, CA, 94109
Phone/Fax:	Phone: 415-776-1170 Fax: 415-776-1169
Contact:	Mr. Adam Sparks

E. CONSULTANT

Land Use Planners:	Chris Hart & Partners, Inc. 1955 Main Street, Suite 200 Wailuku, Maui, Hawaii 96793-1706
Phone/Fax	Phone: 808-242-1955, Fax: 808-242-1956
Contact:	Mr. Christopher L. Hart, ASLA

F. ACCEPTING AGENCY

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

G. PRE-CONSULTED AGENCIES AND COMMUNITY GROUPS

A. COUNTY OF MAUI (See: Appendix A, "List of Pre-consultation Activities with Agencies, Community Organizations, and Neighbors Prior to Public Hearing")

1. Department of Planning
2. Department of Public Works and Environmental Management
3. Department of Parks and Recreation
4. Department of Housing and Human Concerns

B. STATE OF HAWAII

1. Department of Transportation

C. PRIVATE INTERESTS

1. Kihei Community Association (KCA)
2. Neighboring property owners

II. DESCRIPTION OF THE PROPERTY AND PROPOSED ACTION

A. PROPERTY LOCATION

The subject property is located along South Kihei Road, approximately 400 feet south of the Ohukai Road-South Kihei Road intersection, within the developed area of North Kihei, Maui, Hawaii; TMK Parcel Nos: (2) 3-9-41:002, 003, 026, 038 and TMK Parcel No. (2) 3-9-001:025 (See: Figure No. 1, "Regional Location").

B. EXISTING LAND USE

The Kai Makani project site is not being used for any particular purpose and is presently undeveloped and overgrown with Kiawe trees, shrubs, weeds, bushes, and grasses.

Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park) is an established 5.6-acre narrow linear beach park situated between South Kihei Road and the Pacific Ocean directly across from the Kai Makani property. Maipoina Oe Lau Beach Park fronts a long sandy shoreline that is popular with windsurfers. The park maintains limited facilities including approximately six off-street parking stalls, a pavilion, picnic tables, restroom, and showers.

C. LAND USE DESIGNATIONS

State Land Use Classification:	Urban
Kihei-Makena Community Plan:	Kai Makani: Parcels 2, 3, and 26: Multi-Family Parcel 38 :Single-Family Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park) (TMK: 3-9-001:025) Park

(See: Figure Nos. 3 and 4, "Community Plan Map" and "Aerial/Community Plan Photograph Overlay Map")

County Zoning:	Kai Makani: Parcels 2, 3, and 26: A-1, Apartment (Conditional Zoning Approved on November 22, 1990) Parcel 38: R-2, Residential Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park): (TMK: 3-9-001:025) Park (See: Figure No. 5, "Zoning Map")
Flood Zone Designation:	Kai Makani: C, A4 (BFE 9'– 10'), A-0 (BFE 1') Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park) V18 (See: Figure No. 6, "Flood Insurance Rate Map")
Special Designations:	Special Management Area (SMA) (See: Figure No. 11, "SMA Map")

D. DESCRIPTION OF PROPOSED ACTION

The applicant, Aheahe Makani LLC, is proposing to develop 112 multi-family residential units on an undeveloped 10.442-acre parcel. The subject property will be developed in accordance with Maui County Code, Chapter 19.32, "Planned Development", which allows for a mixture of uses, densities and/or dwelling units on lands including more than one zoning district.

The subject 10.442-acre project consists of approximately 7.3-acres of land zoned A1, Apartment District, and identified as Multi-Family on the Kihei-Makena Community

Plan Map (TMK Nos. 3-9-041:002, 003, and 026). The remaining 3.14-acres is zoned R-2, Residential District, and is identified as Single-Family on the Kihei-Makena Community Plan Map (TMK No. 3-9-041:038). Pursuant to Maui County Code (MCC), Section 19.32, "Planned Development", the single-family portion of the development can support 18 dwelling units while the multi-family portion can support approximately 127,195 square feet of gross floor area. The Planned Development district allows for residential units to be grouped in buildings containing five or fewer units for project districts greater than 10-acres. The proposed residential units will be grouped in four - 4-unit buildings, which are dispersed throughout the project site. A ten percent density bonus is available for projects greater than 10- acres.

Kai Makani will offer twenty-eight (28) 3-bedroom models and eighty-four (84) 2-bedroom models. Units will range in size from 806 - 1,140 square feet. Each unit will include 2 parking stalls. The total number of parking stalls provided is 271, which are 47 stalls more than the minimum number required. A swimming pool and 1,580 square feet recreation cabana will be incorporated into the project. Approximately thirty-eight (38) percent of the proposed units (43) will be sold at 140% or less of the median household income for a family of four as established by the Department of Housing and Urban Development for Maui County households.

The proposed project will require the provision of both on and off-site infrastructure to support the development. On-site infrastructure will include asphalt paved driveways, parking lots, as well as, the provision of water, sewer, drainage, electrical, and telephone system improvements. Improvements to Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park) are also required as part of the project. These improvements include the renovation and expansion of the existing restroom facility, the provision of on-street parallel parking stalls along the makai side of South Kihei Road, a 3-car unloading zone within the park, and landscape planting improvements along South Kihei Road and within the park.

Kai Makani has been designed with a mixture of four, six, eight, and ten unit building types dispersed throughout the project. Affordable units are intermixed with market priced units following the recognized planning principle of avoiding segregation of neighborhoods by income. The project's South Kihei Road frontage will be developed with four and six unit buildings to break up the massing along the roadway and to preserve ocean views from buildings located at the rear of the property.

The project imparts an architectural theme that offers a similar palette of materials to present a unified low-profile theme throughout the project. The urban design concept

will integrate structural components, open space, recreational amenities, and landscape planting into a well defined whole. The project is designed to reflect and amplify the multi-family and single-family residential character of the immediate neighborhood while maintaining a respectful, unified identity for its residents.

Table 1 shows the project's design specifications.

Project Design Specifications		
Lot Area		10.442 Acres
No. Multi-Family Units		112
Project Density	112/10.442	10.7 Units/Acre
A1 District Density	86/7.3	11.80 Units/Acre
R2 District Density	26/3.14	8.3 Units/Acre
Gross Covered Floor Area (A-1 District)	Allowable = 127,195 SF or 40%	Proposed = 109,610 SF or 34%
Gross Covered Floor Area with 10% bonus	Allowable with bonus = 139,915 Square Feet or 44%	Proposed = 109,610 SF or 34%
Lot Coverage (A-1 District)	Allowable = 79,487 SF or 25%	Proposed = 55,840 SF or 17.5%
Unit Type Multi-Family TOTAL	 3-bedroom, at 1140 SF 2-bedroom, at 806 SF to 1085 SF	Units 28 Units 84 Units 112 Units
No. Multi-Family Buildings		19
No. Units per Building TOTAL	 4-Unit Buildings 6-Unit Buildings 8-Unit Buildings 10-Unit Buildings	No. Buildings / No. Units 6 / 24 10 / 60 1 / 8 2 / 20 19 / 112
Building Height	2-Story Buildings	29'-8"
Impervious Surfaces		221,720 SF or 52%
Pervious Surfaces (Open Space)		207,346 SF or 48%
Contiguous Landscaped Open Space		2.768-acres or 26.5%
Parking	Provided	271 Stalls

	Required @ 2 Stalls/Unit	224 Stalls
	Surplus	47 Stalls

Figure No. 7a shows the proposed conceptual site and landscape-planting plan for the subject development. The following is a description of the project's major components.

Multi-Family Buildings. The project will consist of the following building types: 6 - four-unit buildings, 10 - six-unit buildings, 1 - eight-unit building, and 2 ten-unit buildings.

On-site Recreation. A private swimming pool and recreation cabana will be incorporated into the project. The project will also provide a pedestrian/bicycle way linking the project site with Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park).

Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park). There are two park dedication requirements applicable to the project. First, as a condition of zoning, the applicant is required to make a $150,000.00 contribution towards improvements to Maipoina Oe Lau Beach Park. The subject improvements must be made pursuant to plans agreed upon by the Department of Parks and Recreation and be constructed concurrently with development of the project site. In order to address this requirement, the Department of Parks and Recreation has requested that the park's restroom facility be improved and expanded. Because the existing facility is in considerable disrepair and located within close proximity to shoreline dunes, it was determined that it would be more cost effective and environmentally sound to demolish the existing structure and construct a new facility further away from the shoreline. The new facility would have a footprint of approximately 23'x47' and would be located approximately twelve feet mauka of its current location (See: Figure 8f, "Conceptual Restroom Improvements"). The new restroom/pavilion will include the following facilities:

- Women's restroom to include three (3) toilets and a sink;
- Men's restroom to include two (2) toilets, one (1) urinal, and a sink;
- A unisex ADA accessible restroom with one (1) toilet and one (1) sink;
- An approximate 155 square feet pavilion with lighting and electricity; and
- Landscape planting around the structure.

Second, the project is subject to the park dedication requirements pursuant to MCC, Chapter 18.16.320, "Parks and Playgrounds". In order to satisfy this requirement, the applicant proposes to develop 20-onstreet parallel parking stalls along South Kihei Road and a 3-car unloading zone within the park. These improvements are designed to

alleviate the current parking shortage at the park. In order to provide easier ingress and egress to windsurfing vans entering the parallel stalls, the stalls have been lengthened from 22 to 24 feet and widened from 81/2 to 91/2 feet. In addition, landscape planting improvements will be made within the park and along South Kihei Road in order to beautify the grounds, stabilize the dunes, and create more park area (See: Figure No. 8b, "Option A - Preferred Park Improvement Plan"). After the proposed improvements, the net gain in park area will be approximately 3,000 square feet. Should the Department of Parks and Recreation decide not to except these improvements, the Applicant will be subject to a cash contribution towards the parks and playgrounds assessment fees.

The applicant initially proposed to construct a public tennis court on the property. However, the Maui Planning Commission expressed concerns that additional on-site parking was needed to mitigate the potential for overflow parking onto South Kihei Road and Mai Poina Oe Lau Beach Park. Therefore, the public tennis court was abandoned in favor of 23 additional on-site parking stalls.

Open Space Features. Approximately 26.5% of the total project area, or 2.768-acres, will be maintained as an unobstructed, undeveloped, and contiguous landscaped open space corridor linking South Kihei Road to Kenolio Road in a mauka/makai direction. This landscaped corridor will make available an expansive garden like setting throughout the project site and will provide a visual and pedestrian linkage between the project's swimming pool, recreation cabana, and Maipoina Oe Lau Beach Park. The proposed landscaped open space is in compliance with MCC Section 19.32.030(B), which requires that not less than twenty percent of the area of a Planned Development be dedicated to "common open space integrated with the lot layout and street system in order to maximize its park like effect". Landscaping of primarily Polynesian species palm trees, shade trees, bushes, flowers, and grasses will beautify the grounds. The project's open space will be owned in common for the enjoyment of all of the project's residents.

Sustainable Building Design Techniques. A number of sustainable building design techniques have or will be implemented, including but not limited to the following:

- Assessment of site characteristics such as vegetation, topography, geology, climate, natural access, solar orientation patterns, water and drainage, and existing utility and transportation infrastructure to determine the appropriate use of the site.
- Selection of a site with short connections to existing municipal infrastructure systems.

- Placement of buildings to take advantage of natural features and to maximize their beneficial effects. Building placement maximizes and preserves positive site characteristics, enhances human comfort, safety and health, and achieves operational efficiencies.
- Minimizing disruption of drainage channels.
- Provision of erosion and dust control measures.
- Utilizing energy and resource efficient building design.
- Tree planting to shade buildings and paved areas.
- Utilizing site sensitive orientation to:
    - Minimize cooling loads through site shading and carefully planned east-west orientation.
    - Incorporate natural ventilation by channeling trade winds.
    - Maximize daylighting.
- Designing south, east and west shading devices to minimize solar heat gain.
- Maximizing efficiencies for lighting, heating, ventilation, air conditioning systems and other equipment.
- Providing tenant sub-metering to encourage utility use accountability.
- Installing water conserving, low flow fixtures.
- Incorporating water efficient landscaping (xeriscaping) into the landscape design.
- Utilizing properly planned and efficient irrigation systems.
- Selecting appropriate plants for the Kihei area, thereby minimizing need for irrigation.
- Using topsoil from the graded areas, stockpiled on the site and protected with a silt fence to reduce the need for imported topsoil.
- Utilization of solar water heating throughout the project.
- Radiant Barrier Roof Sheathing to keep the attic cool.
- Thermostatically controlled attic fans.
- R-11 insulation in exterior walls.
- R-19 insulation in ceilings.

Access. Access to the project site will be provided from South Kihei Road via driveways situated along the north and south property lines and a single driveway along Kenolio Road.

Site Improvements. Site improvements will consist of, but are not limited to, an asphalt paved internal roadway and parking lots, concrete sidewalks, concrete curb and gutters, and landscape planting. Underground utility improvements will consist of

underground drainage, sewer, and water delivery and fire protection systems, along with underground electrical, telephone, and cable distribution systems.

Construction. Construction is anticipated to begin once all of the required State and County Permits have been issued. It is anticipated that full build-out of the site will require approximately 12 to 18 months to complete. There will be short-term construction related impacts to the surrounding environment. Standard mitigation measures to control these impacts are described in Section III of this report.

E. ALTERNATIVES

1. No action

Analysis. The subject property is community planned and zoned for multi-family and single-family residential use and is within an urbanized area of North Kihei. Surrounding properties are either developed, being developed, or are zoned and community planned for residential or multi-family residential use. As such, the proposed project is consistent with the planned future growth of Kihei.

Due to the subject property's physical and locational characteristics commercial, industrial, hotel, and agricultural uses are inappropriate for the site. Maintaining the property in its undeveloped state would deprive the community of market-based and affordably priced multi-family residences, property tax revenues, as well as, short-term employment during the construction phase of the project.

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.

2. Alternative styles, size, and configuration

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

Maximum Density. Developing the project to the highest potential density can be achieved by reducing the size of the units. For example, by reducing the size of the units to 850 square feet, approximately 156 units could be built. Increasing the number of units would increase the paved parking requirement by 88 stalls and substantially

impact the project's on-site open space and on-site recreation facilities and infrastructure, as well as the demand on public infrastructure and services. The maximum density alternative would also negatively impact the balanced residential urban design character of the project.

Fewer Units. Reducing the number or the size of the proposed structures would produce fewer units; thereby, reducing the project's marginal impact on public infrastructure and services. However, decreasing the number of units would require that certain fixed development costs, i.e. land acquisition, planning and design studies, and on- and off-site infrastructure improvements, be amortized over fewer units thus increasing the cost per unit and resulting in a less affordable, profitable or an economically unviable project.

Alternative Styles.

Massing. Massing affects the size and separation between buildings and is an important consideration in urban design. Generally speaking, massing of buildings within a proposed development should be architecturally compatible with adjacent existing development and future land use patterns. The proposed development represents a mixture of four, six, eight, and ten unit buildings designed to be architecturally consistent with adjacent developments and the larger ocean-oriented community that together creates a diversity of scale, massing, and character that is complimentary of the adjacent urban environment.

In contrast, the same number of multi-family units could be provided within a uniform building type. However, this scenario would drastically change the diversity of scale, massing and character that the proposed project provides.

Alternative Architectural Design. The project has been designed to reflect and enhance the residential character of the immediate neighborhood while maintaining a strong resemblance to modern Hawaiian architectural forms. The buildings have a similar palette of materials to present a unified low profile theme throughout the project. In contrast, the entire project could be designed as a traditional multi-family development painted with non earth-toned colors and architecturally incompatible with the area.

3. Alternative Park Improvement Plans

Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park) is an established 5.6-acre narrow linear beach park situated between South Kihei Road and the Pacific Ocean

directly across from the Kai Makani property. Maipoina Oe Lau Beach Park fronts a long sandy shoreline that is popular with windsurfers. The park maintains limited facilities including approximately six (6) off-street parking stalls, a pavilion, picnic tables, restroom, and showers. According to windsurfers that frequent the park, the park suffers from a shortage of safe, convenient and accessible parking stalls during periods of favorable windsurfing conditions, which occurs from approximately 40-50 days per year. The lack of safe parking during these periods has resulted in haphazard parking along the shoulders of South Kihei Road and on the existing shoreline dunes. The situation is exacerbated with automobiles reversing directly onto South Kihei Road causing traffic delays and safety concerns. Existing facilities including the restroom and showers are also in disrepair and the park suffers from a general shortage of park space for beach users.

The preferred park improvement alternative is to remove the existing restroom/pavilion facility and construct a new restroom/pavilion facility further from the shoreline. In addition to these improvements, and in order to satisfy the project's park dedication requirements pursuant to MCC, Chapter 18.16.320, the applicant proposes to provide twenty (20) on-street parallel parking stalls along the makai side of South Kihei Road, a 3-car unloading zone within the park, and landscape planting improvements along South Kihei Road and within the park. Combined, the proposed improvements will modernize and expand the park's restroom facilities, alleviate the existing parking shortage, and provide for safe ingress and egress onto South Kihei Road. In addition, landscape planting improvements will be made within the park and along South Kihei Road in order to beautify the grounds, stabilize the dunes, and create more park area for beach users (See: Figure No. 8b, "Option A – Preferred Park Improvement Plan" and Figure No. 8e, "Conceptual Restroom Improvements).

One of the primary concerns regarding the Kai Makani development is that the project's parking demand will "spill over" onto the shoulders of South Kihei Road and into the park; thereby, exacerbating the existing parking shortage at the park. In response to this concern, an additional 31 visitor parking stalls have been incorporated into the project. With the additional stalls, a total of 47 visitor stalls will be available and the ratio of stalls per unit becomes 2.41 versus the required 2.0. With the incorporation of additional on-site parking, the development will not impact the availability of beach parking at the park.

An alternative plan (Option B) is to construct approximately 18 angled parking stalls within the park and an additional 10 parallel parking stalls along the makai side of South Kihei Road. Option B provides a total of 28 parking stalls whereas Option A

provides a total of 20 parking stalls (See: Figure No. 8c, "Option B – Alternative Park Improvement Plan"). While Option B maximizes the number of stalls provided, its principal cost is the encroachment of unnatural semi-hardened surfaces within close proximity to shoreline dunes. In addition, Option B consumes already scarce open space park area in favor of parking.

A third option (Option C) is to incorporate pubic parking for beach users on the Kai Makani property. The benefit of Option C is that the parking would allow for easier loading and unloading of windsurfing gear in comparison to parallel parking along South Kihei Road. Option C may also better accommodate windsurfing vans. The disadvantages associated with Option C are as follows:

- Ingress and egress from the parking lot onto South Kihei Road would be restricted to right turns in, out and left in only;
- Pedestrians would be required to cross South Kihei Road in order to access the park;
- Windsurfers would be required to carry gear across South Kihei Road;
- The subject parking would compromise Kai Makani's on-site drainage facilities, urban design character, and on-site open space and recreational amenities.

A fourth option (Option D) is to purchase additional property in order to provide beach parking. In September 2003 the applicant contacted the owner of TMK No. 3-9-041:004 regarding the owner's interest in selling the property. This property is situated adjacent to the northern boundary of the subject property. The property owner reported that the property is not for sale. As such, acquisition of the property will need to be through eminent domain. With the exception of the direct impact to the Kai Makani site plan, the disadvantages associated with Option D are similar to Option C.

A fifth option, (Option E) is to realign South Kihei Road further mauka in order to place parking in the park in a manner similar to what is being proposed in Option B, but approximately 6-feet further from the shoreline dunes (See: Figure No. 8d, "Option E – Realign South Kihei Road"). This option is not supported by the Department of Public Works and Environmental Management (DPWEM) and the Department of Planning for several reasons, including:

- The parking would still occur within the dune system and the proposed hardened and semi-hardened surfaces may negatively impact shoreline processes.

- The realignment of South Kihei Road would require condemnation of property to the north and south of Kai Makani in order to create a safe transition in the roadway.
- Maintenance of the parking lot would be difficult due to drifting sand.
- The realignment would require a minimum of at least six (6) additional feet of right-of-way into the Kai Makani property.

The realignment of South Kihei Road would also have a significant impact on the project's on-site drainage system and would negatively impact the open space character of the project.

Regarding the proposed restroom improvements, an alternative to the proposed plan is to relocate the facility to the existing lawn area rather than move it further mauka of its existing location. The benefit of this scenario is that the structure would be further removed from the shoreline. However, the costs associated with this alternative relate primarily to the visual impact that the structure would have upon the existing open-space character of the park.

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

A. PHYSICAL ENVIRONMENT

1. Land Use

Existing Conditions. The subject property is located within North Kihei, on the leeward facing shore of Maui. A patchwork of existing multi- and single-family residences, commercial, and resort developments characterize North Kihei. Development in the region generally occurs in a linear pattern between the shoreline and Piilani Highway, a two-lane principal arterial road from Mokulele Highway to Mapu Place/Kilohana Street. South Kihei Road is a two-lane major urban collector road that provides service along the shoreline to residential, commercial, and condominium resort areas. Zoning and Community Plan Designations throughout North Kihei is predominantly in support of multi- and single-family residential uses. Commercial uses are concentrated within regional shopping centers including Pi`ilani Village Shopping Center, as well as, in smaller strip commercial developments located along South Kihei Road. The Pi`ilani Village Shopping center is situated approximately two miles southeast of the subject site and is accessible from both Pi`ilani Highway and Lipoa Street. The Center serves a regional market and includes such tenants as Safeway, Starbucks, Shell, Hilo Hattie, and Super Cuts, as well as, various restaurants and other services.

The subject property is bound to the north, south, and east by existing single- and multi-family residential developments and by undeveloped land community planned and zoned for such uses. Within the context of the developed urban landscape that currently exists, the proposed development can be characterized as an urban infill project. The parcel maintains approximately 657 feet of frontage along South Kihei Road and is approximately 873 feet deep. The proposed development is in character with the established regional land use pattern in the area.

Properties abutting the southern boundary of the subject property support the Nona Lani Cottage's, a multi-building apartment complex (Kihei Holiday), and the Maui Beach Resort. To the north are single-family residences and undeveloped land zoned for single-family residential use. To the west, across South Kihei Road, is the Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park). To the east are established single-family

residential neighborhoods. The Community Plan map presents an illustration of the range of potential future land uses planned within the immediate area (See: Figure Nos. 3 and 4, "Community Plan Map" and "Community Plan/Aerial Photograph Overlay Map"). The following is a description of zoning, community plan designations, and existing land uses adjacent to the subject property:

North:	Zoning: (R-2) Residential Community Plan: Single-Family State Land Use: Urban **Existing uses.** Single-Family Residences, Undeveloped land zoned for (R-2) residential development
South:	Zoning: (R-2) Residential; (H-M) Hotel Medium Community Plan: Multi-Family State Land Use: Urban **Existing uses.** Nona Lani Cottages (vacation rentals), multi-family residences (Kihei Holiday)
East:	Zoning: (R-2) Residential Community Plan: Single-Family State Land Use: Urban **Existing uses.** Single-family residences, land zoned for (R-2) residential development
West:	Zoning: (PK) Park Community Plan: Park State Land Use: Urban **Existing uses.** Maipoina Oe Lau Beach Park (Kihei Memorial Park)

Potential Impacts and Mitigation Measures. The proposed multi-family project is located within an area that is zoned and community planned for multi-family residential development. Existing land development in the area largely reflects this settlement pattern. During our pre-consultation meetings with neighboring property owners, a

concern was raised regarding the need to preserve the existing Kiawe trees adjacent to the tennis court in order to mitigate noise and visual related impacts. In response, the Kiawe trees will be maintained where practical, or a suitable shade tree, such as a Milo, will be planted in its place.

In the context of the Kihei-Makena Community Plan, which was adopted in order to guide future development in the area, there will be no conflict with existing or future land use patterns in the area.

2. Topography and Soils

Existing Conditions. The project site is covered with various trees, grasses, and weeds. There is an existing Quonset Hut and 2 small sheds located on the mauka portion of the project site. The elevations on the site ranges from 18 feet at Kenolio Road to 4 feet at South Kihei Road, averaging about 1.6%.

According to the "Soil Survey of Islands of Kaui, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soils within the project site are classified as Dune land (DL) and Waiakoa extremely stony silty clay loam WID2).

Dune land consists of hills and ridges of sand-sized particles drifted and piled by wind. The hills and ridges are actively shifting or are so recently fixed or stabilized that no soil horizons have been developed. Waiakoa extremely stony silty clay loam is characterized as having medium runoff and a severe erosion hazard.

Rainfall in this area of North Kihei ranges between 10 and 12 inches annually, with most precipitation occurring in winter.

Potential Impacts and Mitigation Measures. The topographic and soil analysis suggests that the proposed land uses are suitable for the site, including driveways and parking, buildings, pool area, and tennis court.

3. Terrestrial Biota (Flora and Fauna)

Existing Conditions. A Botanical Resources Assessment Study was prepared by Winona P. Char, which provides a general description of the vegetation on the site, searches for threatened and endangered species as swell as species of concern, and identifies

potential environmental problems or concerns and proposes appropriate mitigation measures (See: Appendix D, Botanical Assessment).

The vegetation on the site is typical of disturbed, lowland, dry, coastal areas in the Hawaiian Islands. It consists of kiawe trees with patches of buffelgrass and other weedy introduced species. Only one native species, the 'uhaloa was observed on the site. No endemic species, i.e. native only to the Hawaiian Islands, were found.

None of the plants found on the site is a threatened and endangered species or a species of concern. The vegetation is dominated by introduced plants. No wetlands occur on the site; the well-drained substrate consists of sand or sandy loam. Almost all the site appears to have been disturbed at some time.

Avifauna typically found in the area includes the Northern Cardinal, House Finch and gray and Black Francolin. Mammals common to this area include cats, dogs, rats, mice, and mongoose. No known rare, endangered, or threatened species of fauna were discovered on the subject property.

Potential Impacts and Mitigation Measures. The Botanical Resources Assessment Study concludes that given the above-referenced findings, the proposed use of the site is not expected to have a significant negative impact on botanical resources and that there are no botanical reasons to impose any restrictions, conditions, or impediments to the proposed development

4. Flood and Tsunami Hazard

Existing Conditions. According to Panel Number 150003 0265 C of the Flood Insurance Rate Map, September 6, 1989, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zones V18, AO (depth 1 foot), and C. Flood Zone V18 is defined as areas of 100-year coastal flood with velocity (wave action) and flood hazard factors determined. Flood Zone AO is defined as areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazards are determined. Flood Zone C represents areas of minimal flooding.

Potential Impacts and Mitigation Measures. Flood zone designations have been a primary consideration during site planning of the property. Only a small portion of the site is located with Flood Zone V18 (tsunami zone). There will be no structures located in this zone. The remainder of the site is located in Flood Zones A4, AO (depth 1 foot),

and C. The structures located in Flood Zone AO will have the finish floor elevations set at least 1 foot higher than the lowest grade. There are no requirements for Flood Zone C.

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 North Kihei 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 North Kihei 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, will 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 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 traffic routes, and locating potentially dusty equipment in areas of least impact.
- Providing adequate water source on site prior to start-up of construction activities;
- Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase;
- Controlling of dust from shoulders, project entrances, and access roads; and
- Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities. Controlling of dust from debris hauled away from project site.
- The increase in the number of residents may result in an increase in the volume of traffic in the region, which would increase vehicular emissions such as carbon

monoxide. However, this increase is not considered significant when compared to the overall number of vehicles in Kihei and in consideration of existing ambient conditions. Thus, the proposed project is not anticipated to be detrimental to local air quality.

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 South Kihei Road is the predominant source 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 impacts to the surrounding neighbors; the developer will limit construction activities to normal daylight hours, and 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". 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. An archaeological assessment was conducted for parcels 3-9-041:002, 003, and 026 by Bishop Museum (See: Appendix B, Archeological Assessment Post-Field Summary for parcels 3-9-041002, 003, and 026 by Bishop Museum, October 8, 1990). The archaeological assessment included a surface walk-through followed by selective placement of backhoe trenches. A total of nine (9) trenches were evacuated. All trenches did not contain any observable cultural remains. Based on the negative results of the walk-through and trenching, no further archaeological work is recommended on parcels 002, 003, and 026 prior to construction. While the Archaeologist recommends no further archaeological work prior to construction, it was recommended that archaeological monitoring be conducted during all construction-

related ground disturbing activities. As such, Scientific Consultant Services prepared an Archaeological Monitoring Plan in March 2000 for the project. The results of the archaeological investigation will ensure that significant cultural remains, if present, are identified, documented and adequately sampled (See Appendix B, Archaeological Monitoring Plan for parcels 3-9-041:002, 003, and 026 by Scientific Consultant Services, April 2000 and Letter Dated May 10, 2001, from the State Historic Preservation Division).

An Archaeological Inventory Survey was conducted for parcel 3-9-041:027 by Scientific Consultant Services in January 2002 (See Appendix B, Archeological Inventory Survey for parcel 3-9-041:027 by Scientific Consultant Services, January 2002 and Letter dated March 4, 2002, from the State Historic Preservation Division). The Inventory Survey included historic background research and settlement pattern analysis prior to fieldwork, a complete pedestrian survey of the project area, representative subsurface testing, and reporting.

Complete systematic pedestrian survey of the subject parcel and representative trenching activities failed to reveal significant cultural remains or deposits. It is estimated that one reason the research produced negative results was that the project area occurred in a former marsh area subject to tidal inundations. Based on the results of the survey and subsurface trenching, the subject parcel does not contain significant cultural features or deposits.

Potential Impacts and Mitigation Measures. The archaeological reconnaissance performed by Bishop Museum found no cultural remains on parcels 002, 003, and 026. Archaeological Monitoring will occur on parcels 002, 003, and 026 during construction to ensure that significant cultural remains, if present, are identified, documented and adequately sampled (See: Appendix B).

As for parcel 027, Scientific Consultant Services and the State Historic Preservation Division conclude that no additional archaeological mitigation, including monitoring during construction, is deemed necessary for the project area (See: Appendix B).

8. Visual Resources

Existing Conditions. The subject property is situated along the mauka side of South Kihei Road within the urbanized area of North Kihei.

North Kihei offers sweeping views of the Pacific Ocean and Haleakala. Public views of these resources exist in various locations from Pi`ilani Highway and South Kihei Road. The proposed development is located to the north of the terminus of North Kihei Road and Pi`ilani Highway and will therefore not affect these resources.

Numerous scenic resources have been identified in North Kihei, which are identified and discussed in the Maui Scenic Coastal Resources Study, August 1990 (See Appendix E). Appendix E in this report does not identify any significant view occurring across the subject property that will be affected by the development.

The site is currently undeveloped, thickly vegetated with kiawe trees, bushes, and shrubs, and contains no unique scenic resources. Ocean views from the subject property are currently unobstructed. The project site is visible from South Kihei Road.

Potential Impacts and Mitigation Measures. As discussed, no unique scenic resources will be impacted by the development. However, from an urban design perspective, the proposed development will serve to create a more unified and cohesive residential development pattern in the area.

To enhance the visual qualities into the project area, the landscape concept plan proposes xeriscaping and planting of primarily Polynesian species shade trees within the project site to enhance the project's aesthetics. Prominent trees identified in the conceptual landscape plan include coconut palms, monkey pods, Hawaiian Kou, True Kamani, and Pink Tacoma among others (See Figure No. 8a, Conceptual Site and Landscape Planting Plan).

As such, 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.

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. Using national demographic multipliers for standard housing types (American Housing Survey, 1987), the proposed project may increase the population of the immediate North Kihei area by approximately 280 persons. This represents approximately 3.4% to 3.7% of the projected growth in resident population for the Kihei-Makena region between 1990 and 2010.

2. Housing

According to the Hawaii Housing Policy Survey (October 1997), the total number of housing units in Maui County for 1997 was 39,252, up from 34,266 in 1992. The housing stock increased during this period by approximately 4,986 units (14.6% growth) relative to slower growth in population (10.9%). Thus, housing conditions in the County have improved since the early 1990's. However, the study suggests that in order to eliminate residual pent-up demand to 2006, approximately 800 new units will be required per year. According to the Department of Housing and Human Concerns, Consolidated Plan For the Period July 1, 2000 Through June 30, 2005, homeownership and rental housing need by income group for Maui County for 2000-2004 is estimated as follows:

Table I. Home Ownership

Year	<30%	30.01 % -50%	50.01 % -80%	80.0% -100%	100.% 120%	120.01% -140%	140.0 % -180%	>180%	Total
2000	13	20	58	64	46	52	70	70	393
2001	14	20	54	63	45	53	70	71	390

2002	13	20	54	63	43	53	70	71	389
2003	13	20	59	62	46	52	70	71	392
2004	16	20	59	62	46	52	70	70	395
Total	**69**	**100**	**284**	**314**	**227**	**257**	**347**	**353**	**1959**

Table II. Rental

Year	<30%	30.01 % -50%	50.01 % -80%	80.0% -100%	100.% 120%	120.01% -140%	140.0 % -180%	>180%	Total
2000	67	70	92	26	54	18	40	30	397
2001	66	70	86	27	55	17	40	29	390
2002	67	70	86	27	55	17	40	29	391
2003	67	70	91	28	55	18	40	29	398
2004	73	70	91	28	54	18	40	30	404
Total	**340**	**350**	**446**	**136**	**273**	**88**	**200**	**147**	**1980**

Within Kihei-Makena, the study identified approximately 5,134 housing units in 1997. A Survey of Kihei-Makena residents, whom indicated a desire to change residences, provides the following insights (Hawaii Housing Policy Survey, October 1997):

- 83% of respondents prefer single-family housing;
- 68% prefer 3 or more bedrooms; and
- 55% prefer home ownership.

According to the Realtors Association of Maui, the median home price of single-family homes in Maui County was $486,000 in September 2003. In 2001, the median sales price for a single-family residential dwelling in Maui County was $299,000 and $309,000 in Kihei while the median sales price for a condominium in Kihei was $146,975 (County of Maui, Office of Economic Development, June 2002).

Potential Impacts and Mitigation Measures. The project will consist of approximately 112 multi-family units of which approximately 43 units will be offered for sale in fee simple at a price determined by the Director of Housing and Human Concerns of the County of Maui to be affordable to a person with a gross annual household income of not more than 140% of the median income for the County of Maui, for a family of four as established by the Department of Housing and Urban Development of the United States of America. The requirement for affordable housing arises out of a Unilateral Agreement (Ordinance No. 1881, Bill No. 115 (1990)) that was negotiated between the County and

the prior property owner when the subject property was rezoned from R-2 Residential District to A-1 Apartment District. As such, the proposed project will serve to reduce the existing pent-up demand for affordably priced residences within the County.

3. 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 regions 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. The establishment of a K-12 high school adjacent to the R&T Park will create additional employment within Kihei.

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. The proposed project will produce a limited number of full and part-time jobs during the construction phase of the development.

Short-term construction related impacts. Using the State of Hawaii, Department of Business Economic Development and Tourism's Input-Output Model (1998), the direct, indirect, and induced employment impact generated during the construction phase of the development is approximately 370 jobs. The direct employment impact is estimated to be approximately 108 jobs during the construction phase.

4. Cultural Resources

Existing Conditions. A Cultural Impact Assessment Report was prepared by Kapiioho Lyons Naone Cultural Consulting, Inc., which describes the potential impact on cultural practices and beliefs resulting from the proposed action (See: Appendix C, Cultural Impact Assessment). The assessment covered the entire project site. The methods used to conduct the assessment included:

- Walking and feeling the property; and
- Interviewing members of three Ohana who are long-time residents of the greater Kai Makani area;

From a cultural practices and beliefs perspective, the proposed Kai Makani project bears no apparent signs of cultural practices or gatherings taking place on the proposed project property either currently or for more than 30 previous years. According to Mr. Naone, the property appears to have been used for construction storage and trash dumping and bears no signs of cultural sites or practices. There were no medicinal plants growing anywhere on the property. The area hosts mainly Kiawe trees and grass. Further, no architectural features were identified and none were recollected by the members of the Kanana Ohana, Okina Ohana, or Akaka Ohana. The property has been used for cattle grazing and bears no signs of cultural sites or practices at this time.

In summary, Mr. Naone believes there have been no significant cultural practices or beliefs associated with the subject property, and there are no cultural resources that will be affected by the proposed project.

Potential Impacts and Mitigation Measures. The analyst recommends the following measures during the construction phase of the project:

1. A cultural specialist should be called to assist the developer should any skeletal remains or any artifacts be found.
2. The cultural specialist and/or developer should contact the State Historic Preservation Division of the Department of Land and Natural Resources for the State of Hawaii and the Maui Burial Council immediately if any remains or artifacts are found.
3. If remains or artifacts are found, such skeletal remains and/or any artifacts should be temporarily stored and then reinterred at one ceremony near the time of project completion.

4. A place for reinternment should be designated although it appears that such a need is highly unlikely.
5. A cultural specialist should perform a significant Hawaiian cultural blessing ceremony of the area once the building is done.

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 June 23, 1999, there were 18 State and County parks in South Maui providing approximately 108 developed acres of parkland, of which there are nine beach parks, three neighborhood parks, one community park, one district complex, one community complex, and one shoreline area reserve. State and County beach parks within close proximity to the project area include Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park), Kalama Park, Kamaole Beach Park, the Kihei Aquatic Center, and several other beach parks along the Kihei coastline.

Potential Impacts and Mitigation Measures. As noted, the proposed project will increase the population in the immediate North Kihei area by approximately 280 persons. Given the close proximity of the project to Maipoina Oe Lau Beach Park, it is anticipated that many residents of the project will utilize the park for recreation. As such, it is anticipated that the increase in visitors to the park could impact the park's limited supply of parking and on-site restroom facility.

In order to mitigate the potential impact caused by the project, the County has established two park dedication requirements applicable to the project. First, as a condition of zoning, the applicant is required to make a $150,000.00 contribution towards improvements to the park. The subject improvements must be made pursuant to plans agreed upon by the Department of Parks and Recreation and be constructed concurrently with development of the project site. In order to address this requirement, the Department of Parks and Recreation has requested that the park's restroom facility be improved and expanded. Because the existing facility is in considerable disrepair and located within close proximity to shoreline dunes, it was determined that it would be more cost effective and environmentally sound to demolish the existing structure and construct a new facility further away from the shoreline. The new facility would have a

footprint of approximately 23'x47' and would be located approximately twelve feet mauka of its current location (See: Figure 8f, "Conceptual Restroom Improvements". The new restroom/pavilion will include the following facilities:

- Women's restroom to include three (3) toilets and a sink;
- Men's restroom to include two (2) toilets, one (1) urinal, and a sink;
- A unisex ADA accessible restroom with one (1) toilet and one (1) sink;
- An approximate 155 square feet pavilion with lighting and electricity; and
- Landscape planting around the structure.

Second, the project is subject to the park dedication requirements pursuant to MCC, Chapter 18.16.320, "Parks and Playgrounds". In order to satisfy this requirement, the applicant proposes to develop 20-onstreet parallel parking stalls along South Kihei Road and a 3-car unloading zone within the park. These improvements are designed to alleviate the current parking shortage at the park. In order to provide easier ingress and egress to windsurfing vans entering the parallel stalls, the stalls have been lengthened from 22 to 24 feet and widened from 81/2 to 91/2 feet. In addition, landscape planting improvements will be made within the park and along South Kihei Road in order to beautify the grounds, stabilize the dunes, and create more park area (See: Figure No. 8b, "Option A – Preferred Park Improvement Plan"). After the proposed improvements, the net gain in park area will be approximately 3,000 square feet. Should the Department of Parks and Recreation decide not to except these improvements, the Applicant will be subject to a cash contribution towards the parks and playgrounds assessment fees.

The applicant initially proposed to construct a public tennis court on the property. However, the Maui Planning Commission expressed concerns that additional on-site parking was needed to mitigate the potential for overflow parking onto South Kihei Road and Mai Poina Oe Lau Beach Park. Therefore, the public tennis court was abandoned in favor of 23 additional on-site parking stalls.

Kai Makani will also incorporate private recreational facilities including a swimming pool and recreation cabana into the project.

In consideration of the park related improvements required of the project, the proposed project is not anticipated to significantly impact public recreational facilities at Maipoina Oe Lau Beach Park or other parks in the region.

2. Police and Fire Protection

Existing Conditions. There is one fire station serving this community. The fire station is located at 11 Wamahaihai Street at Kalama Park, which is about two miles south 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. Fire flow requirements are addressed in Section III.D.1.

Patrol officers on assignment provide police services for the Kihei-Makena sub district from a new police sub-station at Kihei Town Center.

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 2 miles from the project. The Department of Education provided enrollment figures but did not provide capacity information.

The enrollment figures are:

	2000
Kihei Elementary School	779
Kamalii Elementary School	848
Lokelani Intermediate	673
Maui High	1,734

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-6	28
JHS	11
HS	11

As of December 2003, the DOE is not requesting a school fair-share contribution condition on applications for SMA permits only.

4. Medical Facilities

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

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 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.

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 385,280 pounds/year or 1,112 pounds per day of solid waste. Solid waste collection for the proposed project will be contracted to a private collection company. Green waste from 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. During construction the applicant will incorporate a job site recycling plan in order to reduce the amount of construction related waste generated by the project.

D. INFRASTRUCTURE

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

1. Water

Existing Conditions. The project area is served by the Central Maui System. The sources of water for this system are the Iao and Waihee aquifers, the Iao Tunnel and the Iao-Waikapu Ditch. The sustainable yield of the Iao aquifer is 20 MGD. According to the Department of Water Supply, the rolling annual average groundwater withdrawls as of December, 2002 were 16.848 MGD. Sustainable yield of the Waihee aquifer is 8 MGD. Rolling annual average groundwater withdrawls for the same period were 4.994 MGD.

On July 21, 2003, the Commission on Water Resource Management designated the Iao Aquifer. In response, the Department of Water Supply issued a letter to the Department of Planning dated September 8, 2003, that the County will issue meters up to 800,000 gallons per day to those ready to receive service. After that, no new meters will be issued until new sources have been brought on-line.

Domestic water and fire flow for the proposed project will be provided by the County's water system. There are two existing waterlines on South Kihei Road which can provide service for the project. The first is a 6-inch waterline located on the mauka side of South Kihei Road and the second is a 12-inch waterline, which is located on the makai side of South Kihei Road.

Potential Impacts and Mitigation Measures. The anticipated water demand for the project is approximately 62,720 GPD. As part of the building permit process, domestic water and fire flow calculations will be provided to determine the adequacy of the existing water system, in accordance with the rules of the Department of Water Supply. As such, this project will not impact the long-term viability of the Central Maui System since meters will not be issued in the event that the Department determines that water is not available for the project. Stub-outs for the use of reclaimed water will be provided so that when such water becomes available it can be utilized for landscape irrigation on the project site.

2. Sewer

Existing Conditions. There is an existing 21-inch sewerline fronting the project site along South Kihei Road and a 10-inch sewerline within an existing sewerline easement along a portion of the southerly boundary of the project site. The 10-inch sewerline connects to the sewer system on South Kihei Road.

Wastewater collected from the Kihei area is transported to the Kihei Wastewater Treatment Plant.

Potential Impacts and Mitigation Measures. According to the Wastewater Reclamation Division, County of Maui, as of December 31, 2001, said treatment plant has ample capacity, with a remaining allocation of approximately 2 million gallons per day. At the present time, the County is assessing sewer fees of $1,743.00 per unit for the collection system and $1,185.75 per unit for the treatment plant expansion for multi-family projects.

3. Drainage

Existing Conditions. There are no existing drainage systems in the immediate vicinity of the project site. Presently, on-site runoff sheet flows across the project site in an east to west direction. As the runoff sheet flows toward South Kihei Road, it ponds in the low-lying areas within the project site, mauka of South Kihei Road.

There is an existing 6'x4' concrete box culvert which crosses South Kihei Road and outlets onto the shoreline. Said box culvert is located approximately 500 feet south of the project site, at the Maui Isana Development. According to the Drainage Master Plan for Kihei, Maui, Hawaii, dated August 1977, prepared by Norman Saito Engineering Consultants, Inc., the capacity of the 6'x4' concrete box culvert is 200 cfs.

According to the Drainage and Erosion Control Report for Waiakoa Villages (now known as Southpointe), revised November 1990, prepared by Norman Saito Engineering Consultants, Inc., the existing flow for a 50-year recurrence interval is 187.3 cfs at the outlet of the 6'x4' concrete box culvert.

Potential Impacts and Mitigation Measures. It is estimated that the existing 50-year storm runoff from the project site is 7 cfs. After the development of the proposed project, it is estimated that the 50-year storm runoff will be 19 cfs, a net increase of 12 cfs.

Onsite runoff will be intercepted by grated catch basins located within the paved parking and landscape areas. The runoff will be conveyed to onsite detention basins, which will be incorporated into the landscape planting scheme. Runoff from the mauka onsite detention basins will be interconnected to the makai onsite detention basins by overflow pipes. The connection of the detention basins, along with the proposed landscaping will provide a means of filtering sediment and other contaminations from the runoff. Said basins will be maintained by the Association of Apartment Owners as required.

Overflow from the detention basin located at the southwest corner of the property will be limited to the runoff amount of the existing runoff volume for a 50 year-1hour storm. The overflow will be conveyed to an underground perforated pipe detention system which will further allow any sediment and other contaminants to settle before excess runoff volume is conveyed by an underground culvert system to the existing 6'4' concrete box culvert.

The drainage design criteria shall be to minimize any alterations to the natural pattern of the existing onsite surface runoff. This plan meets the drainage criteria set forth in Chapter 4 - Rules for the Design of Storm Drainage Facilities in the County of Maui. Based on the calculations contained within the Preliminary Drainage Report, Appendix E, the sedimentation hazard to coastal waters and downstream properties is minimal. The soil loss per unit area and severity rating computed for the proposed development are well within the tolerable limits. Therefore, the project should not have an adverse effect on the adjoining or downstream properties.

A National Pollution Discharge Elimination System (NPDES) permit will be required for the project since the site is greater than 5 acres. 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. Project plans call for long-term, as well as short-term measures, which will minimize the potential impacts from runoff from the property. These measures include the following:

Long-term

Additional onsite runoff generated by the project will be directed into sub-surface detention facilities. These facilities will not only keep the post development peak flow volumes at predevelopment rates, but will also serve as sedimentation traps and filters to prevent sediments or pollutants from migrating into coastal waters.

Short-term

Stormwater control structures will be constructed prior to initiation of major site improvements. This will include installation of the permanent stormwater retention/siltation facilities on the site.

Temporary berms to divert storm runoff to the retention basins will be constructed. Temporary silt screens will be installed along South Kihei Road and within drainage swales along the project limits. Temporary silt screens will also be installed around or within new catch basins and drain inlets. Topsoil stockpiles will be covered or stabilized.

Sediment and debris from construction activities will be properly disposed of. Bare areas will be replanted or covered as soon as grading or construction is completed. Cement products, oil, fuel, and other toxic substances will be prevented from falling or leaching into the water. Fertilizers and biocides, if applied, will be applied during periods of low rainfall to minimize chemical runoff.

4. Roadways and Traffic

Existing Conditions. A Traffic Impact Analysis Report was prepared by Phillip Rowell and Associates which describes the traffic characteristics of the proposed project and likely impacts to the adjacent roadway network. The report analyzes existing conditions in the area, cumulative traffic conditions, project-related traffic conditions, and traffic impacts and mitigation measures (See: Appendix G, Traffic Impact Assessment Report).

The project consists of 112 multi-family units. There will be three driveways for the project. Two driveways will be located along the east side of South Kihei Road approximately 300 and 900 feet south of Ohukai Road. A third driveway will be located along the west side of Kenolio Road approximately 225 feet south of Ohukai Road. The South Kihei Road driveways will allow right in, right out and left in only. Left turns onto South Kihei Road will be prohibited. All traffic movements will be allowed at the Kenolio Road driveway.
The following is a summary of the major roadways in the study area:

Piilani Highway

Piilani Highway is a major State highway connecting Kihei and Wailea. In the vicinity of the proposed project, the highway is a two-lane, two-way facility with separate left

turn lanes. The posted speed limit is 45 miles per hour (mph). The Average Daily Traffic (ADT) along Piilani Highway adjacent to Ohukai Road is approximately 27,000 vehicles per day (vpd).

South Kihei Road

South Kihei Road is a two-lane, two-way, north-south County road along the western boundary of the project connecting Kihei with Wailea and Makena. The posted speed limit is 30 mph. There are no separate turn lanes along South Kihei Raod adjacent to the project. Based on the traffic counts performed for this study, the typical weekday traffic along the study section of South Kihei Road is between 17,000 and 20,000 vpd.

Ohukai Road

Ohukai Road is a two-lane, two-way collector street connecting South Kihei Road and Piilani Highway. Development along both sides is residential. The posted speed limit is 20 mph. The intersection of Ohukai Road at Piilani is signalized.

Kenolio Road

Kenolio Road is a two-lane, two-way collector. Kenolio Road terminates at Uwapo Road on the north and Kaonoulu Road to the south. Along this section, Kenolio Road is the North—South Collector discussed in the Maui Long Range Transportation Plan. The posted speed limit is 20 mph. The intersection of Kenolio Road at Ohukai Road is a four-way stop sign-controlled intersection.

The process of identifying the traffic-related impacts of the proposed project generally involves the determination of weekday peak-hour trips that would be generated by the proposed project, distribution and assignment of these trips on the approach and departure routes, and determination of the levels-of-service at affected intersections and driveways subsequent to implementation of the project. Future traffic volumes generated by a project are typically estimated using the procedure described in *Trip Generation* published by the Institute of Transportation Engineers. Trip rates for low-rise residential condominiums/townhouses were used to estimate the trips generated by this project. The peak hour of the project coincides with the peak hour of the adjacent street. The calculated AM and PM peak hour trips are shown in the table below.

Trip Generation Summary

Time Period	Direction	Rate or Factor	Units	New Peak Hour Trips
AM Peak Hour	Total Trips per Unit	0.51	116	59
	% Inbound	17%		10
	% Outbound	83%		49
PM Peak Hour	Total Trips per Unit	0.54	116	63
	% Inbound	52%		33
	% Outbound	48%		30

The proposed project will generate 59 trips during the morning peak hour and 63 trips during the afternoon peak hour.

Potential Impacts and Mitigation Measures. Cumulative plus project traffic conditions are defined as 2005 background conditions plus project related traffic. The incremental difference between cumulative and cumulative plus project is the traffic impact of the project under study.

Summary and Recommendations

The following are the conclusions of the Traffic Impact Analysis Report:

1. The proposed project will generate 10 inbound and 49 outbound trips during the morning peak hour, for a total of 59 trips. During the afternoon peak hour, the project will generate 63 trips, 33 inbound and 30 outbound.

2. At the intersection of South Kihei Road at Ohukai Road, there is no change in the Level-of-Service of any traffic movement as a result of project generated traffic. The left turns from Ohukai Road to southbound South Kihei Road will operate at Level-of-Service F during both peak periods, without and with the project. This is consistent with most left turns into South Kihei Road because of the heavy north-south traffic along the roadway.

3. An analysis of this intersection was performed to determine if installation of separate left turn lanes along South Kihei Road would improve the Level-of-Service. This analysis concluded that the total delay to traffic along South Kihei Road will be reduced 3.6 hours during the morning and 6.7 hours during the afternoon with the installation of separate left turn lanes. Thus, installation of separate left turn lanes would significantly reduce delay to northbound and southbound traffic along South Kihei Road at Ohukai Road. In addition to the

reduced delay to traffic along South Kihei Road, the intersection must be improved to accommodate the new driveway into Kihei Memorial Beach Park.

Therefore, it is recommended that separate northbound and southbound left turn lanes be installed at this intersection.

4. At the intersection of Ohukai Road at Kenolio Road, all movements will operate at Level-of-Service B or better during both peak periods, without and with the proposed project. No mitigation is recommended.

5. At the intersection of Ohukai Road at Piilani Highway, several movements are expected to operate at Level-of-Service E or F as a result of background conditions without the project. Based on established criteria for defining a significant traffic impact, traffic generated by the proposed project will not have a significant impact on any traffic movement at this location. Therefore, no mitigation is recommended.

6. The proposed driveways along South Kihei Road are expected to operate at Level-of-Service F during the afternoon peak hour. It is recommended that left turns from the driveways be prohibited.

7. The conclusion of a traffic signal warrant analysis for the intersection of South Kihei Road at Ohukai Road, is that Warrant 10, Peak Hour Delay and Warrant 11, the Peak Hour Volume, is satisfied for future conditions without and with the project. However, installation of a traffic signal is not recommended for the following reasons:

   a. The delay warrant is satisfied as a result of delays to left turning vehicles. Drivers that make this left turn have accepted the delay since there are alternative routes for traffic to reach areas south of Ohukai Road, such as Kenolio Road and Piilani Highway.

   b. The delays do not seem to be excessive. The minimum delay for traffic approaching along the minor street is four hours for a one-lane approach and five hours for a two-lane approach. The calculated delay is 4.6 hours. If the intersection were modified to provide separate left and right turn lanes, the longer delay of five hours would apply. However, the remaining criteria relative to the total approach volumes would still be met.

c. If traffic signals are installed, this would be the only signalized intersection along South Kihei Road between Mokulele Highway and Piikea Street. As a result, traffic would be attracted from other east-west roadways connecting South Kihei Road and Piilani Highway because left turns onto southbound South Kihei Road would be easier.

In summary, the following mitigation measures are recommended:

1. The intersection of South Kihei Road at Ohukai Road should be improved to provide northbound and southbound separate left turn lanes.

2. The approach of Ohukai Road to South Kihei Road should be improved to provide separate left and right turn lanes.

3. Left turns from the project's driveways along South Kihei Road should be prohibited. The allowed movements would be right in, right out and left in.

Roadway Improvements

Neither South Kihei Road or Kenolio Road have concrete curbs, gutters or sidewalks fronting the project site. The applicant proposes to improve both the Kihei Maui Memorial Beach and Kai Makani frontages along South Kihei Road with concrete curb, gutters, sidewalks, on-street parking, and landscaping. The provision of on-street parallel parking and landscape planting improvements are being proposed in order to satisfy the park dedication requirements for the project. Kenolio Road fronting the project site will be improved with concrete curb, gutter, and sidewalk. The applicant will make the subject improvements in accordance with Section 16.26A.4601 of the Maui County Code. According to the County's roadway master plan, the road widening widths will vary between 9 and 9.5 feet.

5. Electrical and Telephone

Existing Conditions. Existing overhead utility lines are located along the mauka side of South Kihei Road fronting the project site. The installation of electrical, telephone and cable TV systems for the project will be coordinated with Maui Electric Company, Verizon Hawaii, and Hawaiian Cablevision.

Potential Impacts and Mitigation Measures. The average residential consumer used 7,772 kWh per year, or 21.30 kWh per day of electricity in 2001(Maui County Data Book, 2002). As such, it is anticipated that the proposed project will use approximately 870,464 kWh per year or 2,384 kWh per day of electricity. In order to conserve energy, the project will incorporate the following energy conservation measures:

- Utilization of solar water heating throughout the project;
- Radiant Barrier Roof Sheathing to keep attic cool;
- Thermostatically controlled attic fans;
- R-11 insulation in exterior walls;
- R-19 insulation in ceilings;
- Large roof overhangs on most west facing facades;
- Tree planting to shade buildings and paved areas;
- Designing south, east, and west shading devices to minimize solar heat gain; and
- Incorporate natural ventilation by channeling trade winds.

The proposed project will not have any adverse impact upon the existing electrical or telephone systems that will serve the subject property.

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 Urban District. The proposed improvements are permitted within the Urban District.

B. MAUI COUNTY ZONING

The subject property is situated within the County of Maui's A-1, Apartment District and R-2, Residential District. The A-1 Apartment District allows for multi-family dwellings that may be built up to two stories in height, maximum lot coverage of 25%, and floor-area-ratio of 40%. The R-2, Residential District allows for single-family residences with a minimum lot size of 7,500 square feet.

The subject property will be developed in accordance with Maui County Code, Chapter 19.32, "Planned Development", which allows for a mixture of uses, densities and/or dwelling units on lands including more than one zoning district. The proposed development is consistent with the respective zoning districts and Planned Development District.

C. 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:

Theme No. 5: Provide for Needed Resident Housing

Amendments to the General Plan address the development of resident housing as a major social need in our community.

I.A. Population

Objective No. 2.: **To use the land within the County for the social and economic benefit of all the County's residents.**

Policies:

(b). Encourage land use methods that foster a pedestrian oriented environment to include such amenities as bike paths, linear parks, landscaped buffer areas, and mini-parks.

(c). Encourage land use methods that will provide a continuous balanced inventory of housing types in all price ranges.

II.A. Economic Activity

Objective No. 3: **Utilize an equitable growth management program which will guide the economic well-being of the community.**

Policies: *Encourage the adoption of a resource allocation program which gives a high priority to affordable residential projects.*

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:

(b) *Encourage community design which establishes a cohesive identify.*

(c) *Encourage the establishment of continuous green areas, bike-paths, active and passive recreation areas and mini-parks in new subdivision development.*

D. 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 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.

g. *Encourage the establishment of single-family and multi-family land use designations which provide affordable housing opportunities for areas which are in close proximity to infrastructure systems and other urban services.*

Analysis. Section III of this report addressed the impact that the proposed project would have upon existing public infrastructure, facilities, and service systems. Based upon the analysis, infrastructure and service systems will not be significantly impacted by the project. As discussed, the developer will contribute the pro rata share required by the State and County for roadway, sewer, water, and park facilities and services in order to minimize the incremental impact of the subject development upon public finances. In regards to the availability of water for the project, the applicant understands that water availability will be reviewed at the time of application for meter or meter reservation and that the Iao Aquifer is nearing its maximum sustainable yield. Should the Department of Water Supply determine that water is not available for this project, the applicant understands that the timing of the subject project could be significantly affected.

In accordance with policy No. 8, the proposed project will provide a mixture of market based and affordable housing. Approximately thirty-eight (38) percent, or units 43 units, will be sold at 140% or less of the median household income for a family of four as established by the Department of Housing and Urban Development. The proposed project is within an area that is largely developed with compatible land uses and is proximate to infrastructure systems and urban services capable of servicing the development.

Goal: <u>Environment</u>. **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 impacted by this project.

Goal: <u>Housing and Urban Design.</u> **A variety of attractive, sanitary, safe and affordable homes for Kihei's residents, especially for families earning**

less than the median income for families within the County. Also, a built environment which provides complementary and aesthetically pleasing physical and visual linkages with the natural environment.

Objectives and Policies

(a) Provide an adequate variety of housing choices and range of prices for the needs of Kihei's residents, especially for families earning less than the median income for families within the County, through the project district approach and other related programs. Choices can be increased through public/private sector cooperation and coordinated development of necessary support facilities and services.

(b) Require a mix of affordable and market-priced housing in all major residential projects, unless the project is to be developed exclusively as an affordable housing project.

(e) Implement landscaped setbacks for future multi-family and commercial areas. Developments shall provide space for landscaped pedestrian ways and bikeways.

(f) Incorporate the principles of xeriscaping in all future developments.

Analysis: As discussed, approximately thirty-eight (38) percent, or 43 units, will be sold at 140% or less of the median household income for a family of four as established by the Department of Housing and Urban Development.

In regards to policy (e), the proposed development will provide a pedestrian and bicycle connection between Kenolio Road and South Kihei Road incorporating an open space and pedestrian pathway and bikeway system into the project design. In addition, xeriscaping will be incorporated into the project plans.

Goal: **<u>Physical and Social Infrastructure.</u> 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.

Transportation

Objectives and Policies:

(b) Undertake transportation system improvements concurrently with planned growth of the Kihei-Makena region. Require adequate interregional highway capacity, including the widening of Pi`ilani and Mokulele Highways to four lanes, prior to the construction of major projects south of Kilohana Road or mauka of Pi`ilani Highway.

(c) Strengthen the coordination of land use planning and transportation planning to promote sustainable development and to reduce dependence on automobiles. New residential communities should provide convenient pedestrian and bicycle access between residences and neighborhood commercial areas, parks and public facilities.

Analysis: As discussed in the Traffic Impact Analysis Report prepared by Philip Rowell & Associates, the proposed development will increase traffic along South Kihei Road, Kenolio Road, Ohukai Road, and Piilani Highway. However, the proposed project will not change the current level-of-service along these roadways. The applicant proposes the following mitigation measures to address the impacts of the project:

1. The intersection of South Kihei Road at Ohukai Road should be improved to provide northbound and southbound separate left turn lanes.

2. The approach of Ohukai Road to South Kihei Road should be improved to provide separate left and right turn lanes.

3. Left turns from the project's driveways along South Kihei Road should be prohibited. The allowed movements would be right in, right out and left in.

From a land use pattern perspective, the project is an infill development on land that is zoned and community planned for the proposed land use and within close proximity to

urban infrastructure and facility systems. The proposed site plan provides a pedestrian/bicycle linkage between Kenolio Road and South Kihei Road providing convenient pedestrian access between neighboring residential communities and Maipoina Oe Lau Beach Park.

Goal: <u>Drainage</u>

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.

(b) Construct necessary drainage improvements in flood prone areas. Where replacement drainage are required for flood protection, these systems shall be designed, constructed, and maintained using structural controls and best management practices to preserve the functions of the natural system that are beneficial to water quality. These functions include infiltration, moderation of flow velocity, reduced erosion, uptake of nutrients and pollutants by plants, filtering, and settlement of sediment particles. The use of landscaped swales and unlined channels shall be urged.

(d) Minimize the increase in discharge of storm water runoff to coastal waters by preserving flood storage capacity in low-lying areas, and encouraging infiltration of runoff.

Analysis. As discussed in the Preliminary Engineering and Drainage Report (<u>See</u>: Appendix F, Preliminary Engineering and Drainage Report), the increase in impervious surfaces created by the project will result in increased runoff estimated at 11.7 cfs. If not contained and filtered this increase in runoff could impact nearshore water quality. Thus, the increased runoff will be directed into onsite subsurface detention facilities. These facilities will not only keep the post development peak flow volumes at predevelopment levels, but will also serve as sedimentation traps and filters to prevent sediments or pollutants from migrating into the coastal waters.

Thus, 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.

Goal: **Recreation**

Objectives and Policies

b. Provide for a range of park sizes and types at neighborhood, community and regional scales. New residential developments shall provide recreational facilities on-site to meet the immediate needs of project residents.

Analysis: Proposed on-site recreational facilities include a swimming pool and recreation cabana. Passive open space and a pedestrian and bicycle linkage from Kenolio Road to South Kihei Road will also be developed.

In addition, the County has established two park dedication requirements applicable to the project. First, as a condition of zoning, the applicant is required to make a $150,000.00 contribution towards improvements to the park. The subject improvements must be made pursuant to plans agreed upon by the Department of Parks and Recreation and be constructed concurrently with development of the project site. In order to address this requirement, the Department of Parks and Recreation has requested that the park's restroom facility be improved and expanded. Because the existing facility is in considerable disrepair and located within close proximity to shoreline dunes, it was determined that it would be more cost effective and environmentally sound to demolish the existing structure and construct a new facility further away from the shoreline. The new facility would have a footprint of approximately 23'x47' and would be located approximately twelve feet mauka of its current location (See: Figure 8f, "Conceptual Restroom Improvements".

Second, the project is subject to the park dedication requirements pursuant to MCC, Chapter 18.16.320, "Parks and Playgrounds". In order to satisfy this requirement, the applicant proposes to develop 20-onstreet parallel parking stalls along South Kihei Road and a 3-car unloading zone within the park. These improvements are designed to alleviate the current parking shortage at the park. In order to provide easier ingress and egress to windsurfing vans entering the parallel stalls, the stalls have been lengthened from 22 to 24 feet and widened from 81/2 to 91/2 feet. In addition, landscape planting improvements will be made within the park and along South Kihei Road in order to

beautify the grounds, stabilize the dunes, and create more park area (See: Figure No. 8b, "Option A - Preferred Park Improvement Plan"). After the proposed improvements, the net gain in park area will be approximately 3,000 square feet. Should the Department of Parks and Recreation decide not to except these improvements, the Applicant will be subject to a cash contribution towards the parks and playgrounds assessment fees.

The applicant initially proposed to construct a public tennis court on the property. However, the Maui Planning Commission expressed concerns that additional on-site parking was needed to mitigate the potential for overflow parking onto South Kihei Road and Mai Poina Oe Lau Beach Park. Therefore, the public tennis court was abandoned in favor of 23 additional on-site parking stalls. The project currently has 47 guest parking stalls.

E. SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES

The subject project is located within the Special Management Area (SMA). As such, the proposed improvements 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. Proposed on-site recreational facilities include a swimming pool and recreation cabana. Passive open space and a pedestrian and bicycle linkage from Kenolio Road to South Kihei Road will also be developed.

In addition, the County has established two park dedication requirements applicable to the project. First, as a condition of zoning, the applicant is required to make a $150,000.00 contribution towards improvements to the park. The subject improvements must be made pursuant to plans agreed upon by the Department of Parks and Recreation and be constructed concurrently with development of the project site. In order to address this requirement, the Department of Parks and Recreation has requested that the park's restroom facility be improved and expanded. Because the existing facility is in considerable disrepair and located within close proximity to shoreline dunes, it was determined that it would be more cost effective and environmentally sound to demolish the existing structure and construct a new facility further away from the shoreline. The new facility would have a footprint of approximately 23'x47' and would be located approximately twelve feet mauka of its current location (See: Figure 8f, "Conceptual Restroom Improvements".

Second, the project is subject to the park dedication requirements pursuant to MCC, Chapter 18.16.320, "Parks and Playgrounds". In order to satisfy this requirement, the applicant proposes to develop 20-onstreet parallel parking stalls along South Kihei Road and a 3-car unloading zone within the park. These improvements are designed to alleviate the current parking shortage at the park. In order to provide easier ingress and egress to windsurfing vans entering the parallel stalls, the stalls have been lengthened from 22 to 24 feet and widened from 81/2 to 91/2 feet. In addition, landscape planting improvements will be made within the park and along South Kihei Road in order to beautify the grounds, stabilize the dunes, and create more park area (See: Figure No. 8b, "Option A – Preferred Park Improvement Plan"). After the proposed improvements, the net gain in park area will be approximately 3,000 square feet. Should the Department of Parks and Recreation decide not to except these improvements, the Applicant will be subject to a cash contribution towards the parks and playgrounds assessment fees.

The applicant initially proposed to construct a public tennis court on the property. However, the Maui Planning Commission expressed concerns that additional on-site parking was needed to mitigate the potential for overflow parking onto South Kihei Road and Mai Poina Oe Lau Beach Park. Therefore, the public tennis court was abandoned in favor of 23 additional on-site parking stalls. The project currently has 47 guest parking stalls.

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.

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. The archaeological reconnaissance performed by Bishop Museum found no cultural remains on parcels 002, 003, and 026. While the Archaeologist recommended no further archaeological work prior to construction, it was recommended that archaeological monitoring be conducted during all construction-related ground disturbing activities. As such, Scientific Consultant Services, Inc., (SCS) has been contracted to provide archaeological monitoring and sampling services during construction of the project. The results of the archeological investigation will ensure that significant cultural remains, if present, are identified, documented and adequately sampled (See: Appendix B).

As for parcel 027, Scientific Consultant Services concludes that no additional archaeological mitigation, including monitoring during construction, is deemed necessary for the project area. In a letter dated March 4, 2002, the State Historic Preservation Division concluded that development of the project areas will have "no effect" on significant historic sites (See: Appendix B).

In addition, a Cultural Impact Assessment Report was prepared by Kapiioho Lyons Naone Cultural Consulting, Inc., which describes the potential impact on cultural practices and beliefs resulting from the proposed action (See: Appendix C, Cultural Impact Assessment). Mr. Naone believes there have been no significant cultural practices or beliefs associated with the subject property, and there are no cultural resources that will be affected by the proposed project.

As such, the proposed development supports the community's objective of insuring that new development does not disturb historic and prehistoric resources in the coastal zone management area that are deemed to be significant in Hawaiian and American history and culture.

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, numerous scenic resources have been identified in North Kihei, which are identified and discussed in the Maui Coastal Scenic Resources Study, August 1990 (See Appendix E). Appendix E does not identify any scenic coastal resources that will be impacted by the project.

From an urban design perspective, the proposed development will serve to create a more unified and cohesive residential development pattern in the area. To enhance the visual qualities into the project area, the landscape concept plan proposes xeriscaping and planting of primarily Polynesian species shade trees to enhance the project's aesthetics.

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 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 proposed multi-family residential use of the property is consistent with the State's urban land use designation, as well as, the County's zoning and community plan designations. Moreover, the subject property is within an area that supports other similar type uses, including detached single and multi- family residences, and supporting public infrastructure and services. As such, the proposed project is within an area that has been planned for growth and development and provides the supporting infrastructure and services required to service this growth.

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 within Zones A3, AO and C. Zone A3 is an area of 100-year flood where base flood elevations

and flood hazard factors have been determined. Zone AO is an area of 100-year shallow flooding where depths are between one (1) and three (3) feet, where average depths of inundation are shown, but no flood hazard factors are determined. Zone C is designated as an area that is subject to minimal flooding.

To minimize any potential risk to health, safety, and welfare due to the subject development being located within a flood zone, all buildings will be constructed with the finish floor elevations at or above the base flood elevations outlined in the flood insurance rate maps by FEMA.

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. The development of the subject property is being conducted in accordance with applicable State and County requirements. Opportunity for review of the proposed action is provided through the County's Special Management Area (SMA) permitting process, as well as, through the environmental review process established by Chapter 343, HRS.

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. Prior to the public hearing, pre-consultation was conducted with adjacent property owners, the Kihei Community Association, and governmental agencies (See: Appendix A, List of Pre-consultation Activities with Agencies, Community Organizations, and Neighbors Prior to Public Hearing). These activities included personnel meetings, mailouts, and informational meetings in order to describe the proposed project and solicit issues that need to be addressed through the environmental assessment process. During the scheduled public hearings, the public will have an opportunity to review and comment on the proposed project. Landowners located within 500 feet of the project will be notified of the scheduled public hearing dates. Public hearing dates and location maps will also be published in the Maui News on two separate occasions. The public will be allowed to participate in the public hearing portion of the Maui Planning Commission's review process and during the 30-day public comment period for the Draft Environmental Assessment.

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. South-Kihei Road, along with Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park), 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. The applicant proposes to provide on-street parallel parking along both sides of South Kihei Road fronting the project side. These

improvements will be made within the road right-of-way and will not impact nearby beaches.

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. The project will produce no direct impact on the region's coastal or marine resources, and 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

A finding of no significant impact (FONSI) is warranted and therefore an environmental impact statement will not be required for the project. This determination has been made based on the detailed analyses contained within this document and in accordance with the following significance criteria, which are outlined in section 11-200-12 of the Department of Health's rules relating to environmental impact statements.

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, the proposed project will not involve the loss or destruction of any natural or cultural resource (See Section III.A.B.C).

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

   Analysis. The subject property is within the State's Urban District and is zoned and community planned for multi-family and single-family residential development. The subject property is currently undeveloped and overgrown with Kiawe, various bushes and grasses and is not being used for any particular purpose. The State's and County's land use policies support urbanization of the parcel. Thus, the proposed action will not curtail the range of beneficial uses of the environment.

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, adequate mitigation measures will be implemented to minimize the potential for 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 full and part-time jobs will be created during the operation 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 112 multi-family residential units. Using national demographic multipliers for standard housing types (American Housing Survey, 1987), the proposed project may increase the population of the immediate North Kihei area by approximately 280 persons. This represents approximately 3.4 to 3.7% of the projected growth in resident population for the Kihei-Makena region between 1990 and 2010. 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 the projected 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 form 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 State and County zoned and community planned for urban development, and as such, is part of the planned future growth for 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.3 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.5 and 6 and III.D.3 of this report, there is a potential for negative impacts to air or water 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 or water 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, according to Panel Number 150003 0265 C of the Flood Insurance Rate Map, September 6, 1989, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zones V18, AO (depth 1 foot), and C. Flood Zone V18 is defined as areas of 100-year coastal flood with velocity (wave action) and flood hazard factors determined. Flood Zone AO is defined as areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazards are determined. Flood Zone C represents areas of minimal flooding.

    Flood zone designations have been a primary consideration during site planning of the property. All buildings will be constructed with the finish floor elevations at or above the base flood elevations outlined in the flood insurance rate maps by FEMA.

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 a

significant adverse impact upon the visual character of the site and its immediate environs (See Section III.A.8).

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. The majority of automobile usage is envisioned to occur between the project and employment, recreational facilities, shopping and entertainment areas within Kihei. Thus, it is not anticipated that the resultant increase in energy consumption will be significant in the context of existing levels of vehicular energy usage in Kihei, and on Maui.

V. FINDINGS AND CONCLUSIONS

This environmental assessment has examined the environmental and socio-economic impacts associated with the applicant's proposal to develop 112 multi-family residential units, required on-and off-site infrastructure, and improvements to Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park) on property located in North Kihei, Maui, Hawaii.

The analysis concludes that the project should not result in significant environmental impacts to surrounding properties, nearshore waters, natural resources, or archaeological and historic resources on the site or in the immediate area. Public infrastructure and services including roadways, sewer and water systems, medical facilities, police and fire protection, parks, and schools are available to serve the project, and with the incorporation of the mitigation measures identified in this document, will not be significantly impacted by the project. The proposed project will not impact public view corridors and will not produce significant adverse impact upon the visual character of the site and its immediate environs.

The subject property is situated within the State's Urban District and is County zoned and community planned for single and multi-family residential development. The subject property will be developed in accordance with Maui County Code, Chapter 19.32, "Planned Development", which allows for a mixture of uses, densities and/or dwelling units on lands including more than one zoning district. Based upon the findings of this report, the proposed project is in conformance with State and County land use plans and policies including Chapter 205A, HRS, as well as the Kihei-Makena Community Plan Land Use Map.

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

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FIGURES

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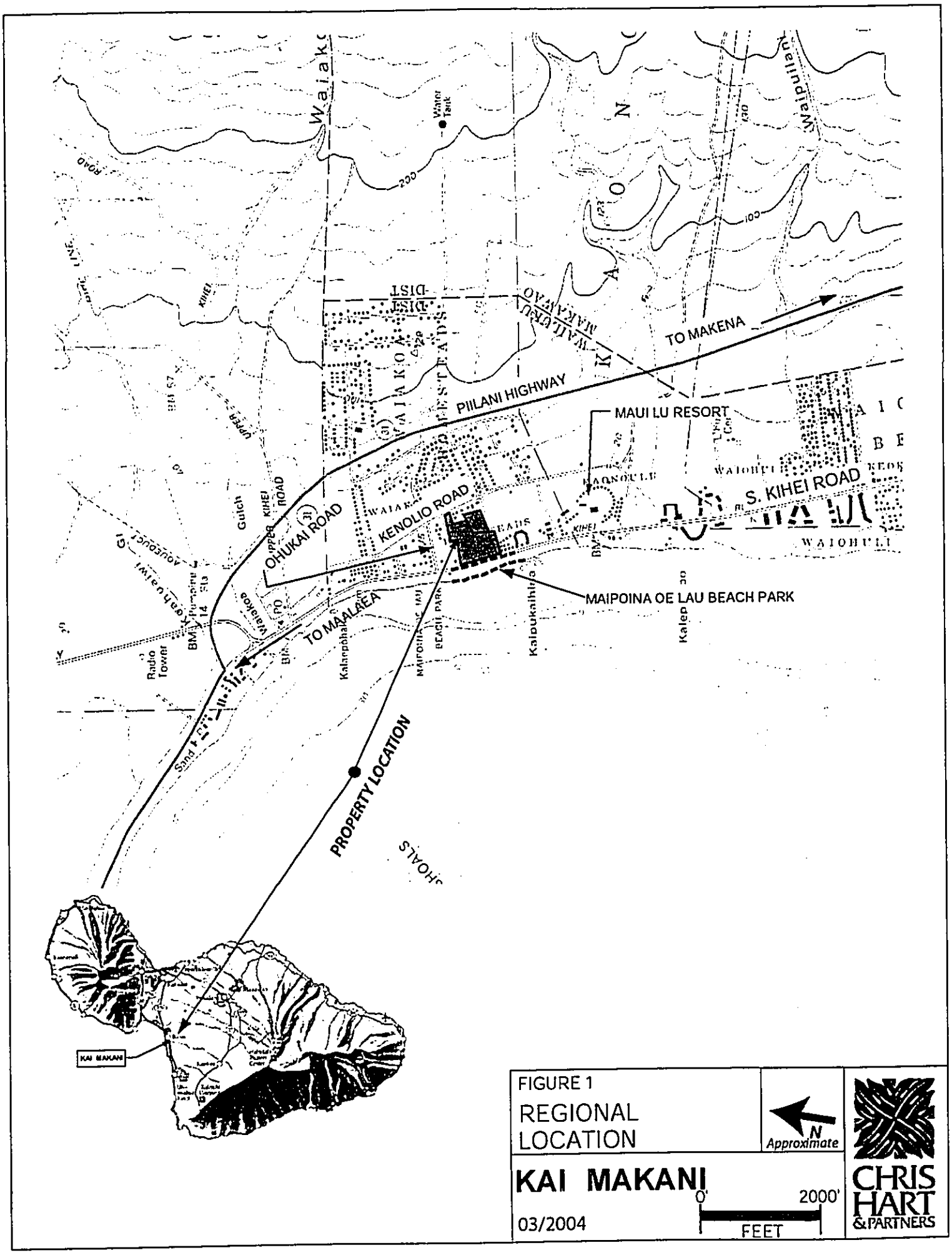

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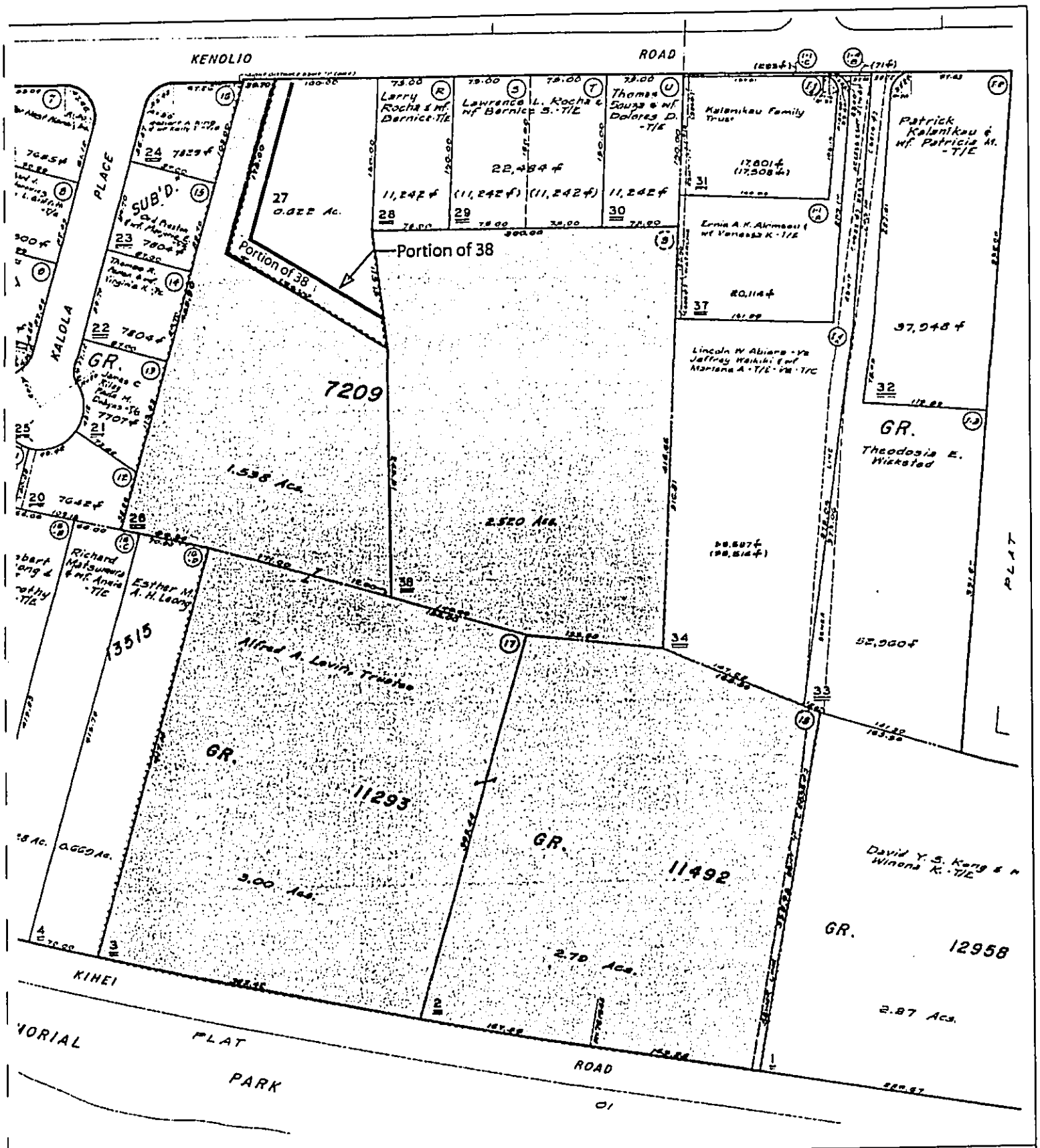

Figure 2

TMK MAP

N Approximate

KAI MAKANI

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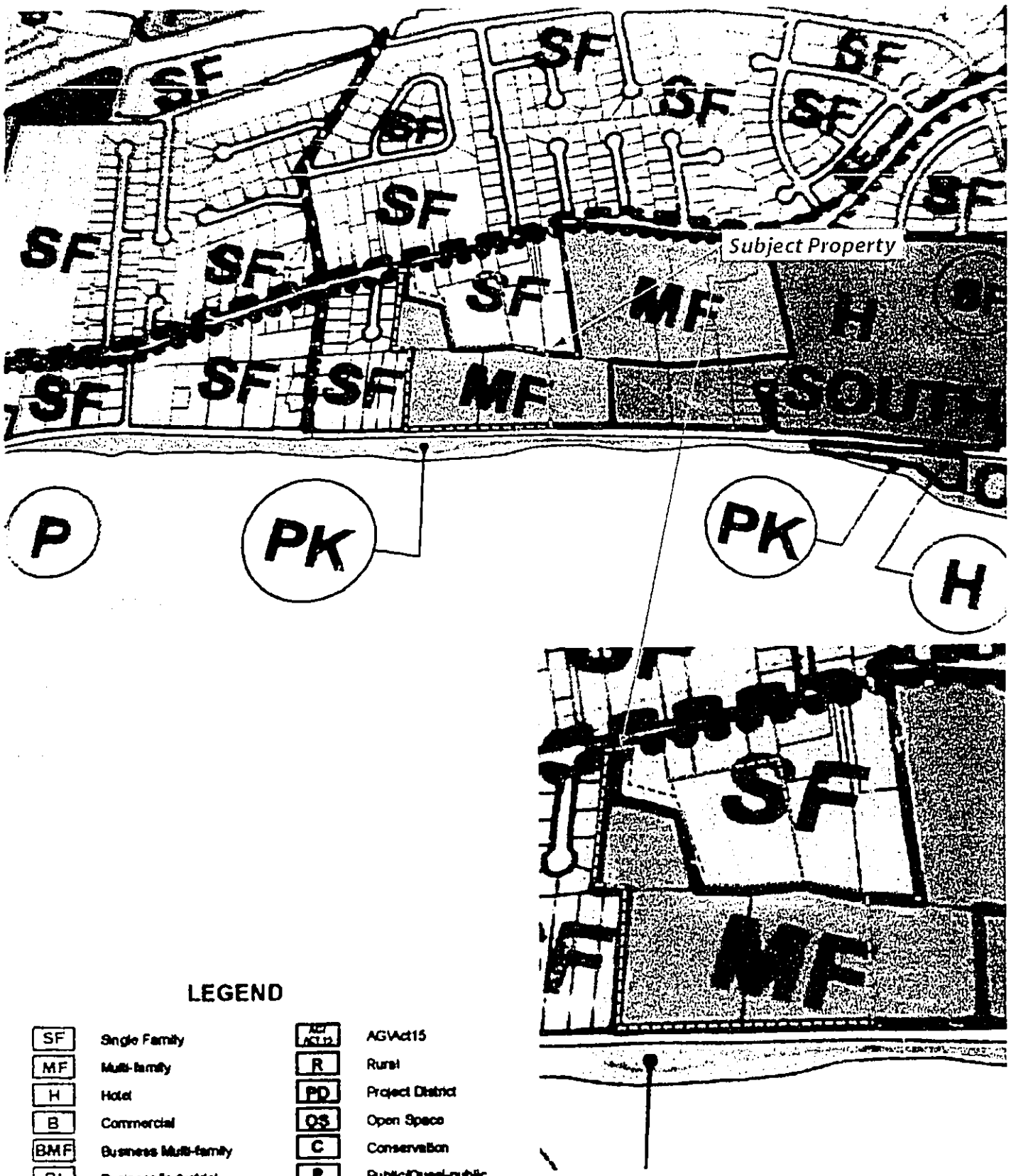

LEGEND

SF	Single Family
MF	Multi-family
H	Hotel
B	Commercial
BMF	Business Multi-family
BI	Business/Industrial
SBR	Service Business/Residential
LI	Light Industrial
HI	Heavy Industrial
A	Airport
AG	Agriculture
AG/ AG1.15	AGVAct15
R	Rural
PD	Project District
OS	Open Space
C	Conservation
P	Public/Quasi-public
PK	Park
PK/GC	Park/Golf Course
	Keals Pond NWR
— —	Roadway Plan
●●●	Bikeway Plan

FIGURE 3

COMMUNITY PLAN

N
Approximate

KAI MAKANI

03/2004 NOT TO SCALE

CHRIS HART & PARTNERS

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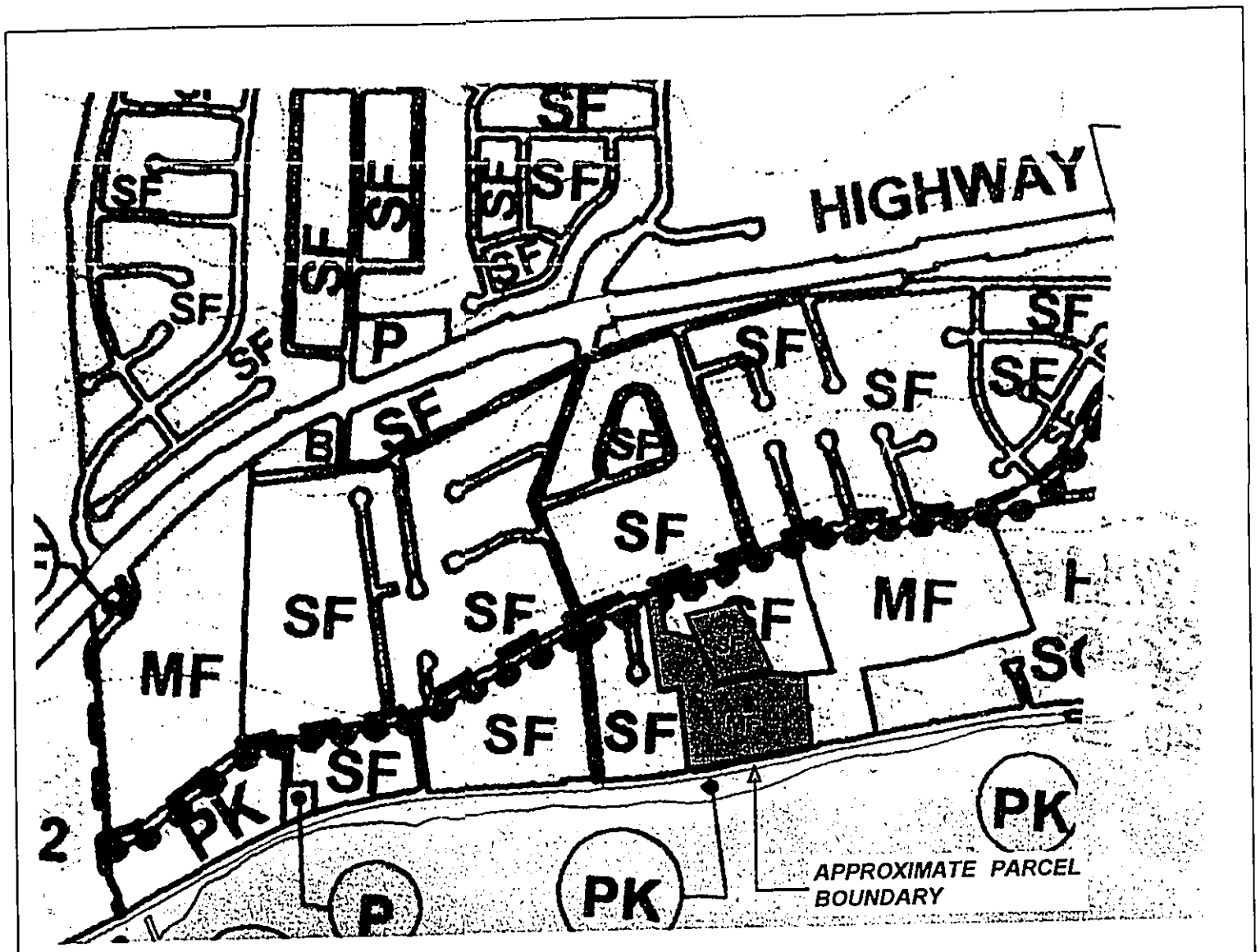

LEGEND

SF	Single Family
MF	Multi-family
H	Hotel
B	Commercial
BMF	Business Multi-family
BI	Business/Industrial
SBR	Service Business/Residential
LI	Light Industrial
HI	Heavy Industrial
A	Airport
AG	Agriculture
AGVAct15	AGVAct15
R	Rural
PD	Project District
OS	Open Space
C	Conservation
P	Public/Quasi-public
PK	Park
PK/GC	Park/Golf Course
	Kealia Pond NWR
	Roadway Plan
	Bikeway Plan

FIGURE 4
AERIAL/
COMMUNITY PLAN

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Approximate

KAI MAKANI

03/2004 NOT TO SCALE

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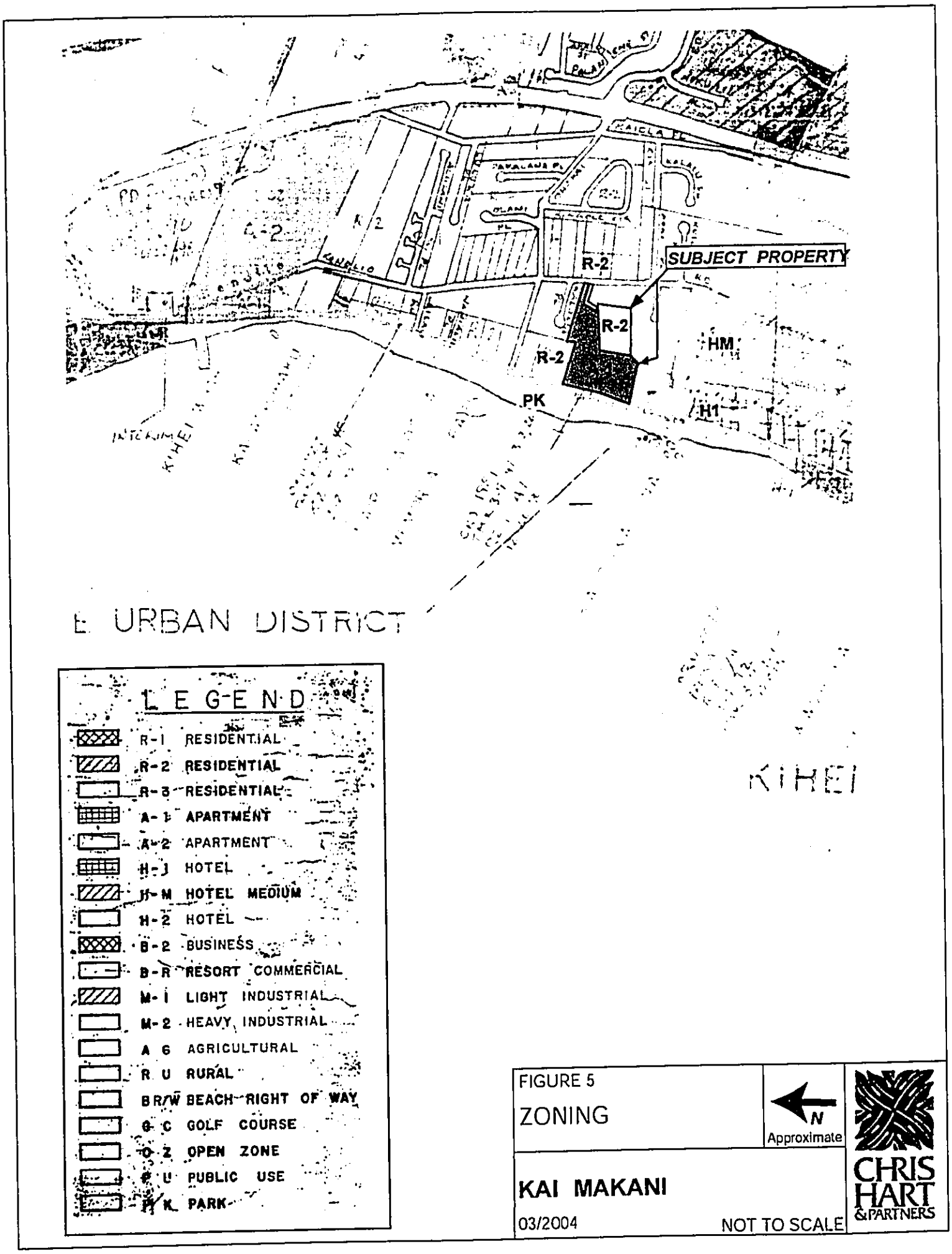

FIGURE 5
ZONING

N
Approximate

KAI MAKANI

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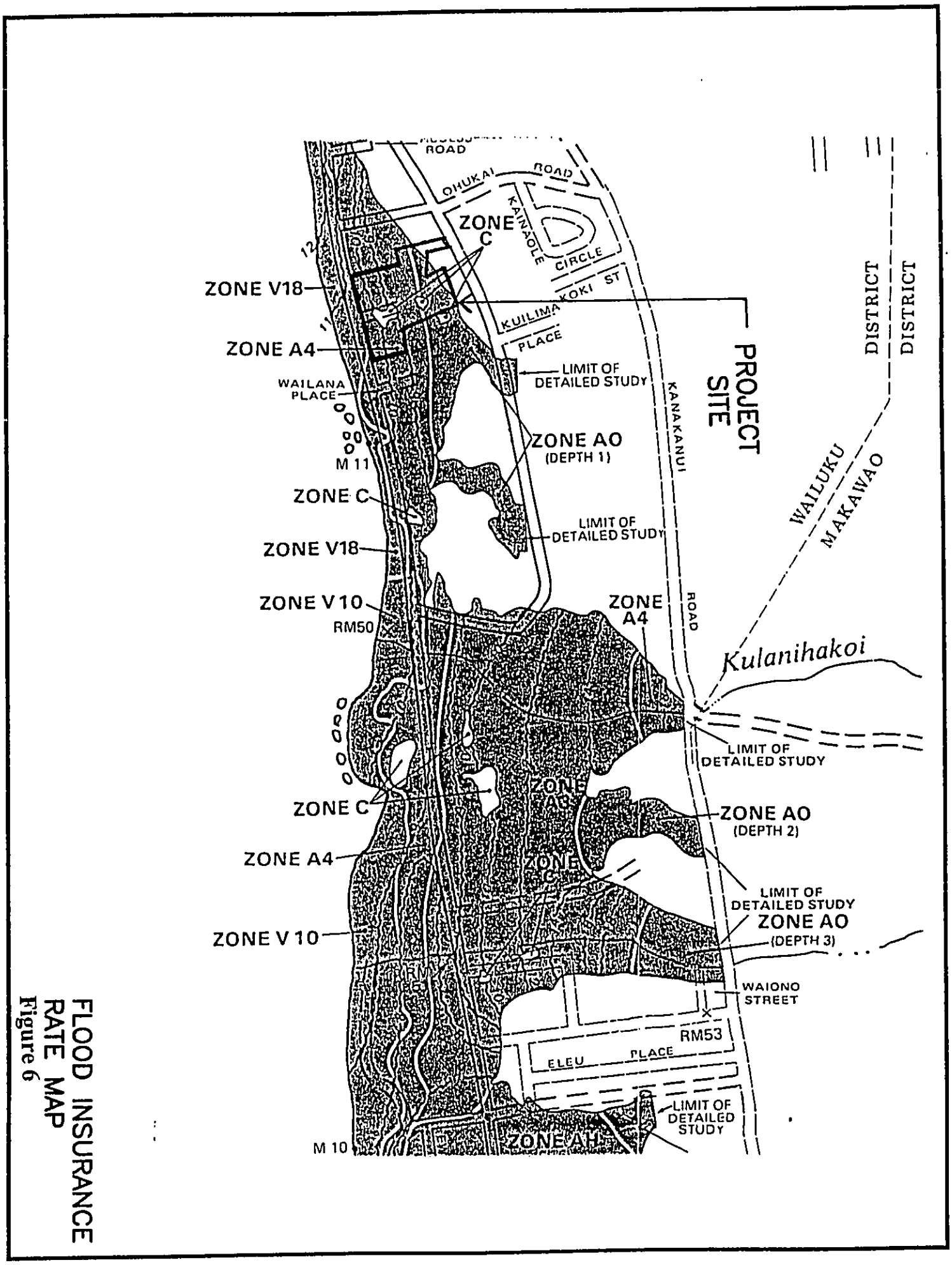

FLOOD INSURANCE RATE MAP
Figure 6

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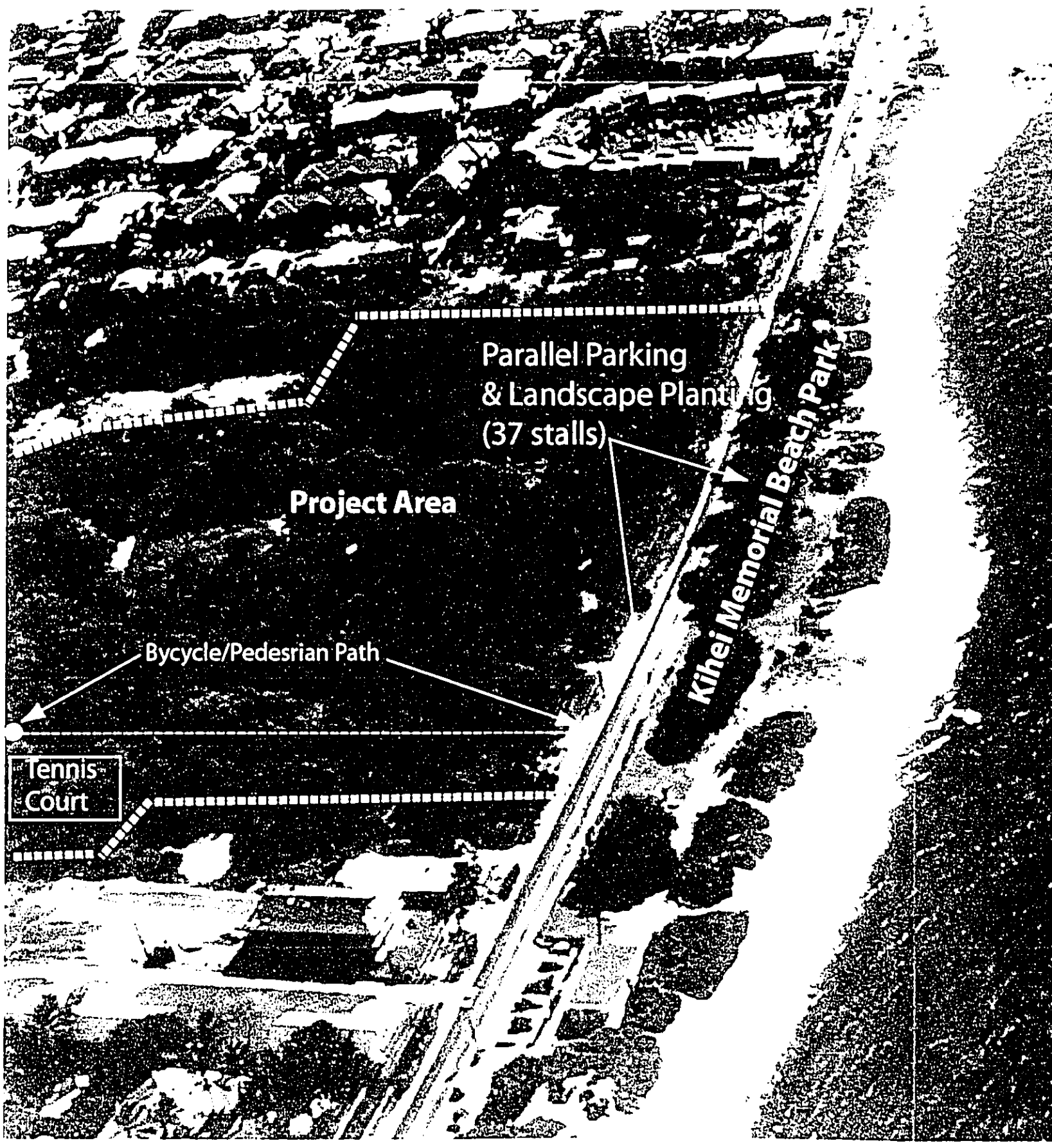

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FIGURE 7a
Aerial Photo -- Project Area

KAI MAKANI

03/2004

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FIGURE 7b
AERIAL PHOTO:
DEVELOPMENT PATTERN

N

KAI MAKANI

03/2004

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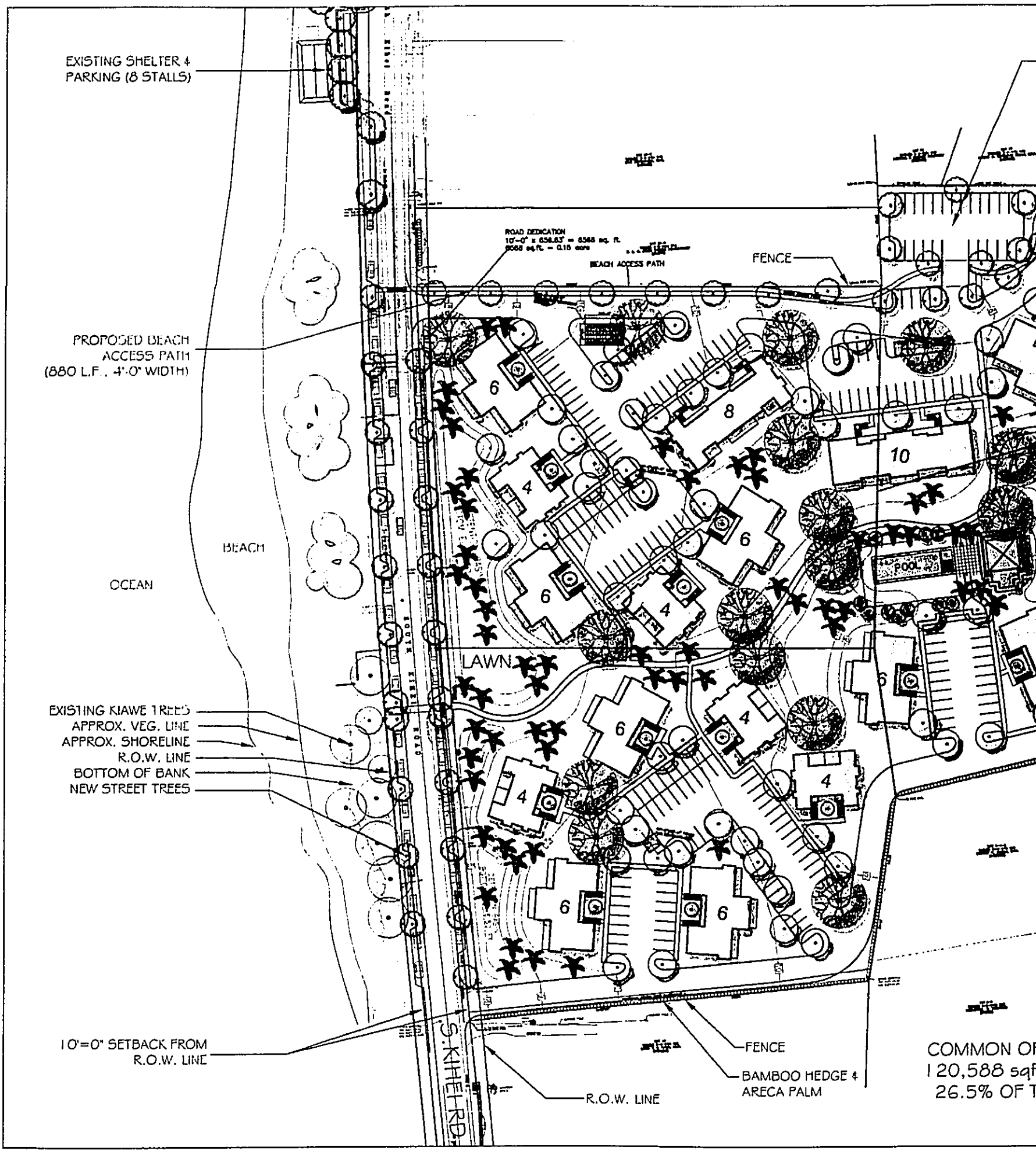

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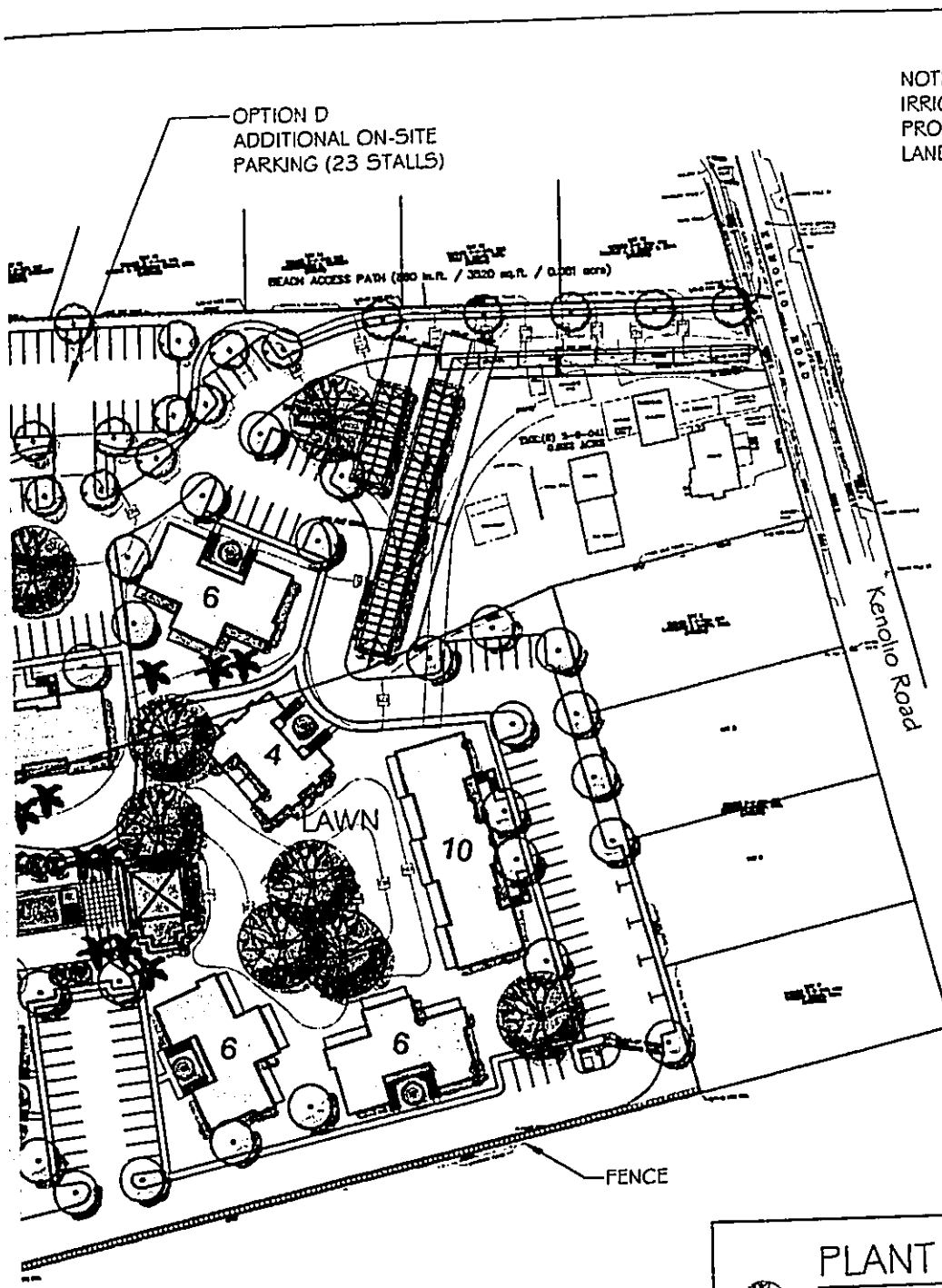

NOTE: AUTOMATIC IRRIGATION TO BE PROVIDED FOR ALL LANDSCAPED AREAS

PARKING COUNT

REQUIRED STALLS = 224
PROVIDED STALLS = 271

VISITOR PARKING = 47

PLANT LEGEND

- MONKEY POD
- HAWAIIAN KOU
- PLUMERIA
- MILO
- COCONUT & JOANNIS PALM

ALL TREE SIZES TO BE MIN. 6'-0" & 2" CALIPER

COMMON OPEN SPACE AREA =
120,588 sqft (2.768 ac.) OR
26.5% OF THE TOTAL AREA

CONCEPTUAL SITE & LANDSCAPE PLAN

SCALE: 1"=100'-0"

CHRIS HART & PARTNERS
LANDSCAPE ARCHITECTURE AND PLANNING
1955 MAIN STREET, SUITE 200
WAILUKU, MAUI, HI 96793-1708
TELEPHONE: 808-243-1955
FACSIMILE: 808-243-1954

KAI MAKANI
KIHEI, MAUI, HAWAII
TMK 3-9-041:002,003,026,038 & PRO. OF 027

WILLIAM MITCHELL
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 1173
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

OPEN SPACE UPDATE - JULY 23/03	
REVISION - OCT 31, 2003	
REVISION - JAN 06 2004	
REVISION - MARCH 26, 2004	
DATE:	SEPT 25, 2002
FILE NO:	00-111

FIGURE
8-A

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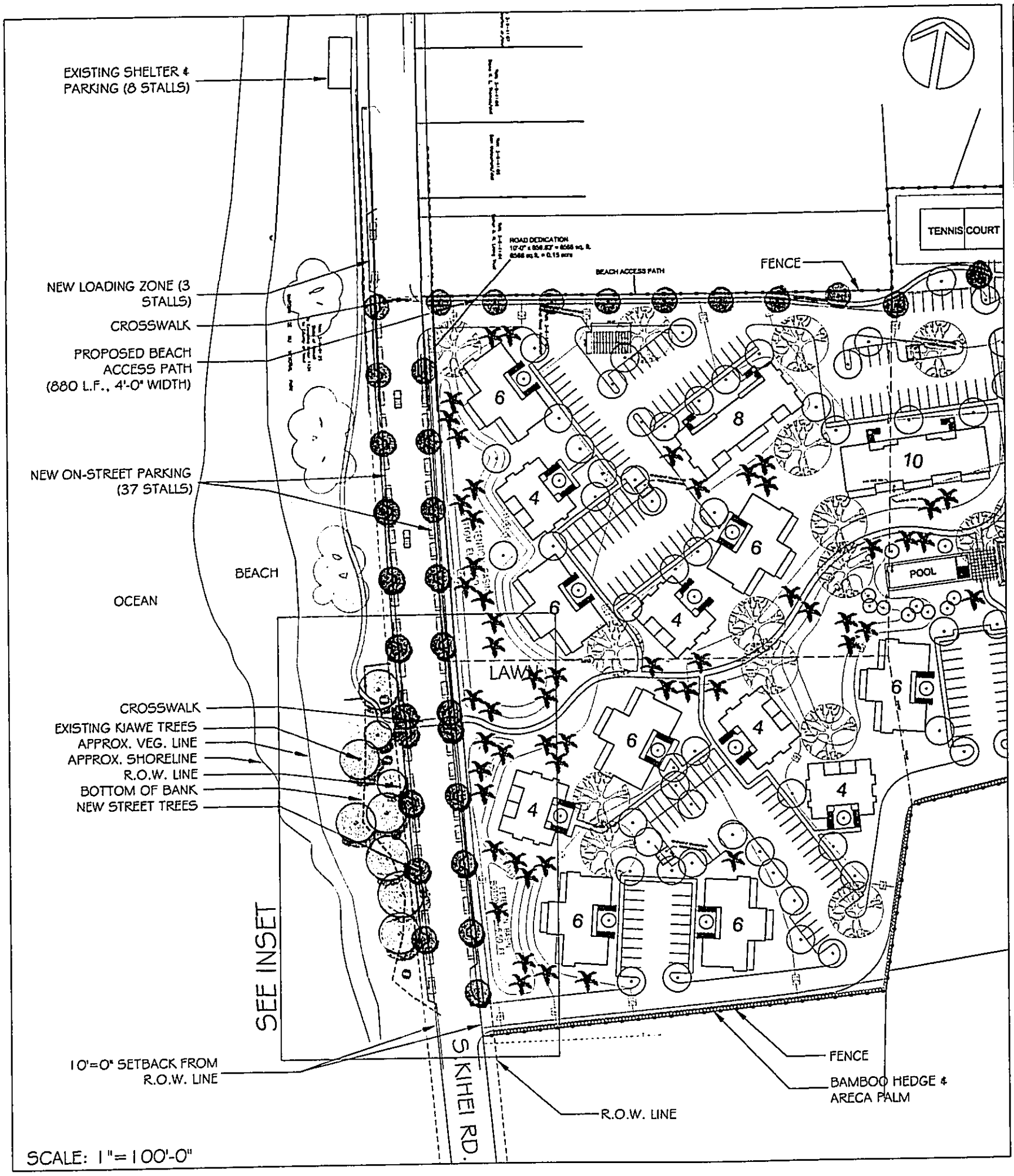

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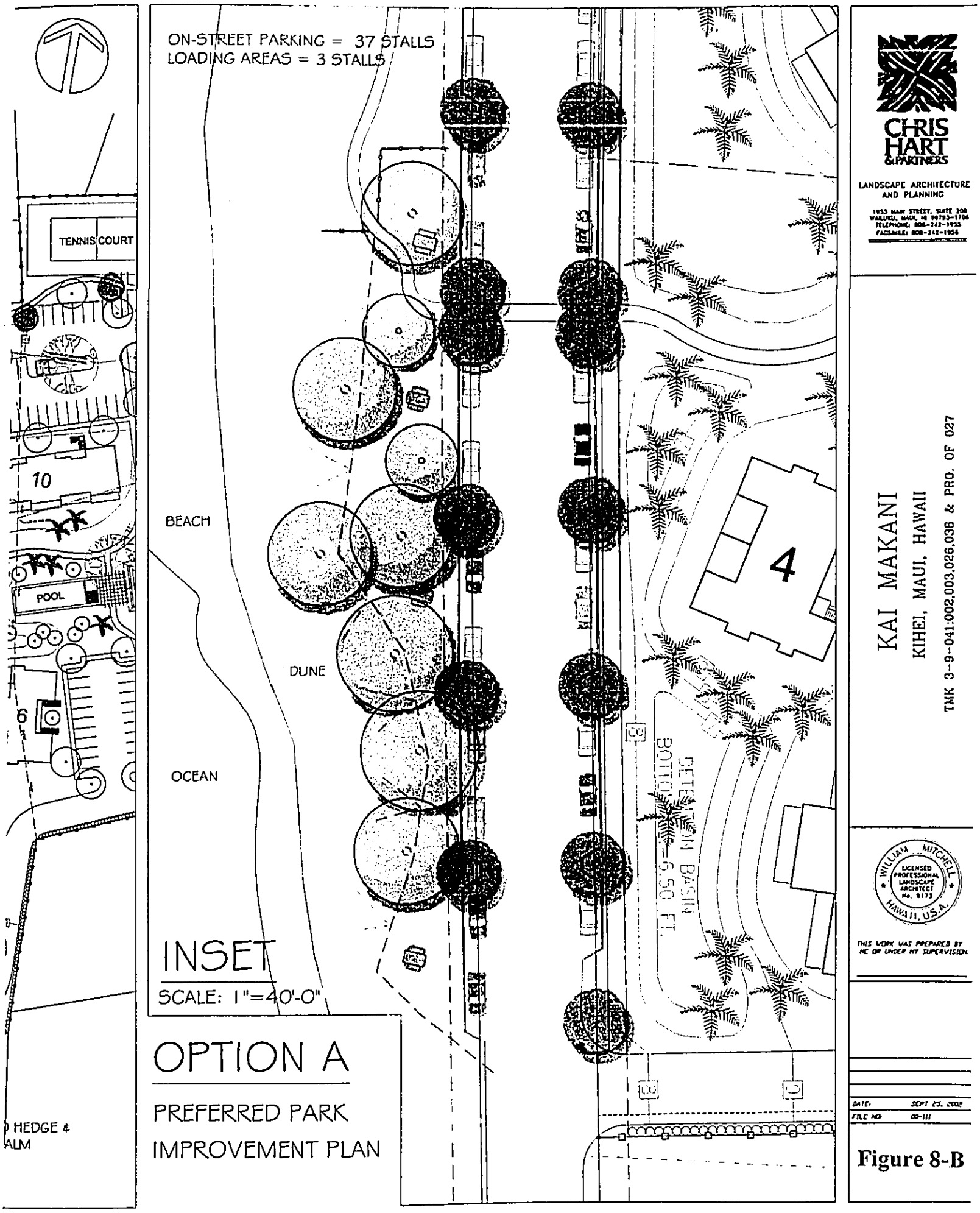

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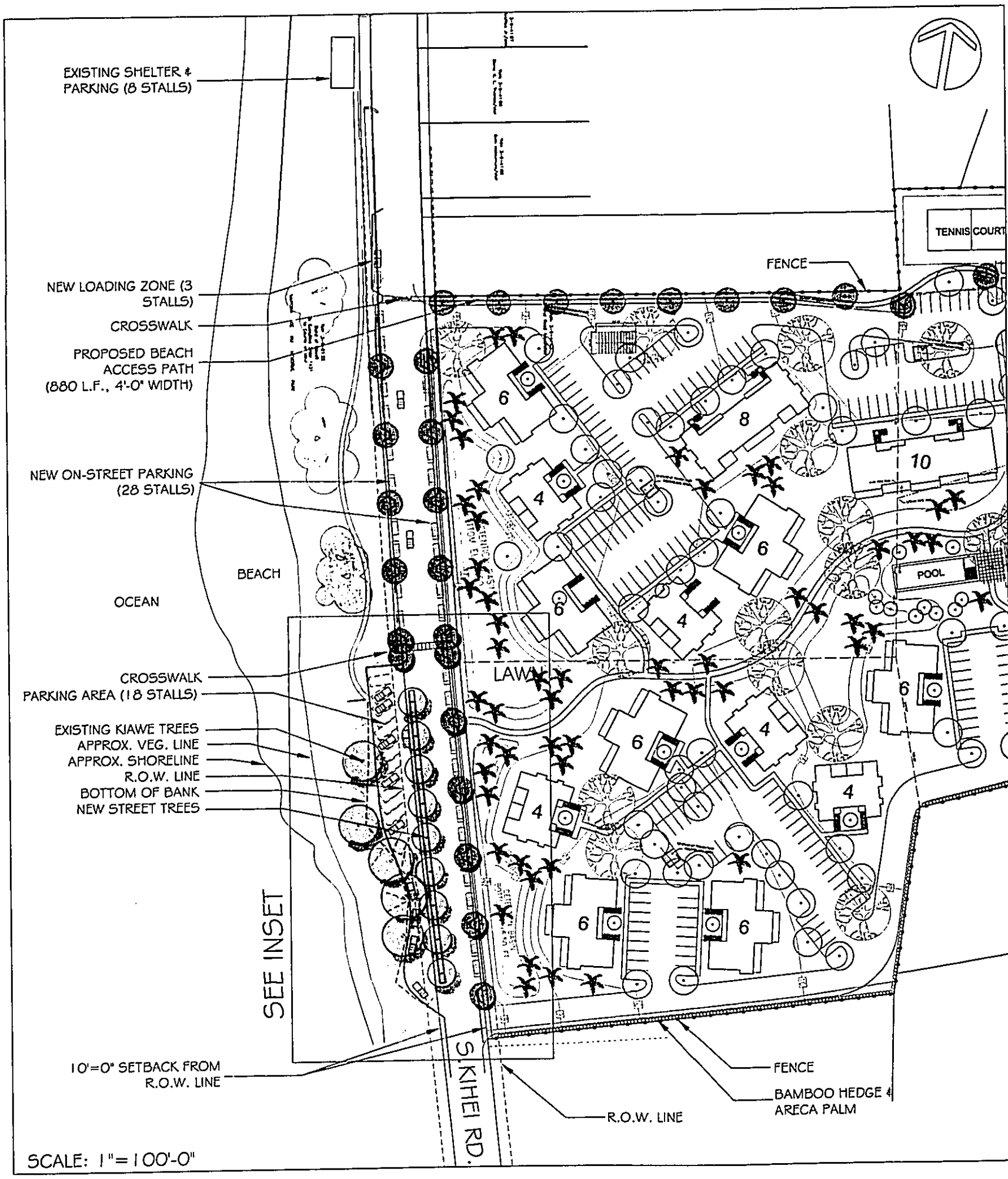

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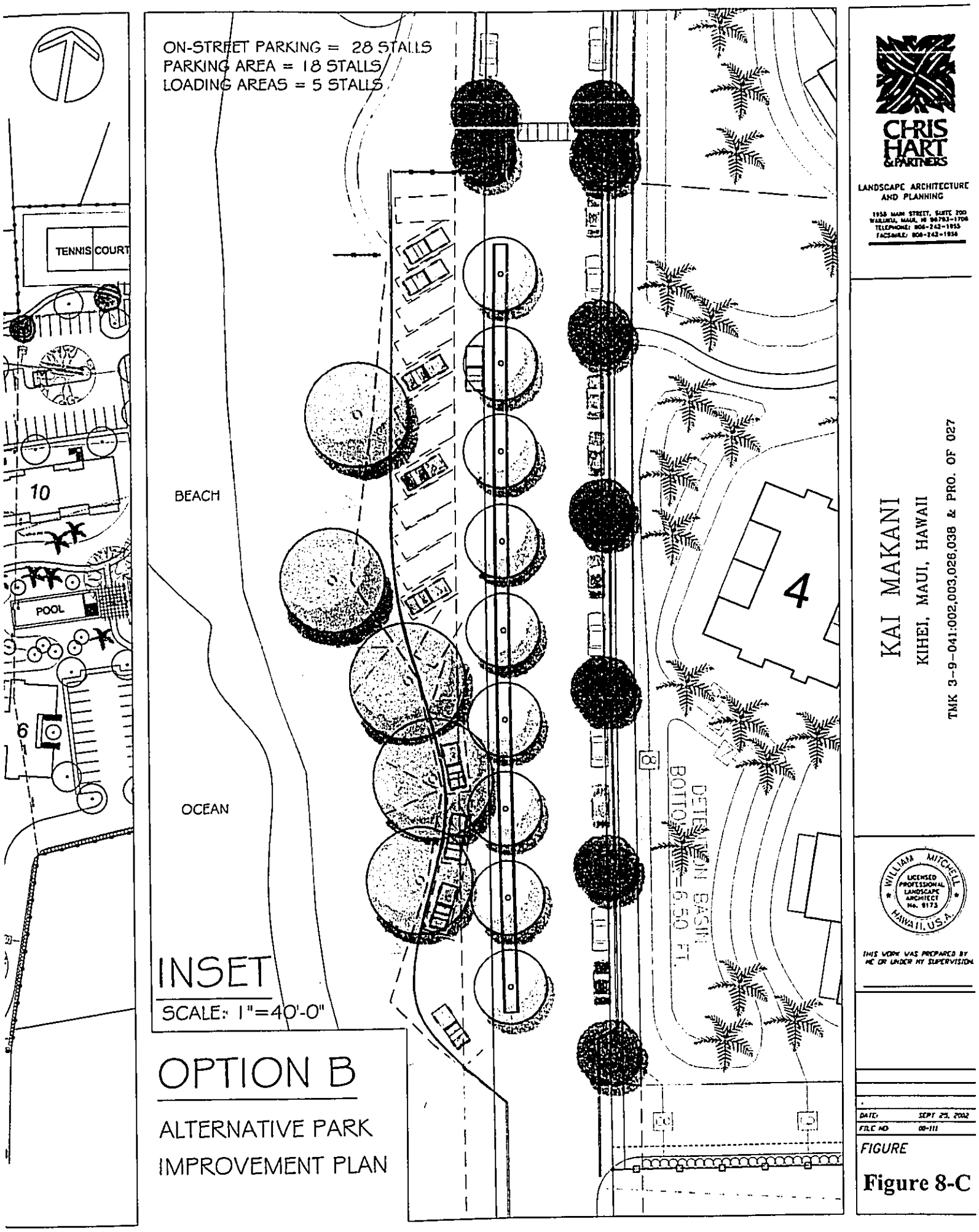

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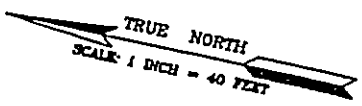
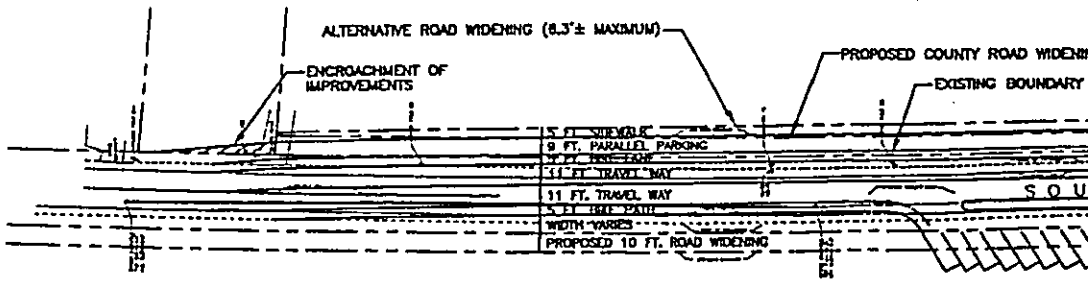


KAI MAKANI PROJECT



CONCEPTUAL KAI MAKANI BEACH PAR
SCALE: 1 INCH = 100 FEET

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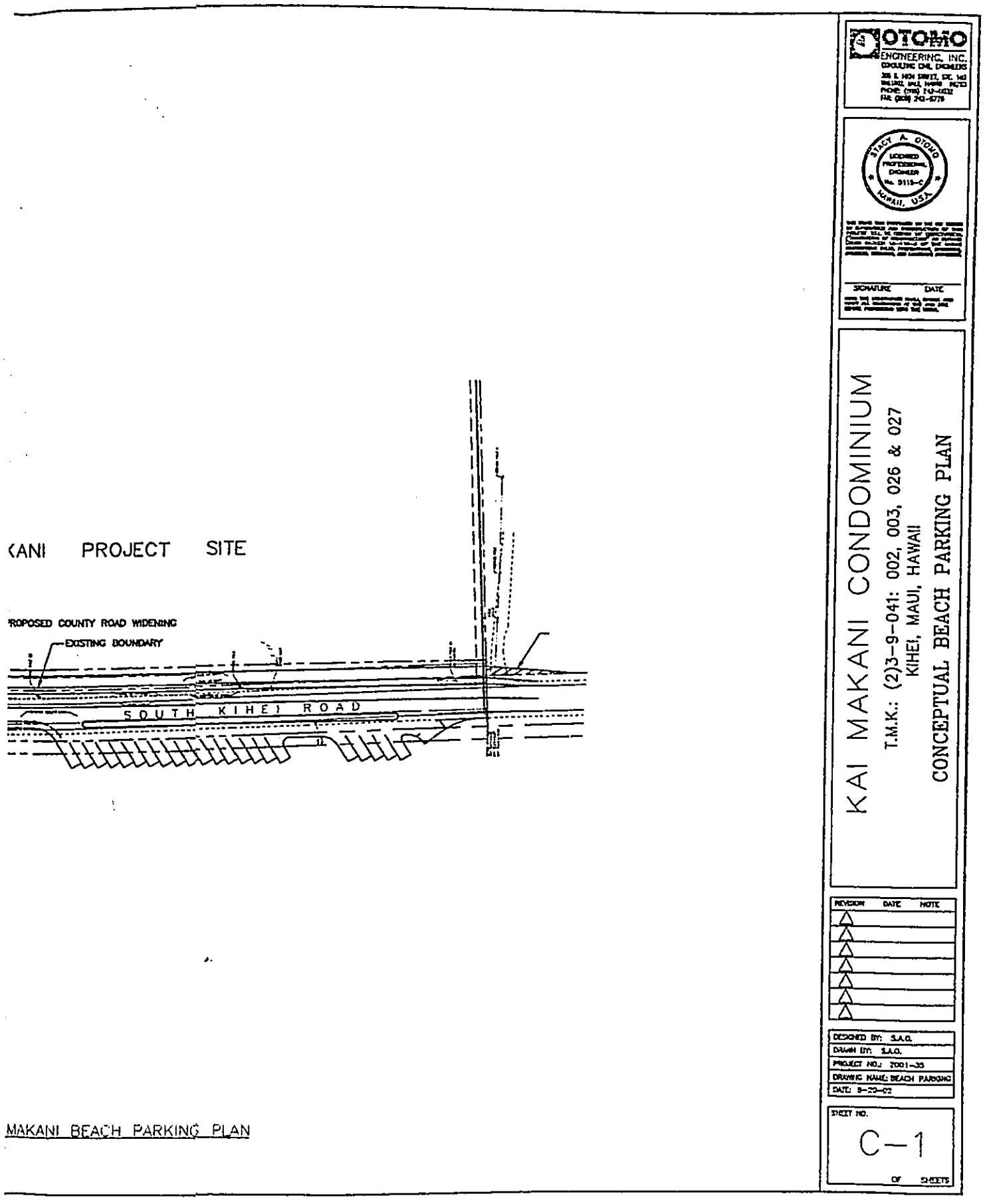

Figure 8-D, Option E – Realign South Kihei Road

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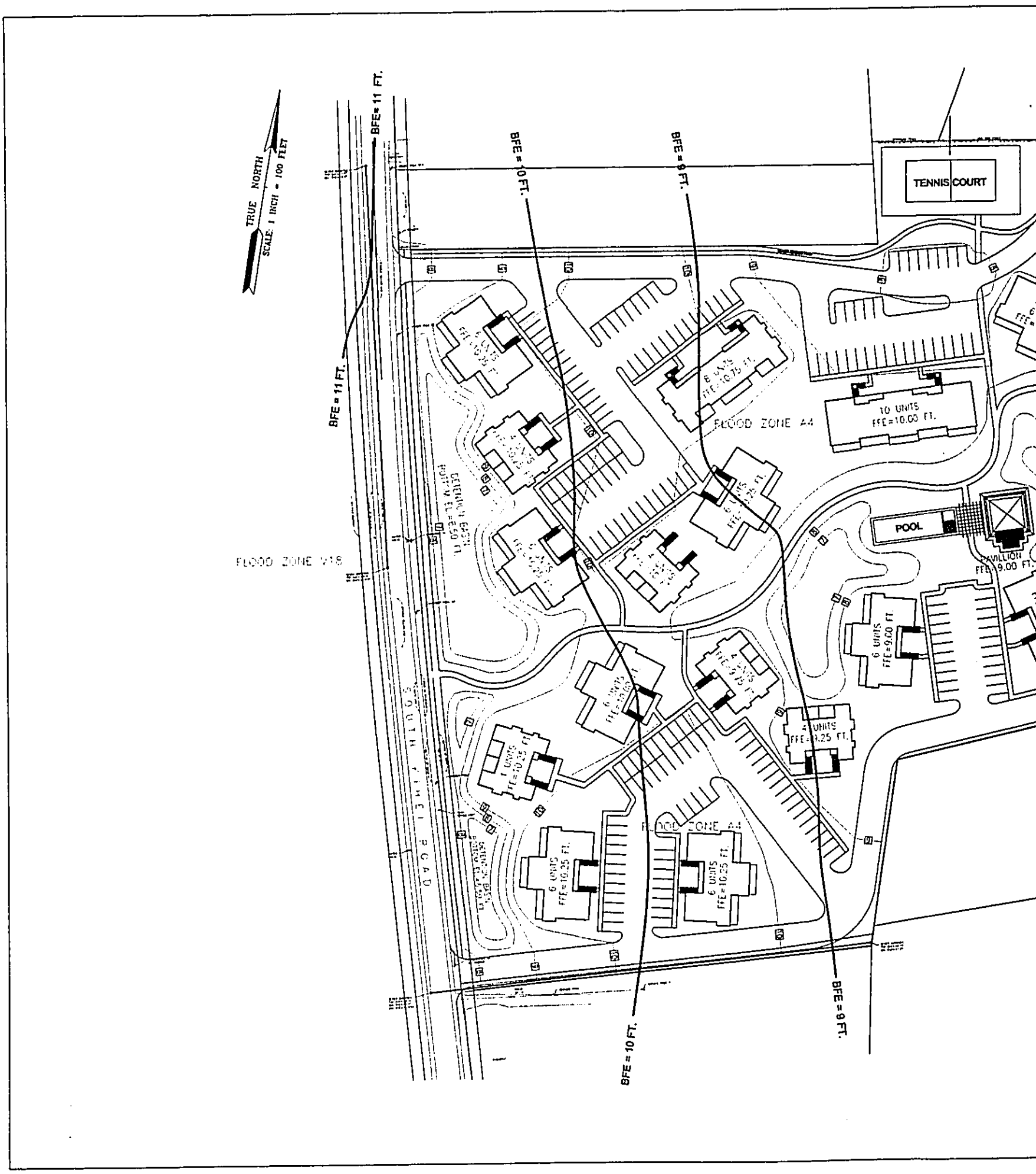

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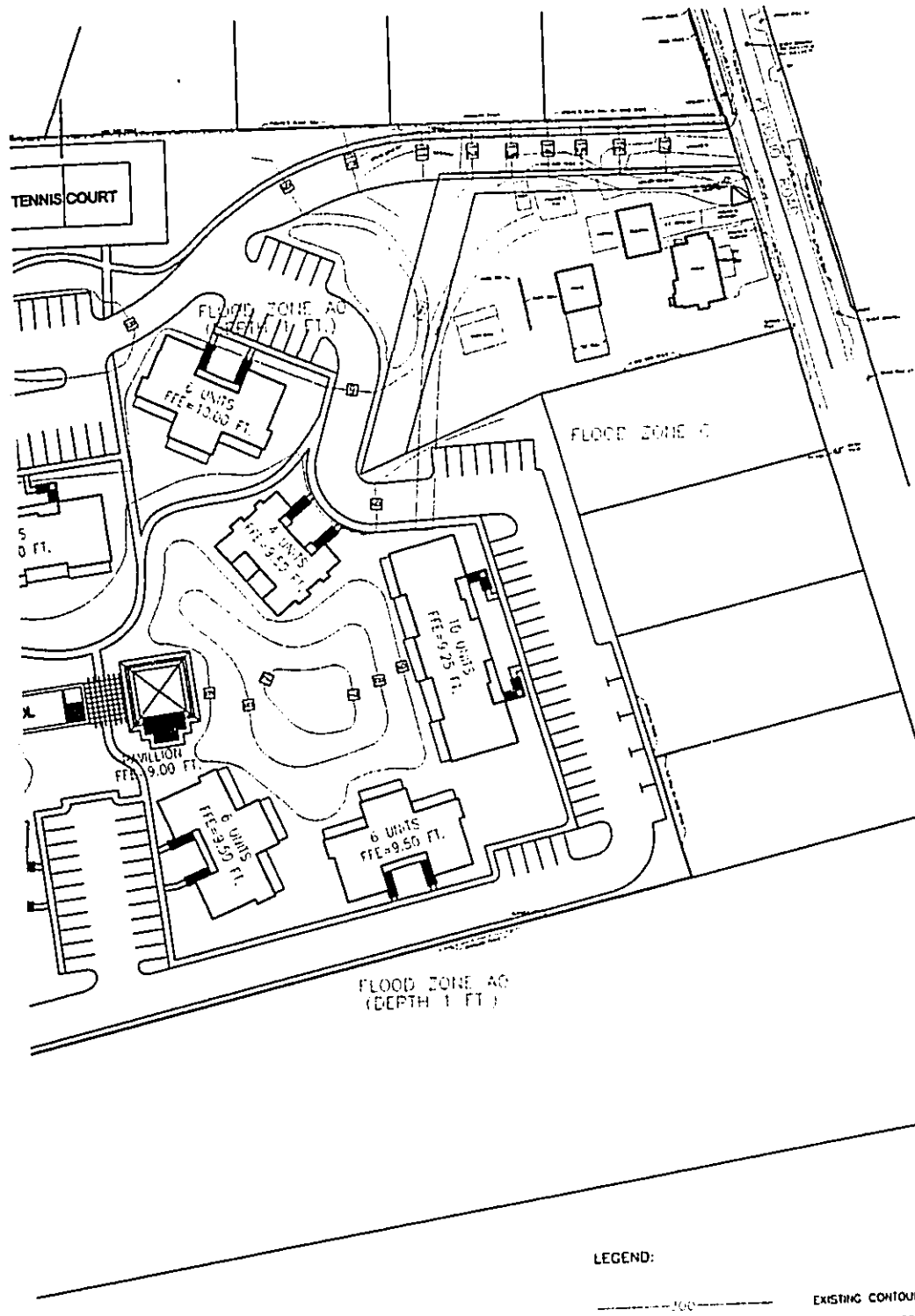


LEGEND:

- EXISTING CONTOUR LINE
- FINISH GRADE CONTOUR LINE
- FLOOD ZONE BOUNDARY
- BASE FLOOD ELEVATION PER FEMA

PRELIMINARY GRADING PLAN

SCALE: 1 INCH = 100 FEET

OTOMO ENGINEERING, INC.
CONSULTING CIVIL ENGINEERS
305 S. HIGH STREET, STE. 103
WAILUKU, MAUI, HAWAII 96793
PHONE: (808) 242-0032
FAX: (808) 242-5779

STACY A. OTOMO
LICENSED PROFESSIONAL ENGINEER
No. 5113-C
HAWAII, U.S.A.

SIGNATURE DATE

KAI MAKANI CONDOMINIUM
T.M.K.: (2)3-9-041: 002, 003, 026 & 027
KIHEI, MAUI, HAWAII
PRELIMINARY GRADING PLAN

REVISION	DATE	NOTE

DESIGNED BY:	S.A.O.
DRAWN BY:	S.A.O.
PROJECT NO.:	2001-35
DRAWING NAME:	GRADING2
DATE:	8-20-02

FIGURE

Figure 8-E

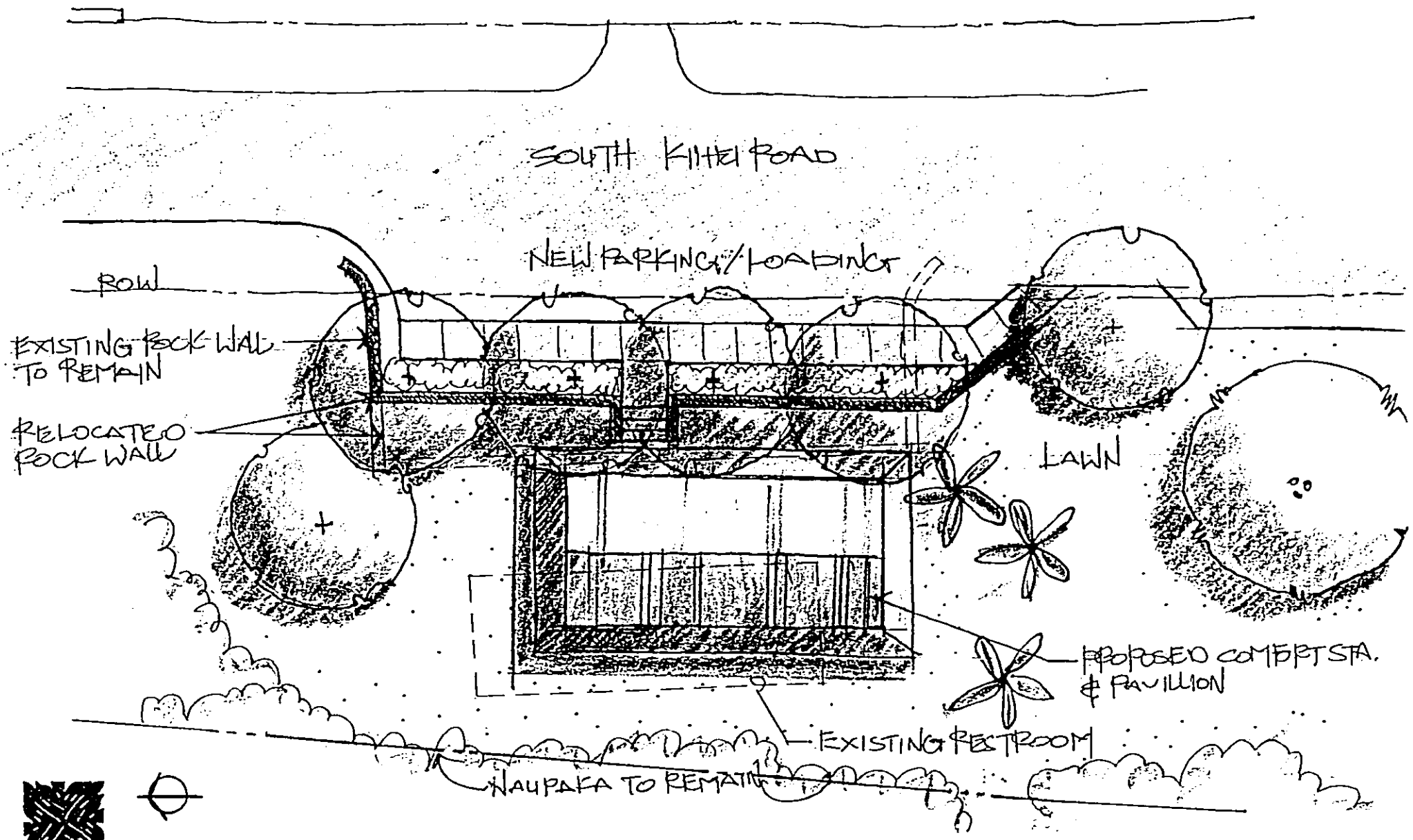
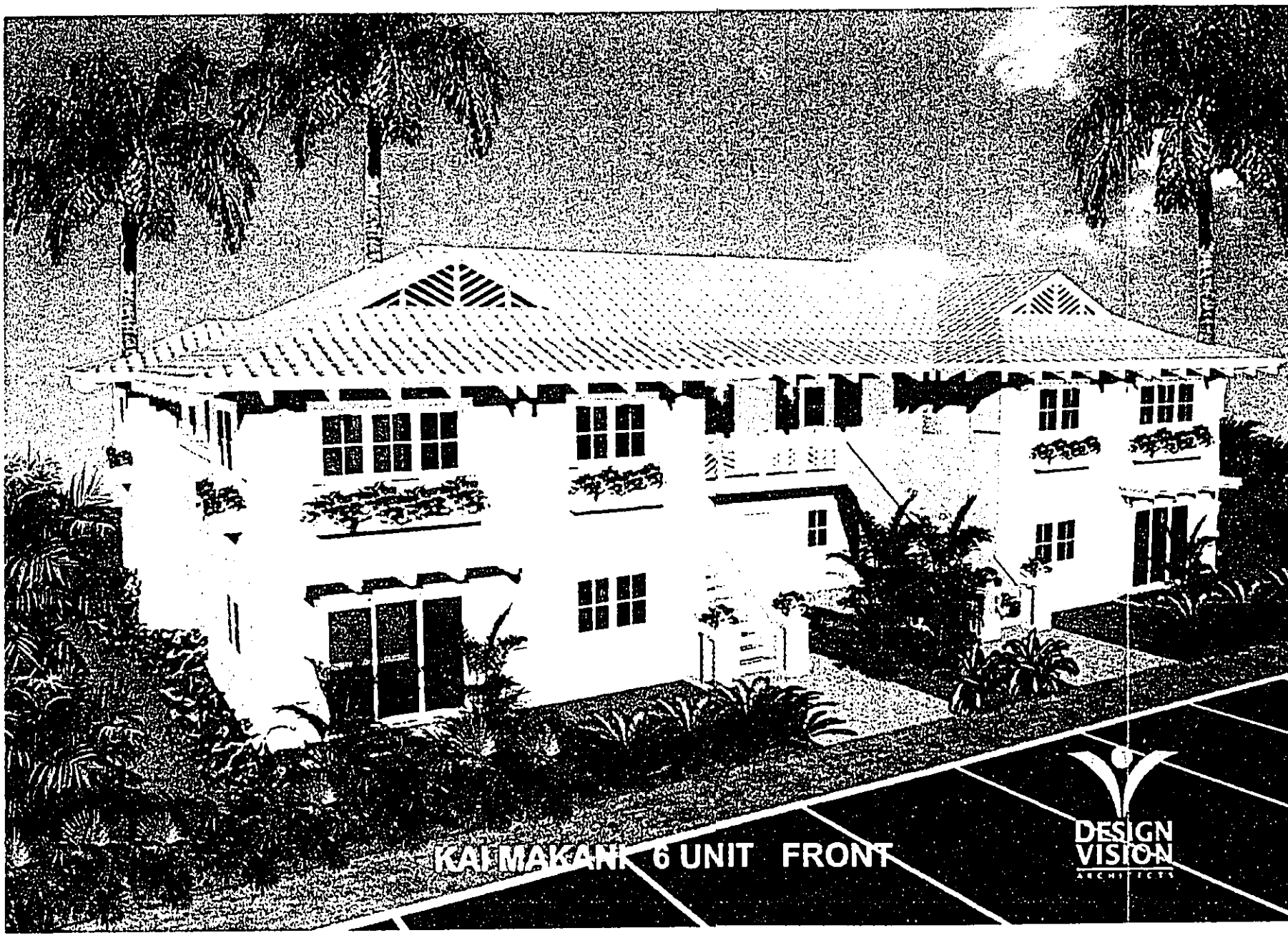


Figure 8-F, Conceptual Restroom Improvements

RECEIVED AS FOLLOWS

RECEIVED AS FOLLOWS



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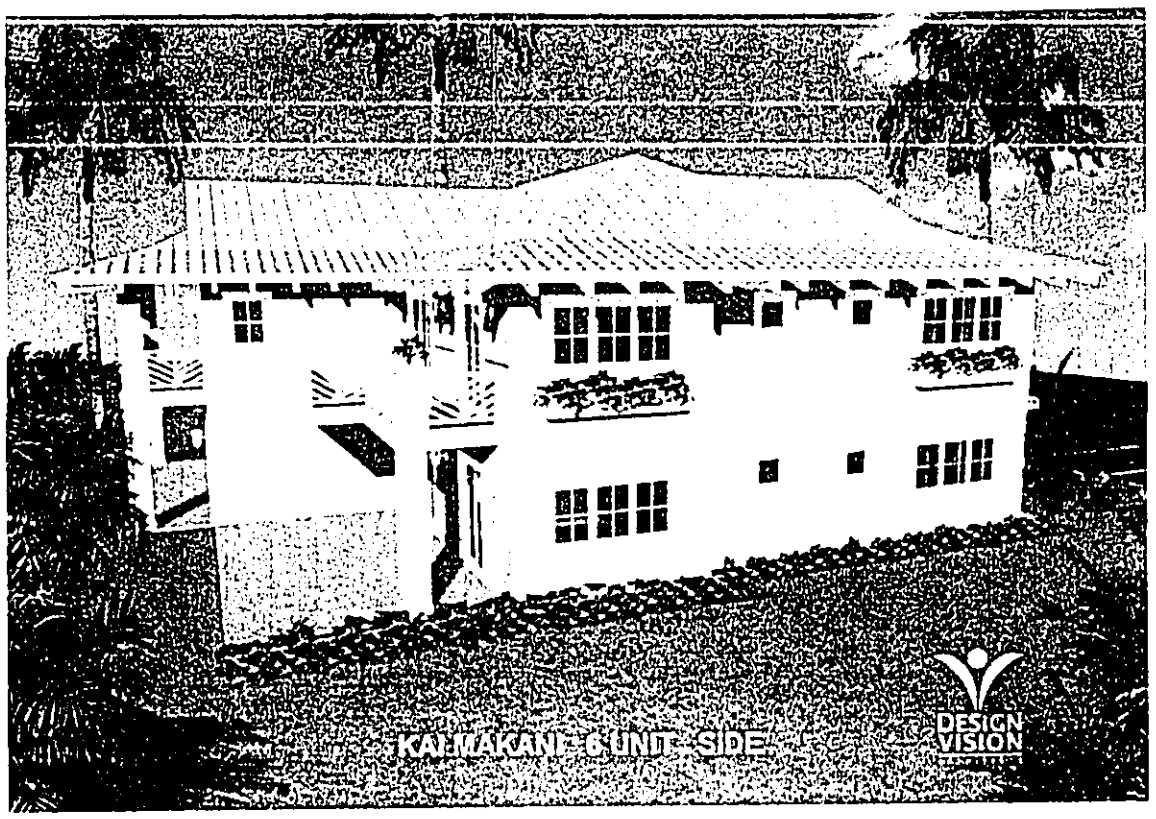
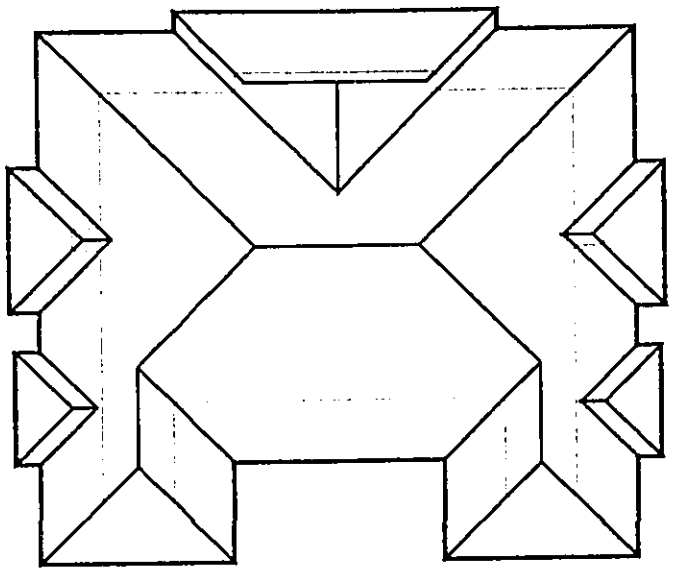
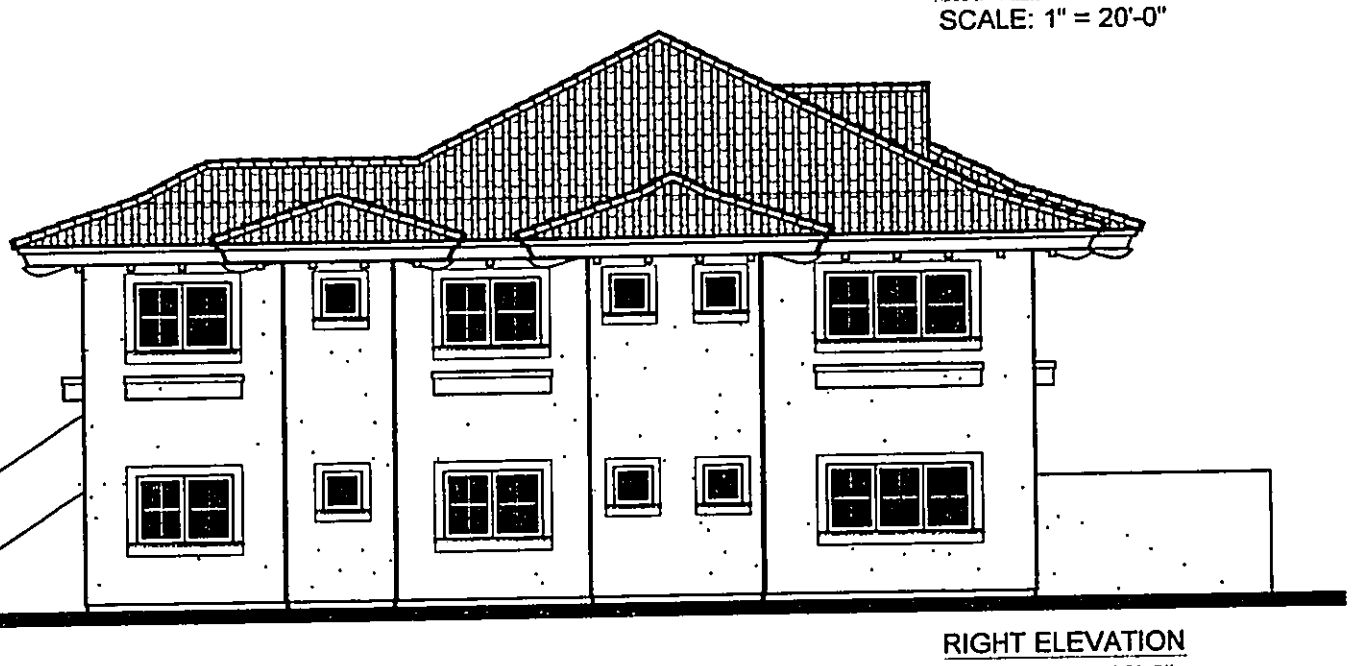


Figure 9-A

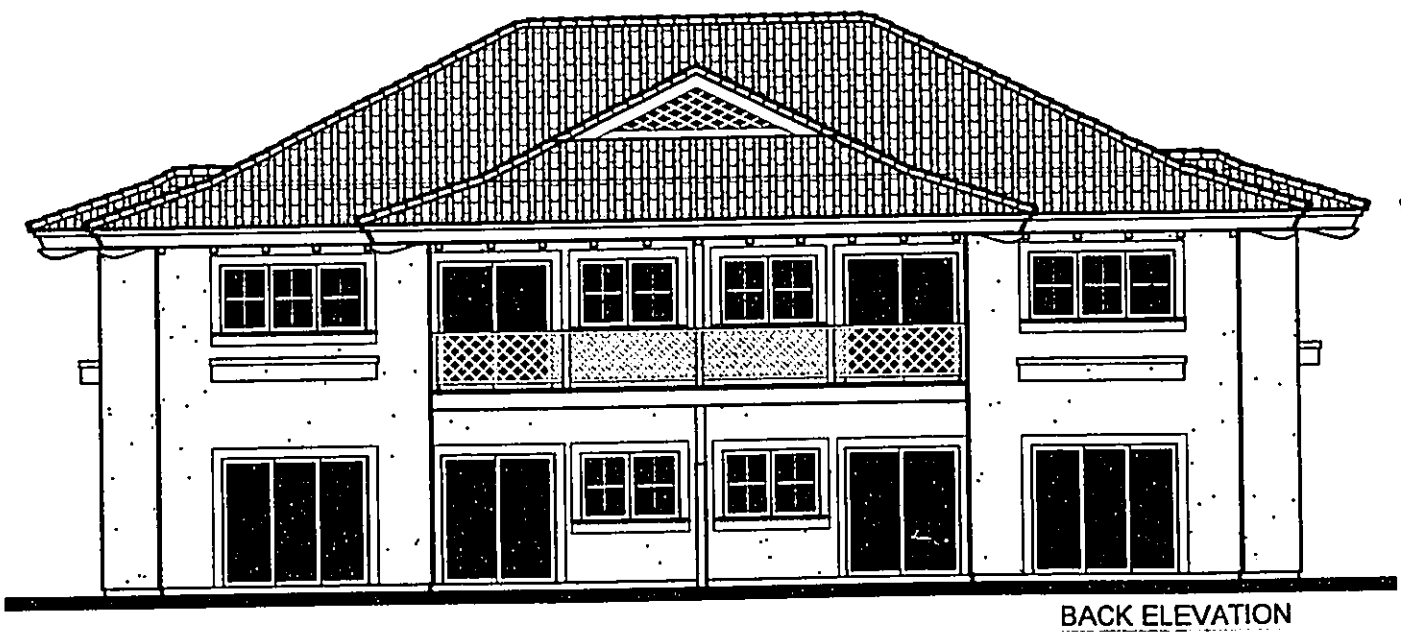
RECEIVED AS FOLLOWS



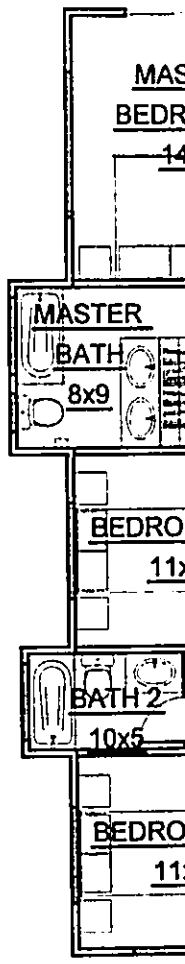
ROOF PLAN
SCALE: 1" = 20'-0"



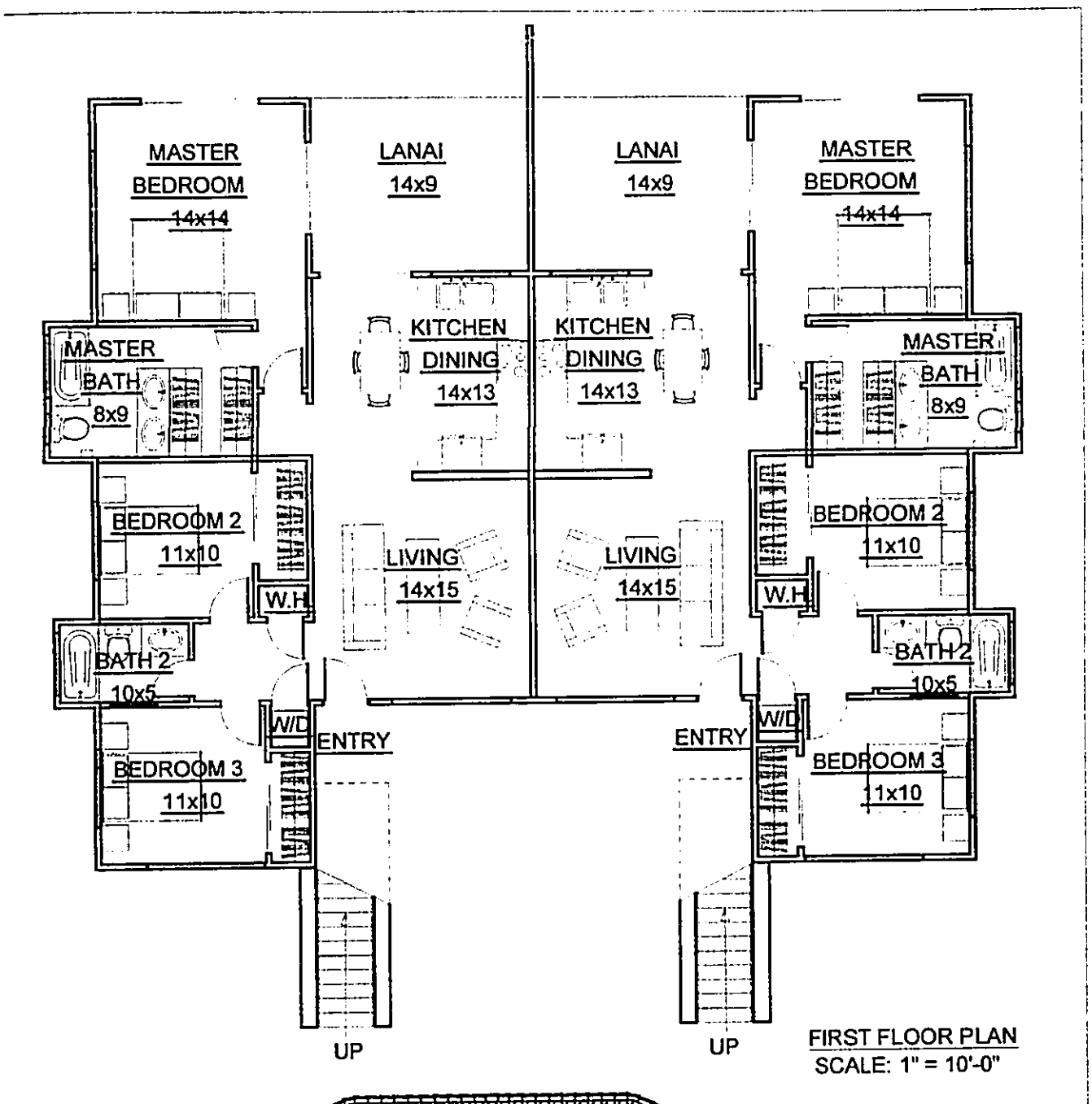
RIGHT ELEVATION
SCALE: 1" = 10'-0"



BACK ELEVATION
SCALE: 1" = 10'-0"



RECEIVED AS FOLLOWS



FIRST FLOOR PLAN
SCALE: 1" = 10'-0"

FRONT ELEVATION
SCALE: 1" = 10'-0"

DESIGN VISION

REV.	03/09/02 JME
REV.	02/15/02
REV.	
REV.	
REV.	

KAI MAKANI CONDOMINIUM
KIHEI, MAUI, HAWAII

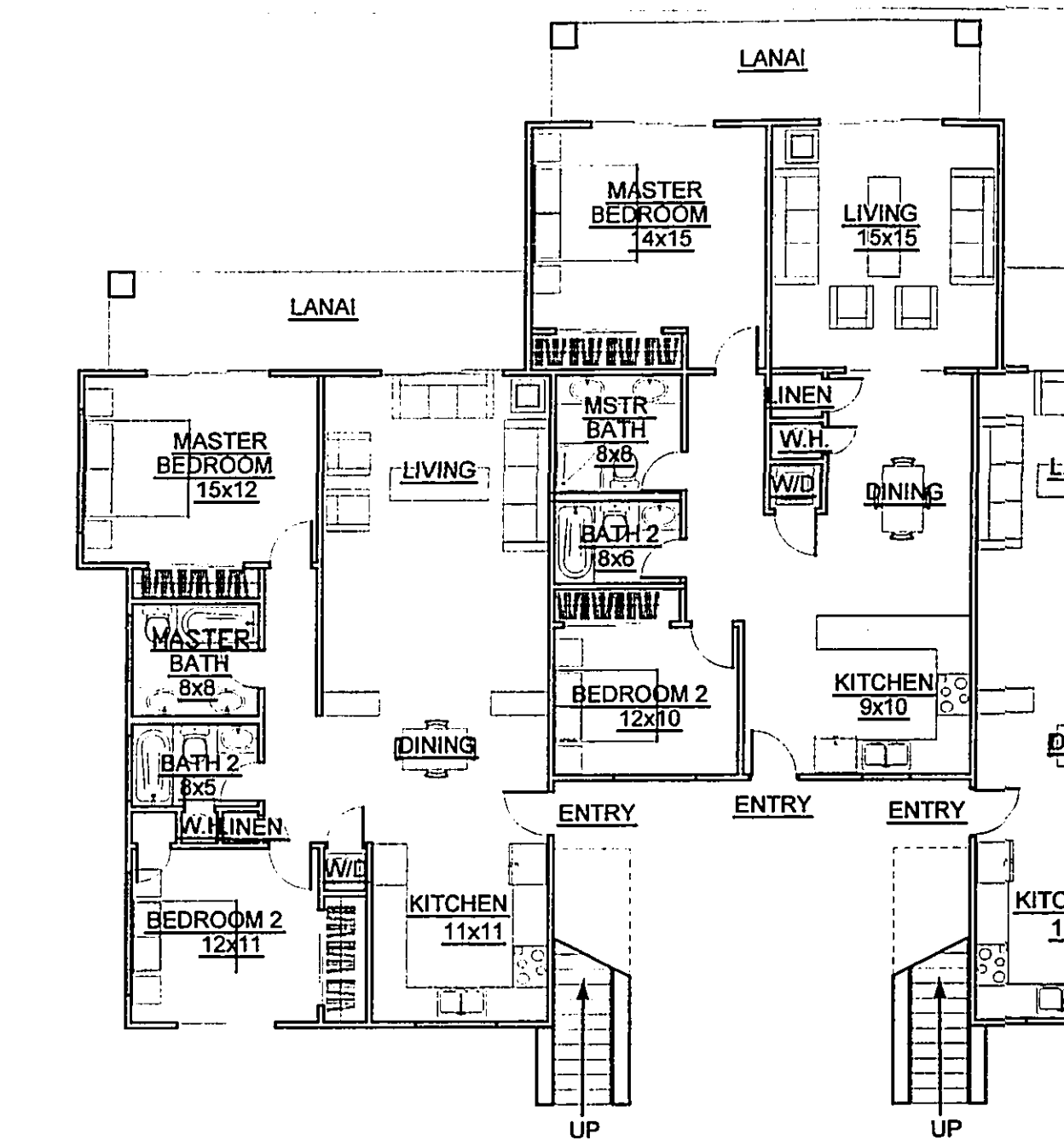
4-UNIT BUILDING

PROJECT NO:	KMK
FILE:	98KMK-4UElev-030902
SCALE:	AS NOTED
DATE:	02/15/02
DRAWN BY:	JME

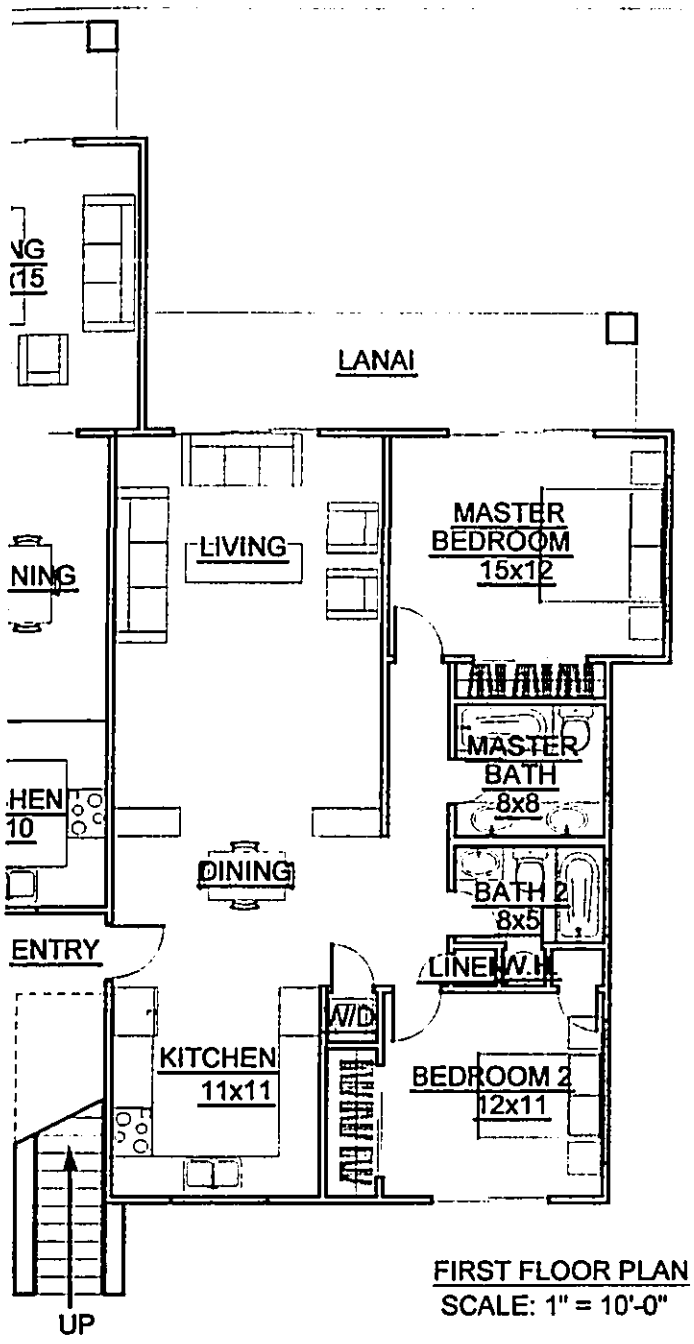
DRAWING NO.
SHEET

Figure 9-B

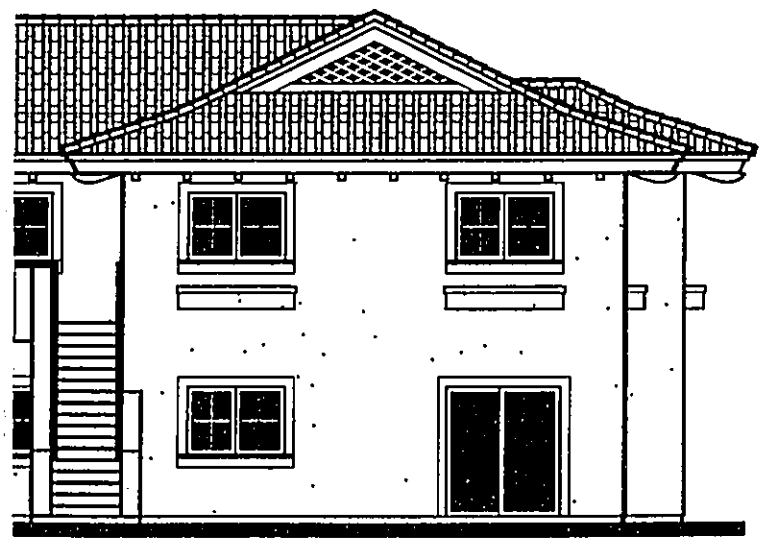
RECEIVED AS FOLLOWS



RECEIVED AS FOLLOWS



FIRST FLOOR PLAN
SCALE: 1" = 10'-0"



FRONT ELEVATION
SCALE: 1" = 10'-0"

DESIGN VISION

REV.	03/09/02 JME
REV.	02/15/02
REV.	
REV.	
REV.	

KAI MAKANI CONDOMINIUM
KIHEI, MAUI, HAWAII

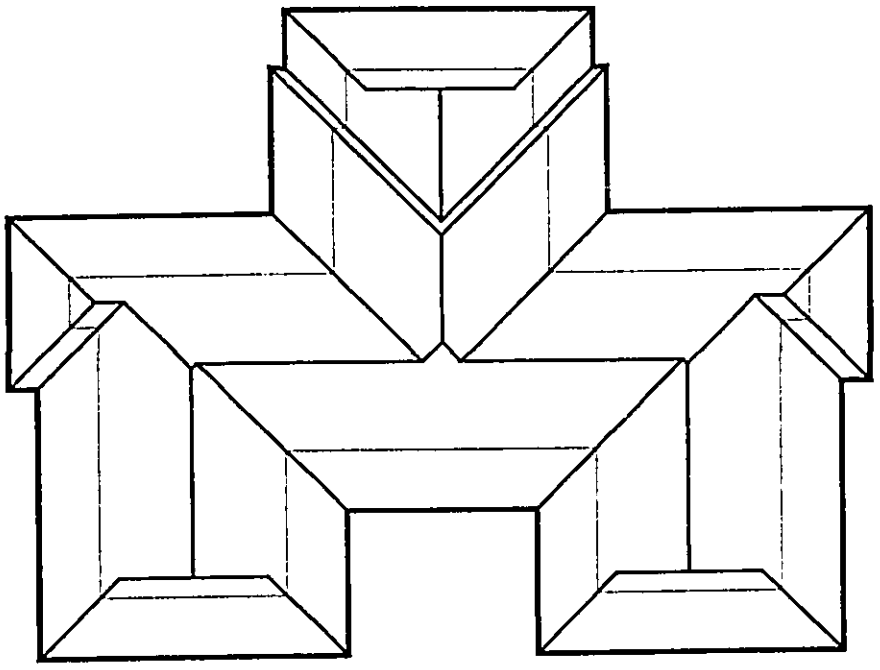
6-UNIT BUILDING

PROJECT NO:	KMK
FILE:	98KMK-6UElev-030902
SCALE:	AS NOTED
DATE:	02/15/02
DRAWN BY:	JME

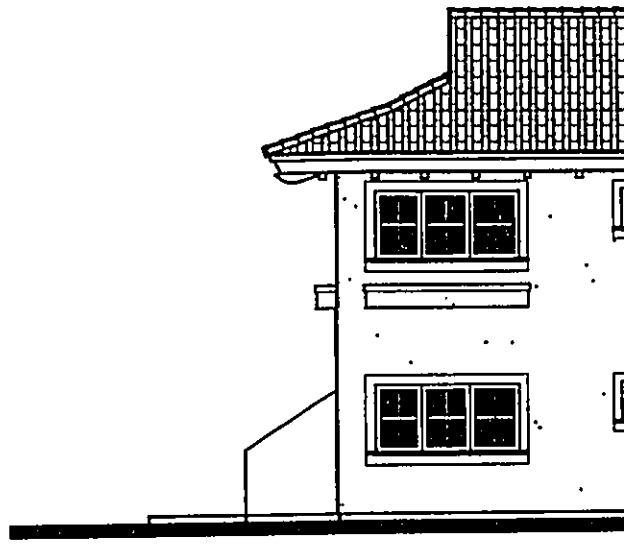
DRAWING NO.
SHEET

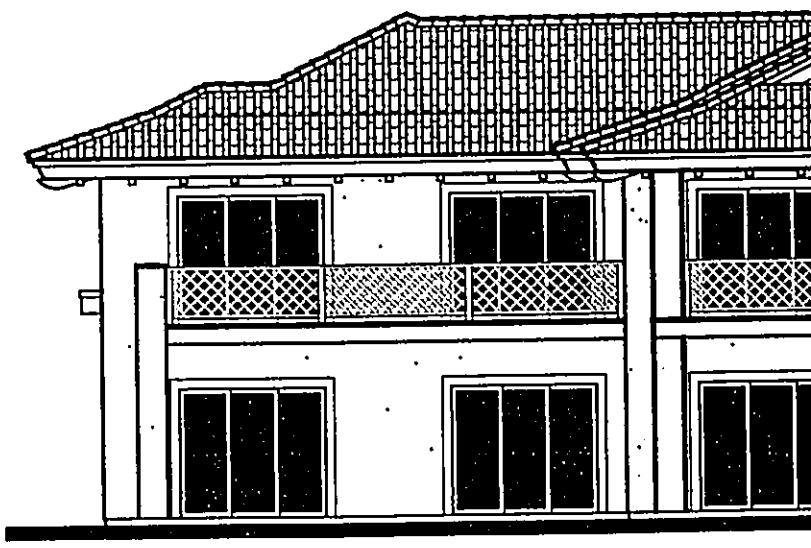
Figure 9-C

RECEIVED AS FOLLOWS



ROOF PLAN
SCALE: 1" = 20'-0"





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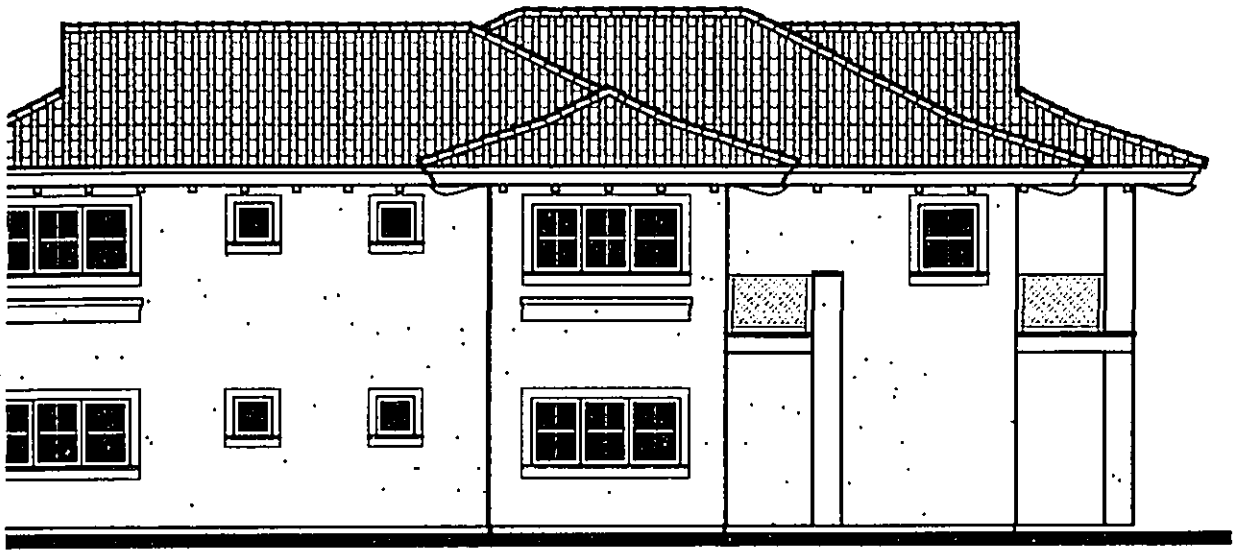
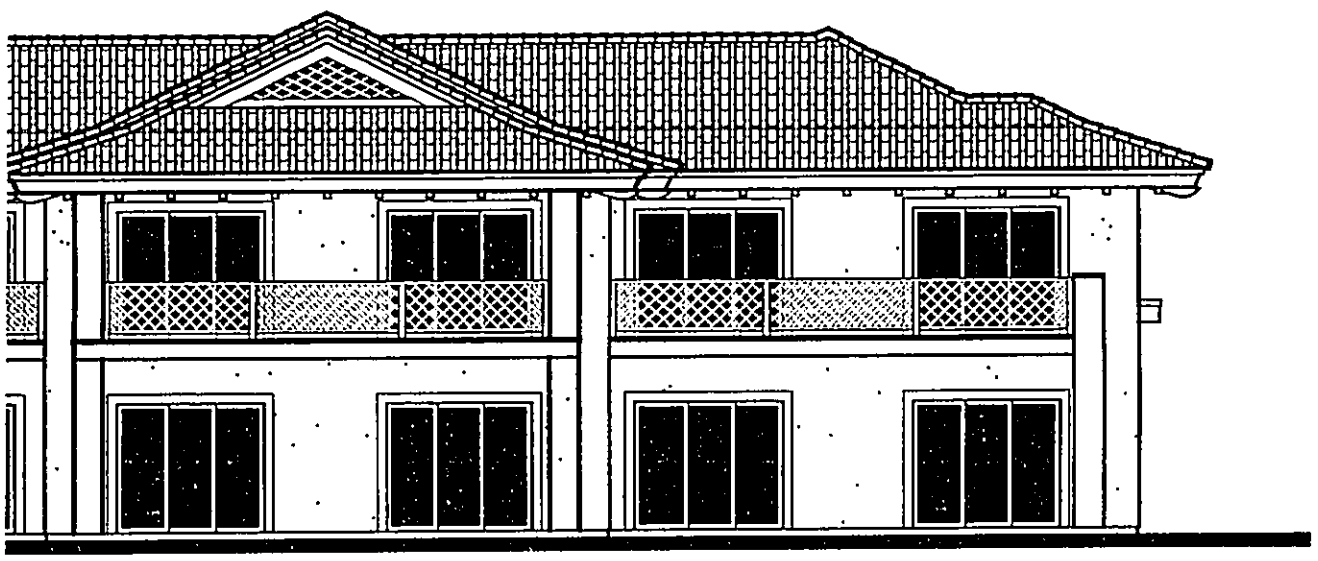


RIGHT ELEVATION
SCALE: 1" = 10'-0"



BACK ELEVATION
SCALE: 1" = 10'-0"

DESIGN VISION

REV.	03/09/02 JME
REV.	02/15/02
REV.	
REV.	
REV.	

KAI MAKANI CONDOMINIUM
KIHEI, MAUI, HAWAII

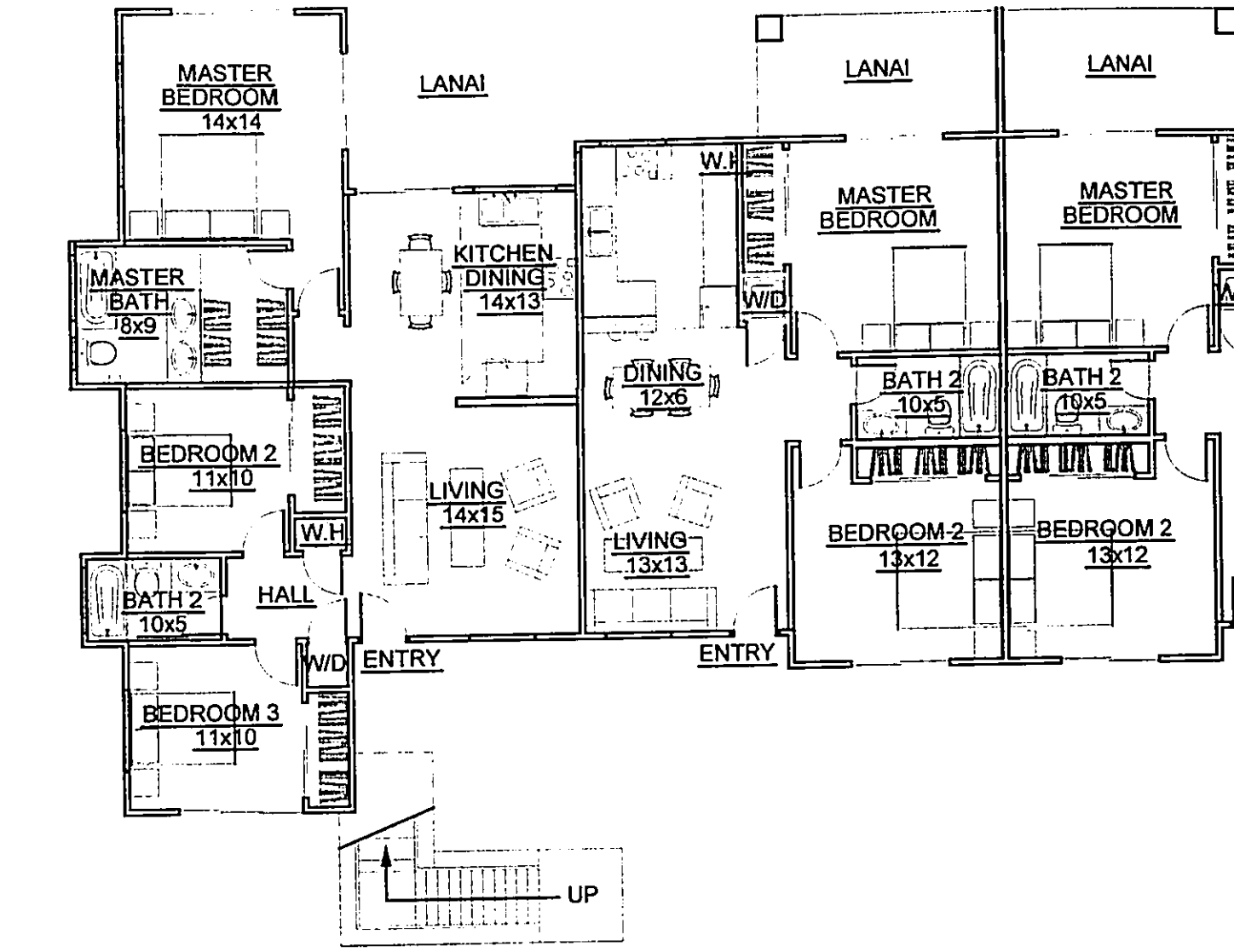
6-UNIT BUILDING

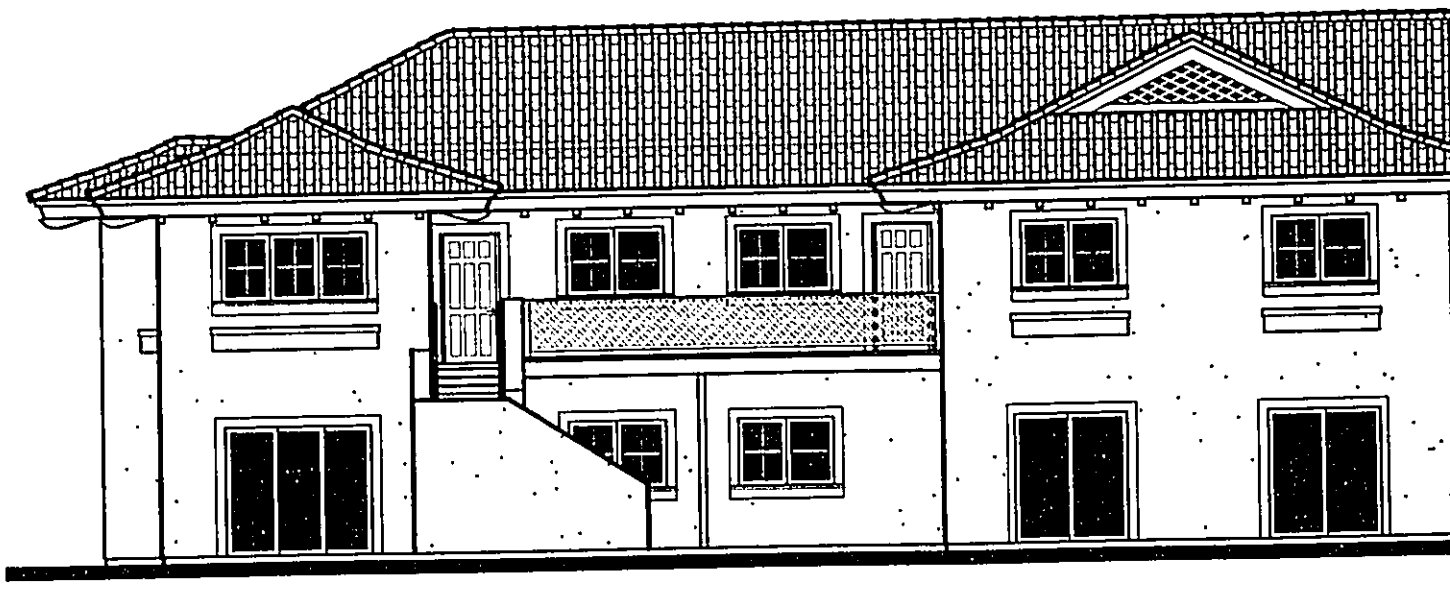
PROJECT NO:	KMK
FILE:	98KMK-6UElev-030902
SCALE:	AS NOTED
DATE:	02/15/02
DRAWN BY:	JME

DRAWING NO.
SHEET

Figure 9-D

RECEIVED AS FOLLOWS





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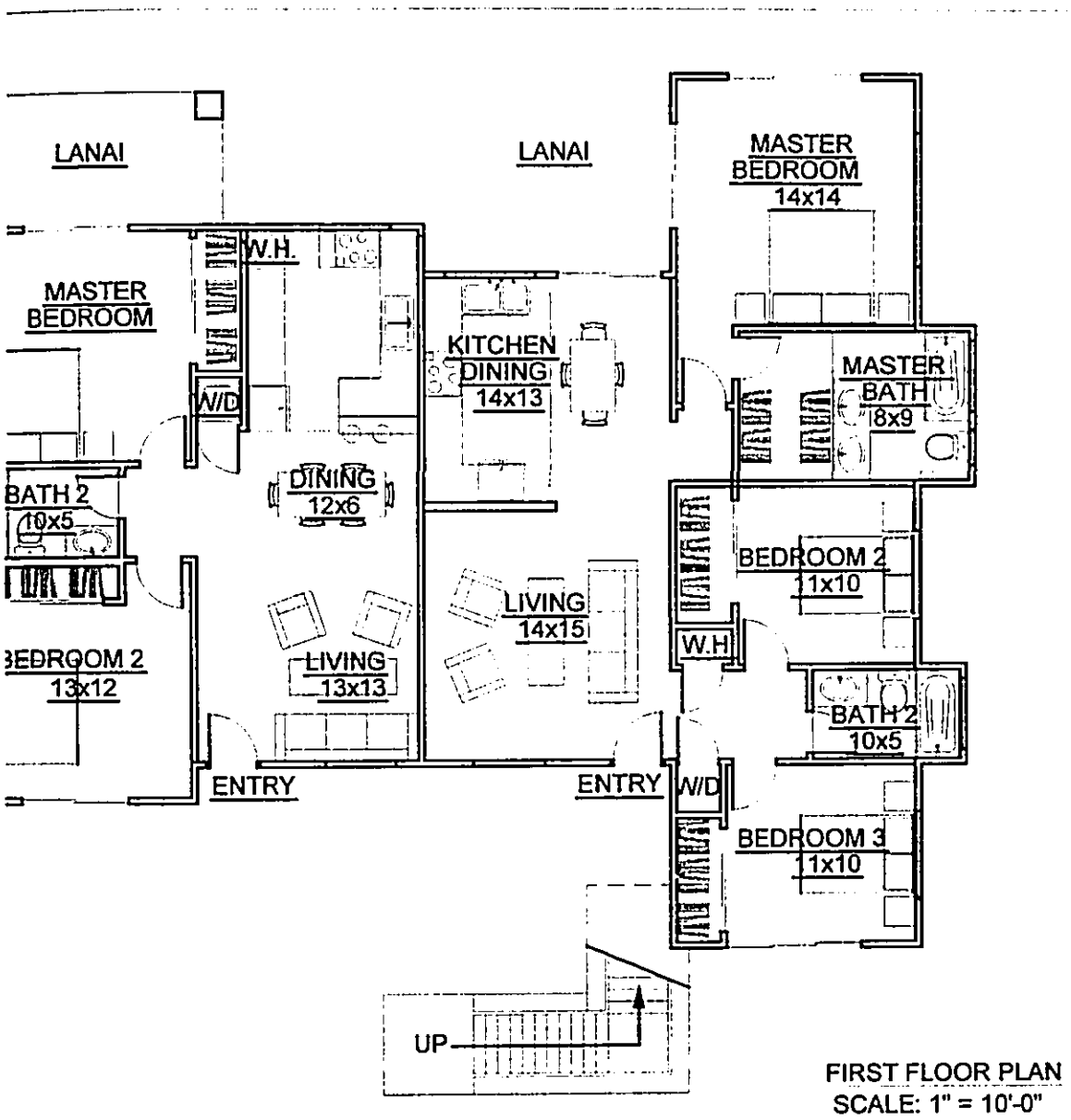


FIRST FLOOR PLAN
SCALE: 1" = 10'-0"

FRONT ELEVATION
SCALE: 1" = 10'-0"

DESIGN VISION

REV.	03/09/02 JME
REV.	02/15/02
REV.	
REV.	
REV.	

KAI MAKANI CONDOMINIUM
KIHEI, MAUI, HAWAII

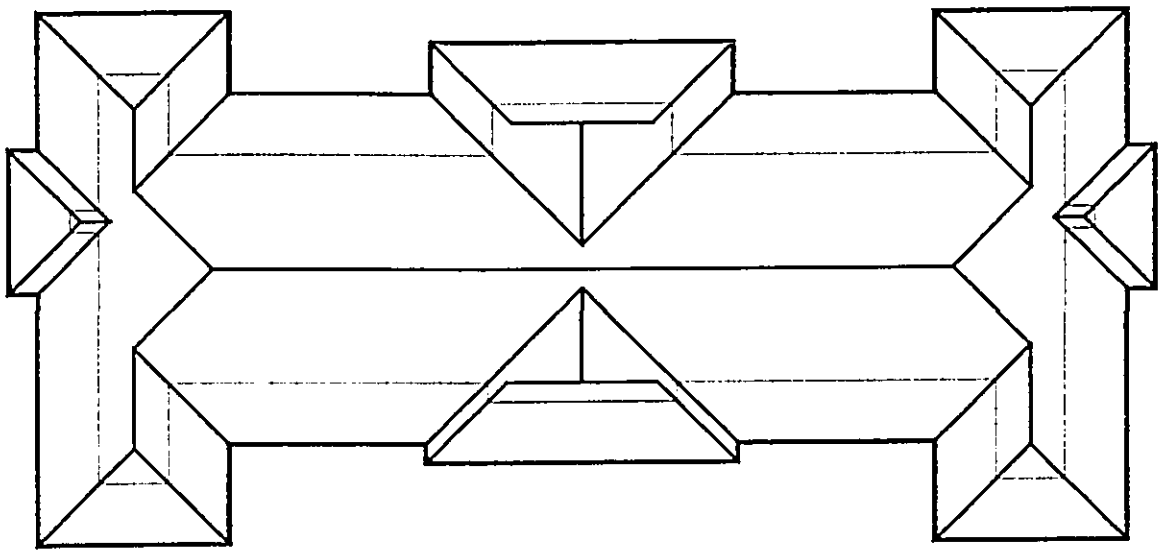
8-UNIT BUILDING

PROJECT NO:	KMK
FILE:	98KMK-8UElev-030902
SCALE:	AS NOTED
DATE:	02/15/02
DRAWN BY:	JME

DRAWING NO.
SHEET

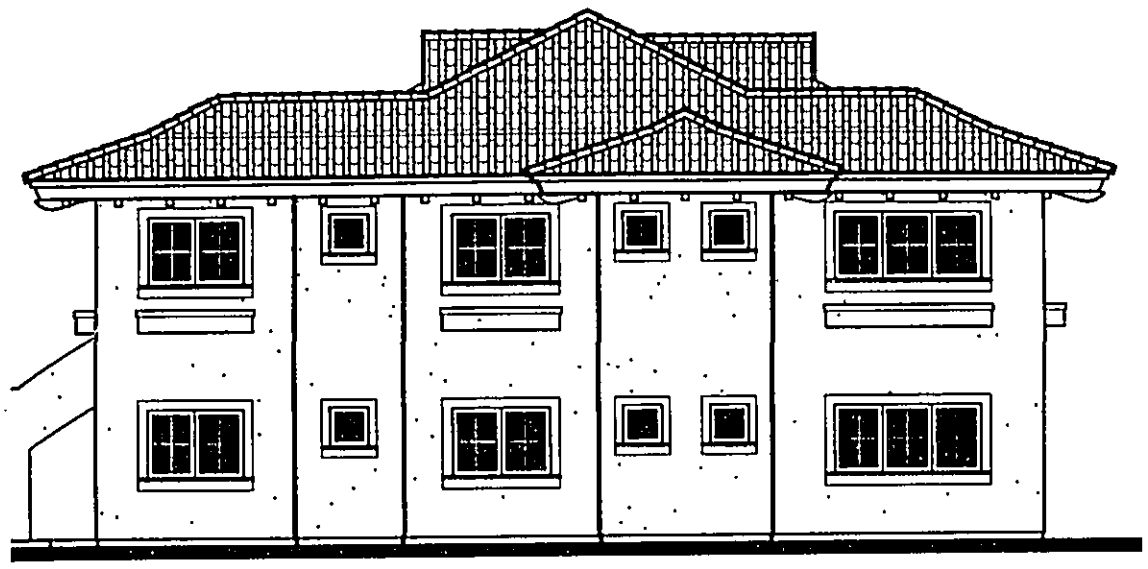
Figure 9-E

RECEIVED AS FOLLOWS



ROOF PLAN
SCALE: 1" = 20'-0"

RECEIVED AS FOLLOWS



RIGHT ELEVATION
SCALE: 1" = 10'-0"

BACK ELEVATION
SCALE: 1" = 10'-0"

DESIGN VISION

REV.	03/09/02 JME
REV.	02/15/02
REV.	
REV.	
REV.	

KAI MAKANI CONDOMINIUM
KIHEI, MAUI, HAWAII

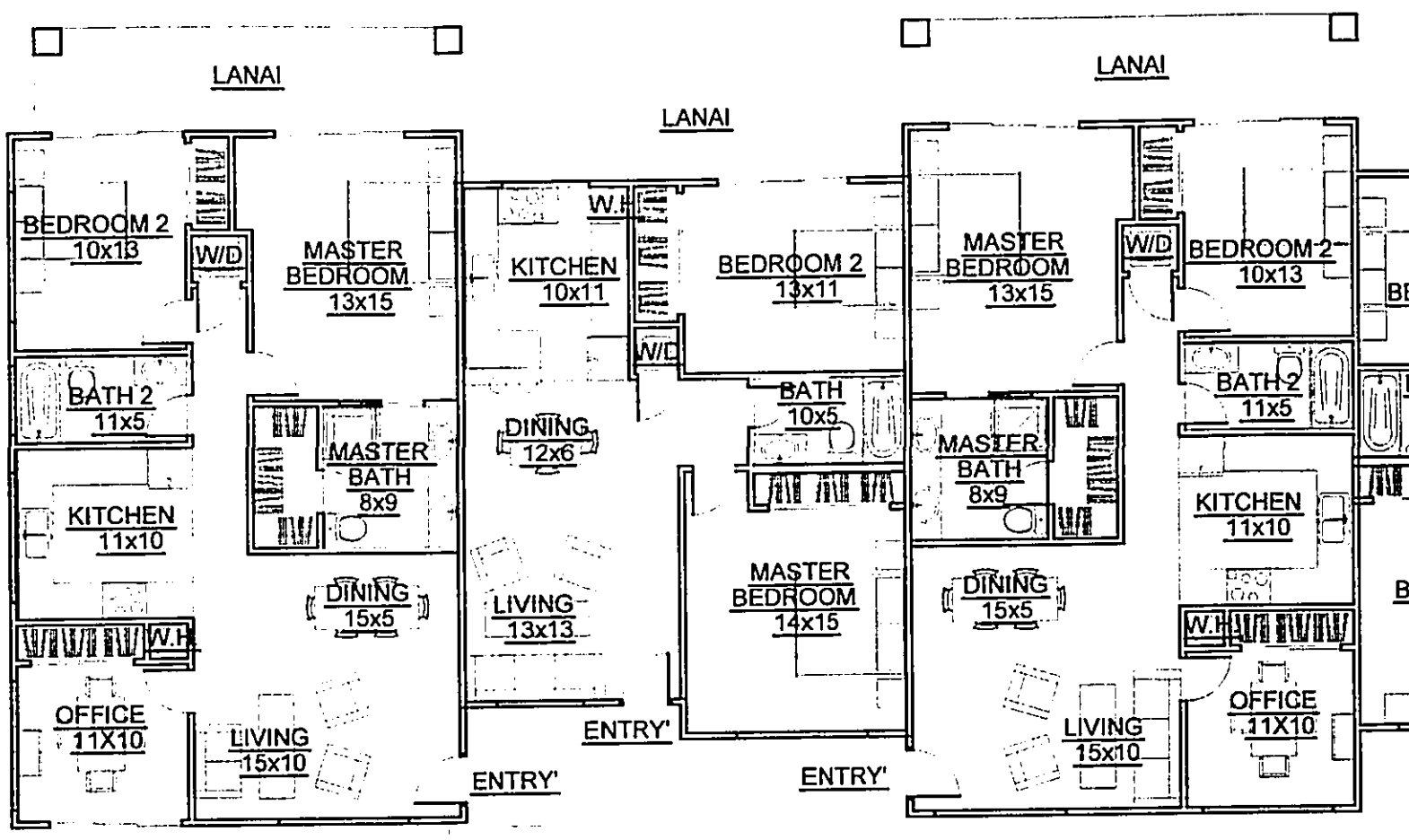
8-UNIT BUILDING

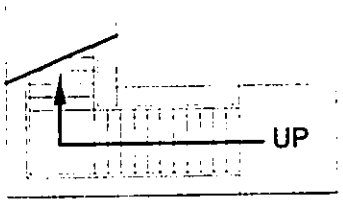
PROJECT NO:	KMK
FILE:	98KMK-8UElev-030902
SCALE:	AS NOTED
DATE:	02/15/02
DRAWN BY:	JME

DRAWING NO.
SHEET

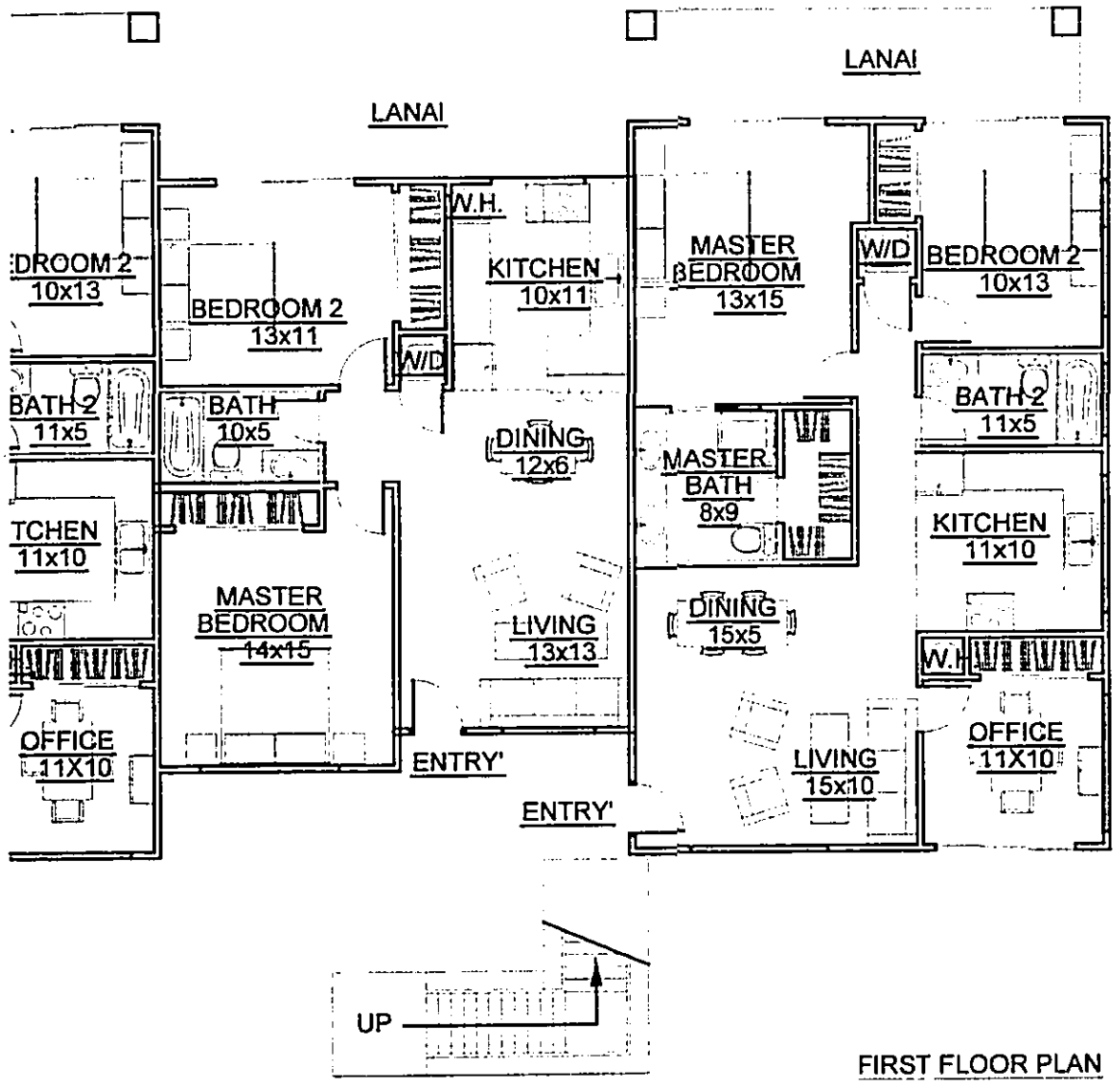
Figure 9-F

RECEIVED AS FOLLOWS





RECEIVED AS FOLLOWS



FIRST FLOOR PLAN
SCALE: 1" = 10'-0"

FRONT ELEVATION
SCALE: 1" = 10'-0"

Figure 9-G

DESIGN VISION

REV.	03/09/02 JME
REV.	02/15/02
REV.	
REV.	
REV.	

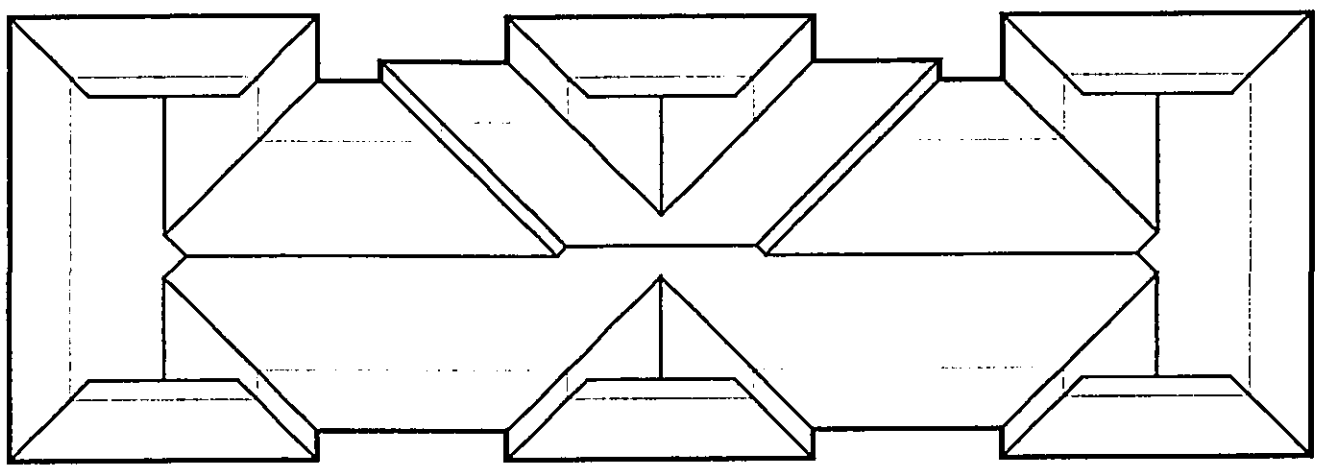
KAI MAKANI CONDOMINIUM
KIHEI, MAUI, HAWAII

10-UNIT BUILDING

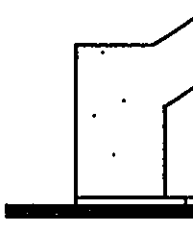
PROJECT NO:	KMK
FILE:	99KMK-10UEIev-020702
SCALE:	AS NOTED
DATE:	02/15/02
DRAWN BY:	JME

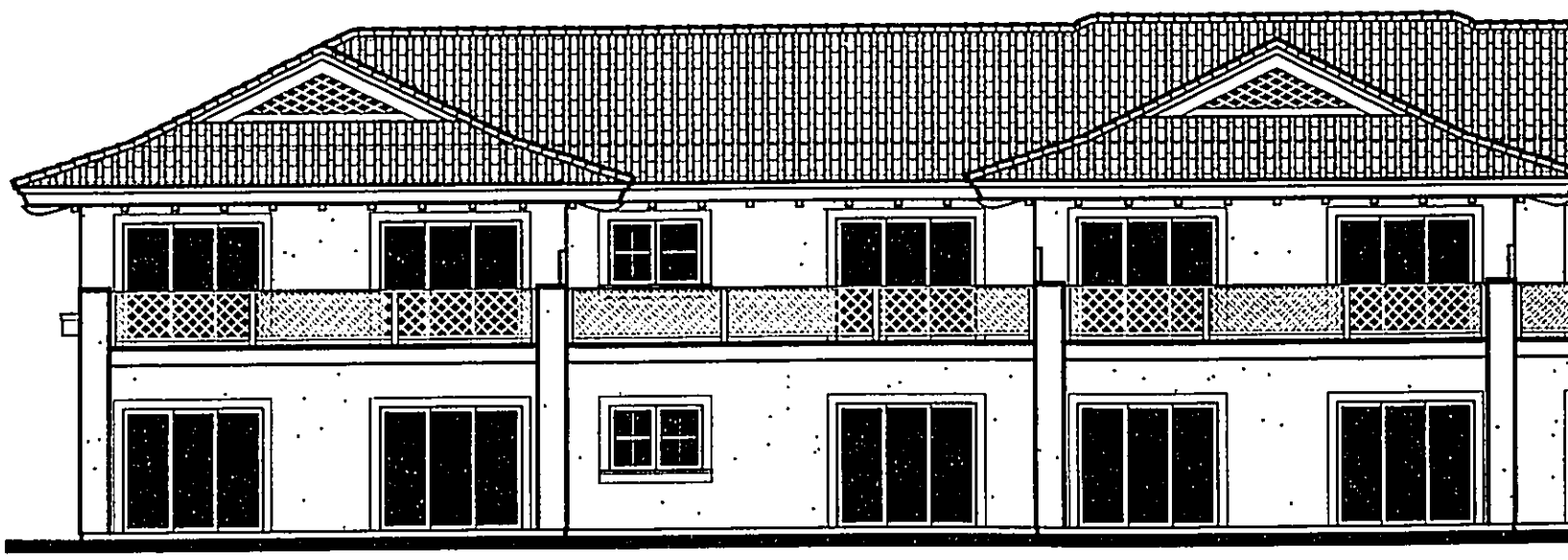
DRAWING NO.
SHEET

RECEIVED AS FOLLOWS



ROOF PLAN
SCALE: 1" = 20'-0"





RECEIVED AS FOLLOWS

RIGHT ELEVATION
SCALE: 1" = 10'-0"

BACK ELEVATION
SCALE: 1" = 10'-0"

Figure 9-H

DESIGN VISION

REV.	03/09/02 JME
REV.	02/15/02
REV.	
REV.	
REV.	

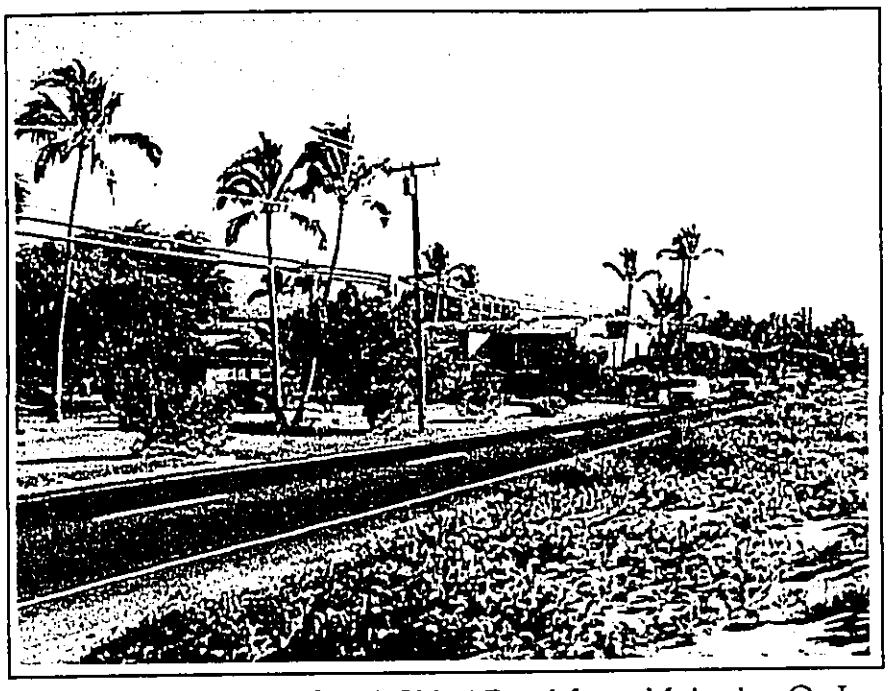
KAI MAKANI CONDOMINIUM
KIHEI, MAUI, HAWAII

10-UNIT BUILDING

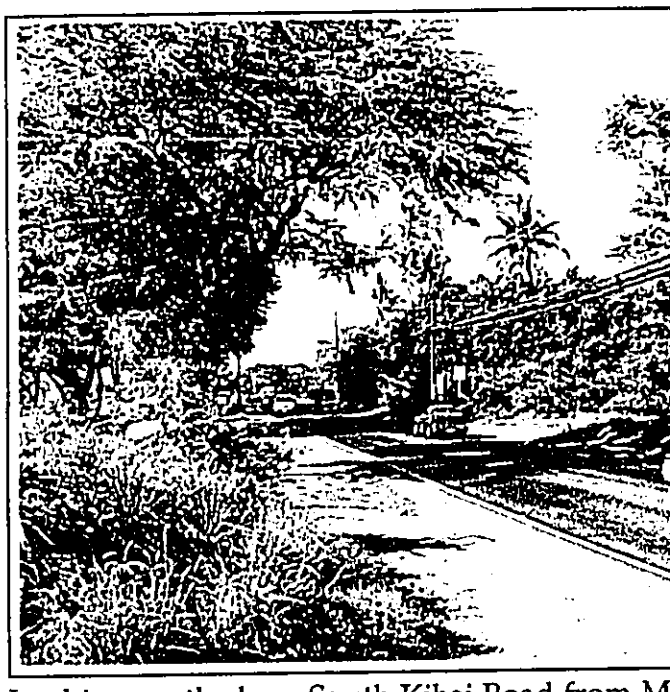
PROJECT NO:	KMK
FILE:	00KMK-10UElev-020702
SCALE:	AS NOTED
DATE:	02/15/02
DRAWN BY:	JME

DRAWING NO.
SHEET

RECEIVED AS FOLLOWS

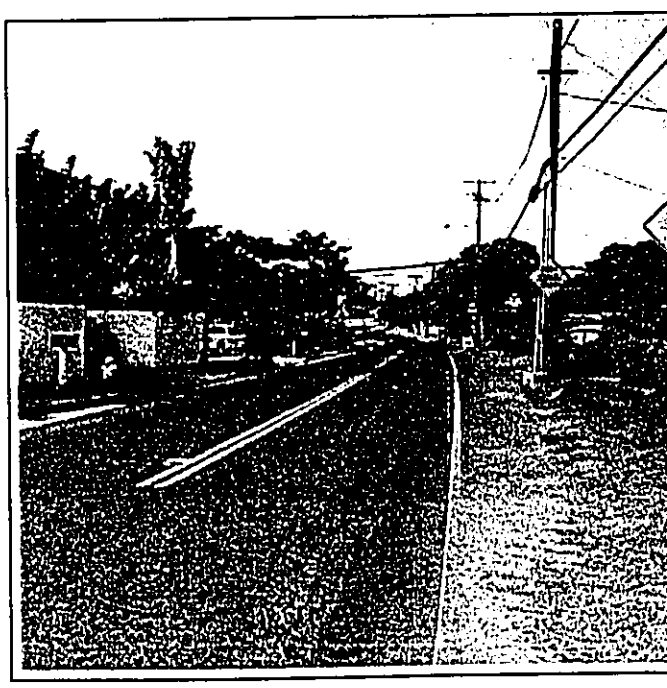


Looking south along South Kihei Road from Maipoina Oe Lau Beach Park.



Looking north along South Kihei Road from M Beach Park.

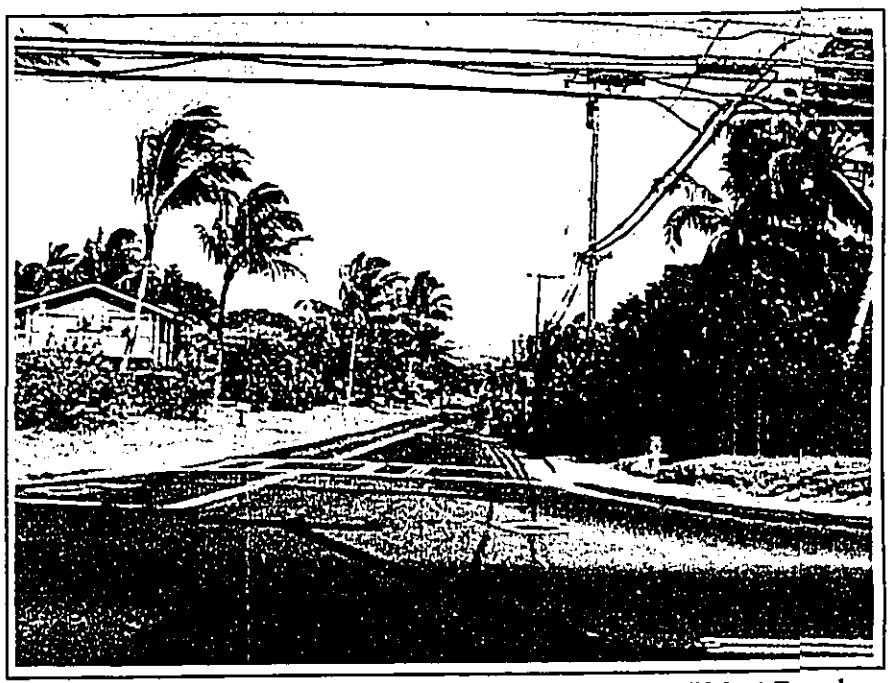
Looking south along Kenolio Road from Kalola Place.



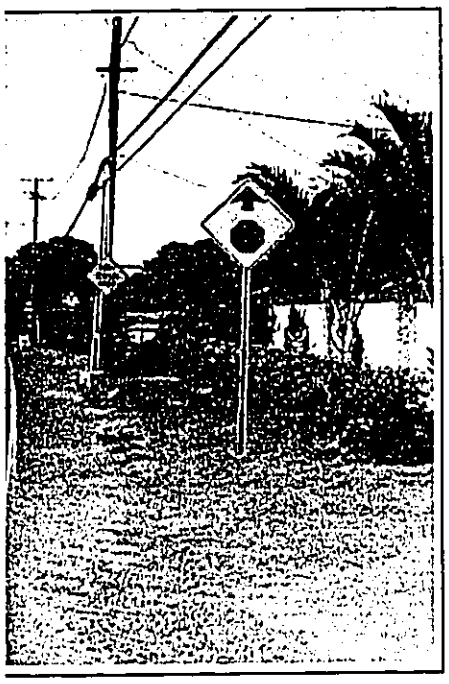
Looking south along Kenolio Road in the vicin subject property.

RECEIVED AS FOLLOWS

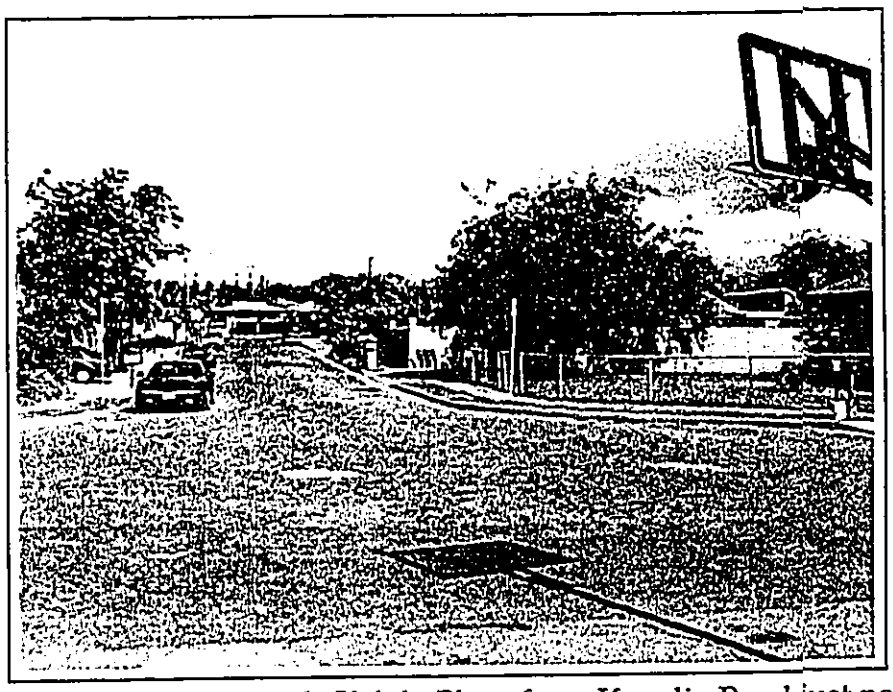
ei Road from Maipoina Oe Lau



Looking east towards Ohukai Road from South Kihei Road.



oad in the vicinity of the



Looking west towards Kalola Place from Kenolio Road just north of the subject property.

FIGURE 10, A

SITE PHOTOGRAPHS

KAI MAKANI

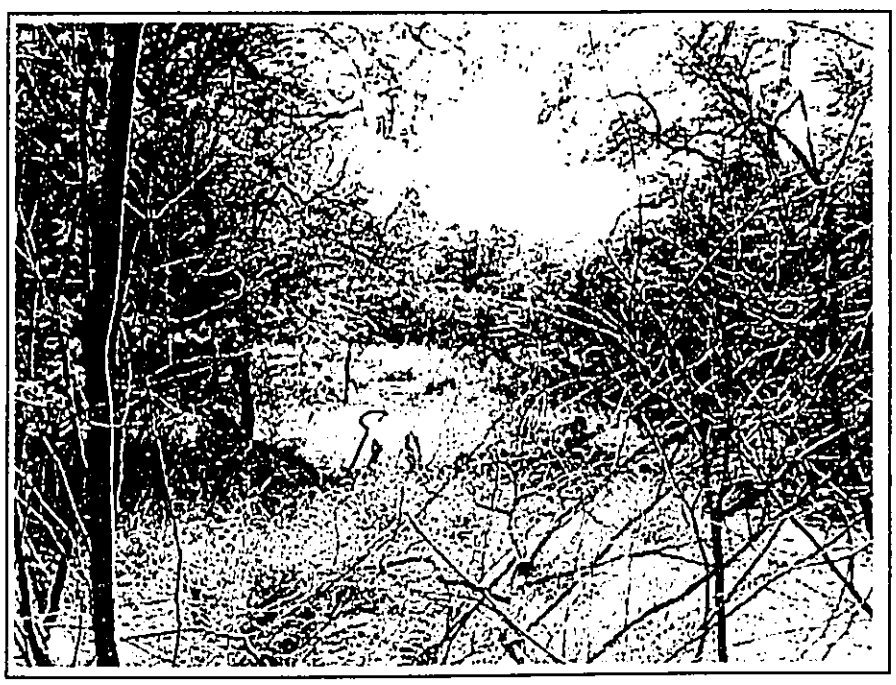
03/2004

CHRIS HART & PARTNERS

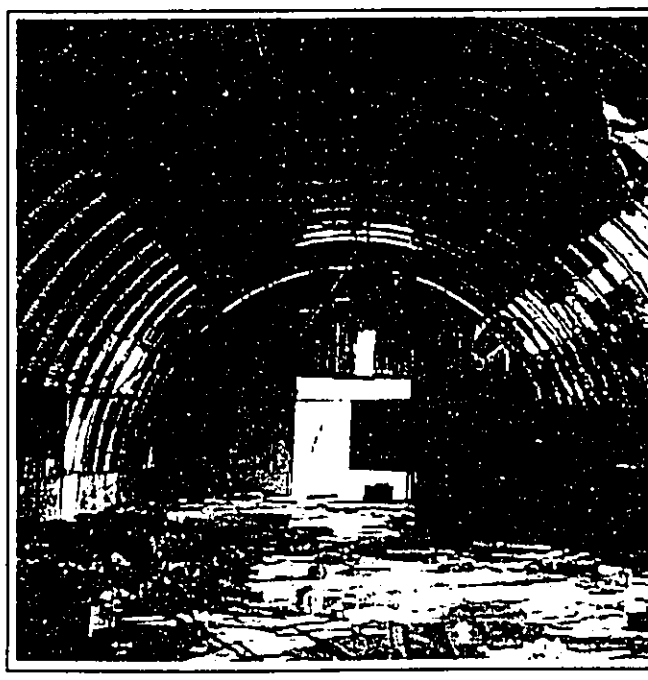
RECEIVED AS FOLLOWS

Looking east into the interior of the subejct property.

Looking east at the subejct property from Ma
Beach Park.



Looking into the subject property from its eastern boundary.



Former quonset hut located on the northeaste
subject property.

RECEIVED AS FOLLOWS

)erty from Maipoina Oe Lau

Looking into the subject property from Kenolio Road.

the northeastern corner of the

Exterior of quonset hut.

FIGURE 10, B

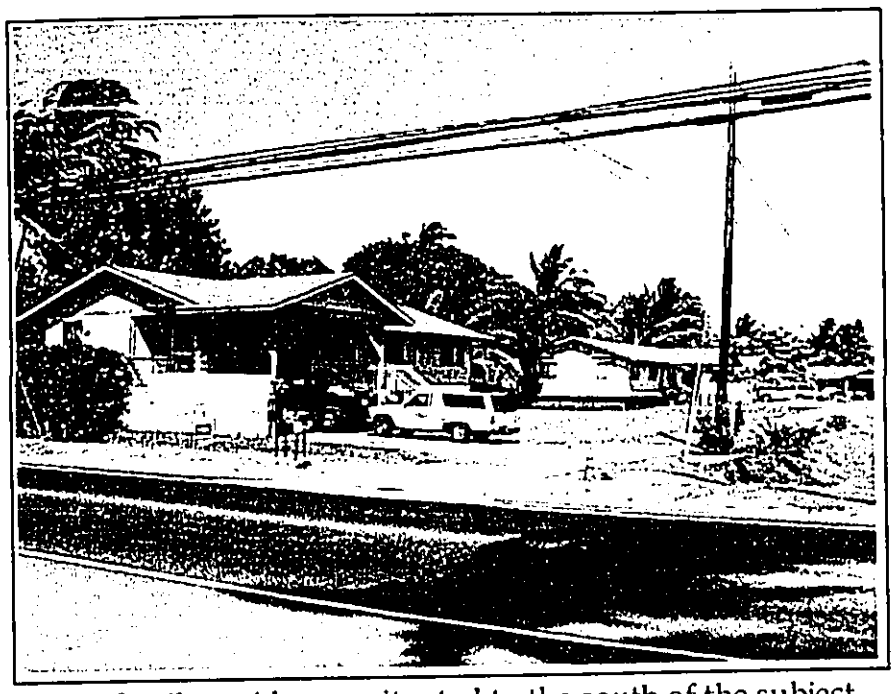
SITE PHOTOGRAPHS

KAI MAKANI

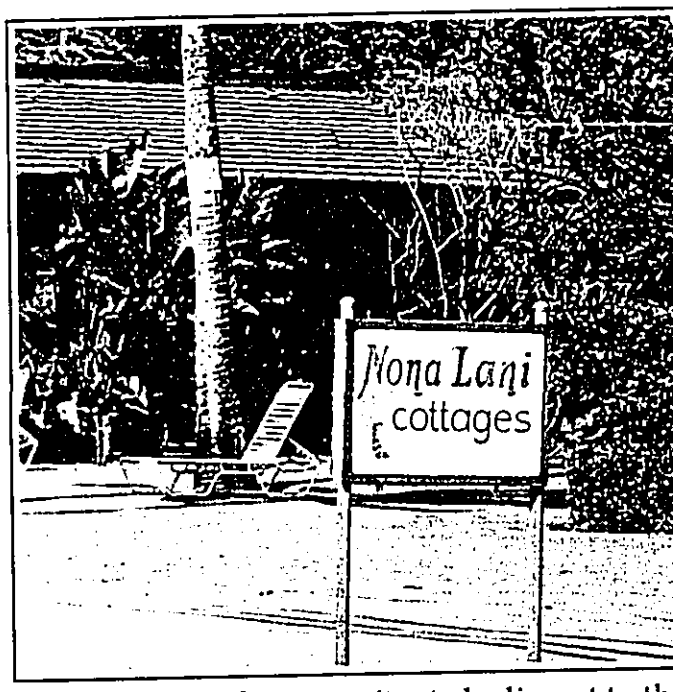
03/2004

CHRIS HART & PARTNERS

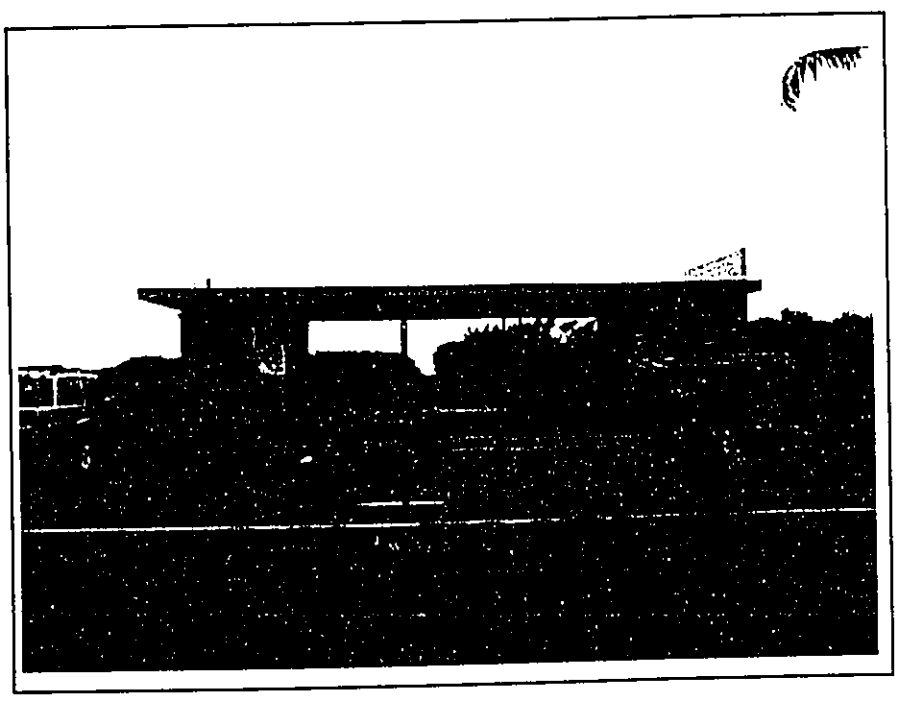
RECEIVED AS FOLLOWS



Single-family residences situated to the south of the subject property.



The Nona Lani Cottages situated adjacent to th boundary of subject property.

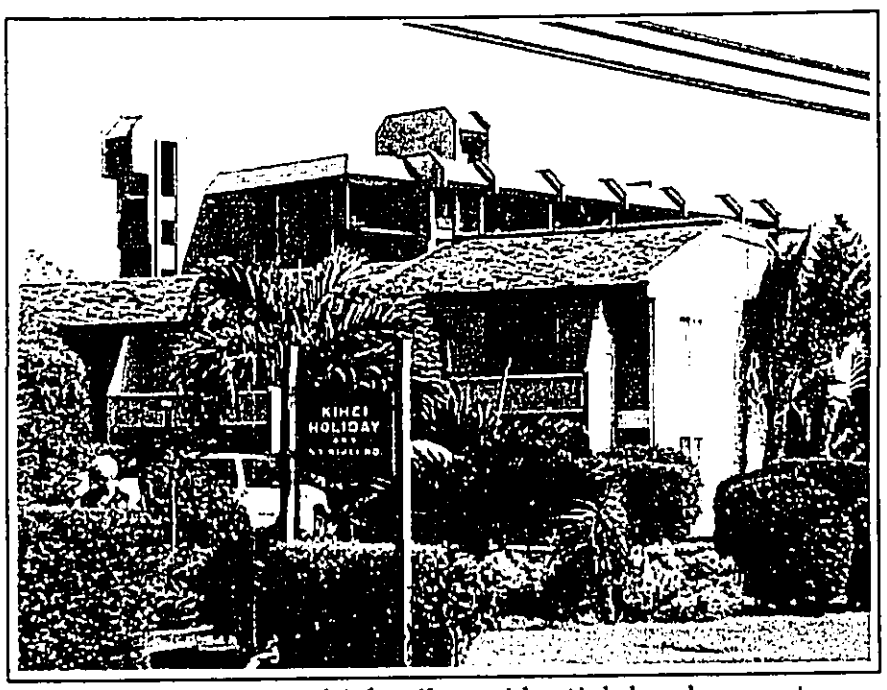


The pavillion at Maipoina Oe Lau Beach Park.

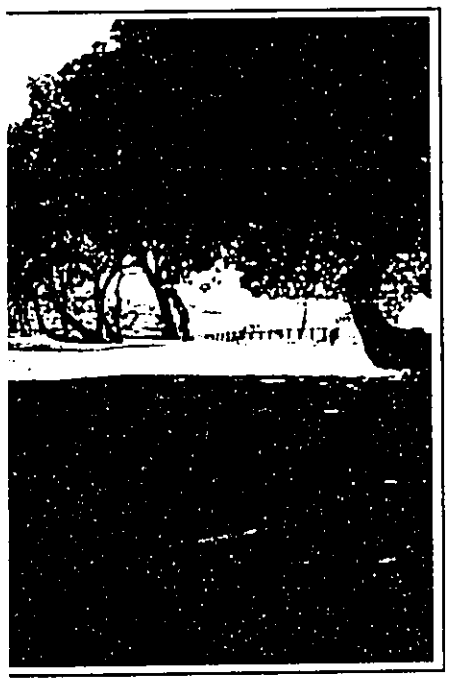
Maipoina Oe Lau Beach Park with subject pro South Kihei Road.

RECEIVED AS FOLLOWS

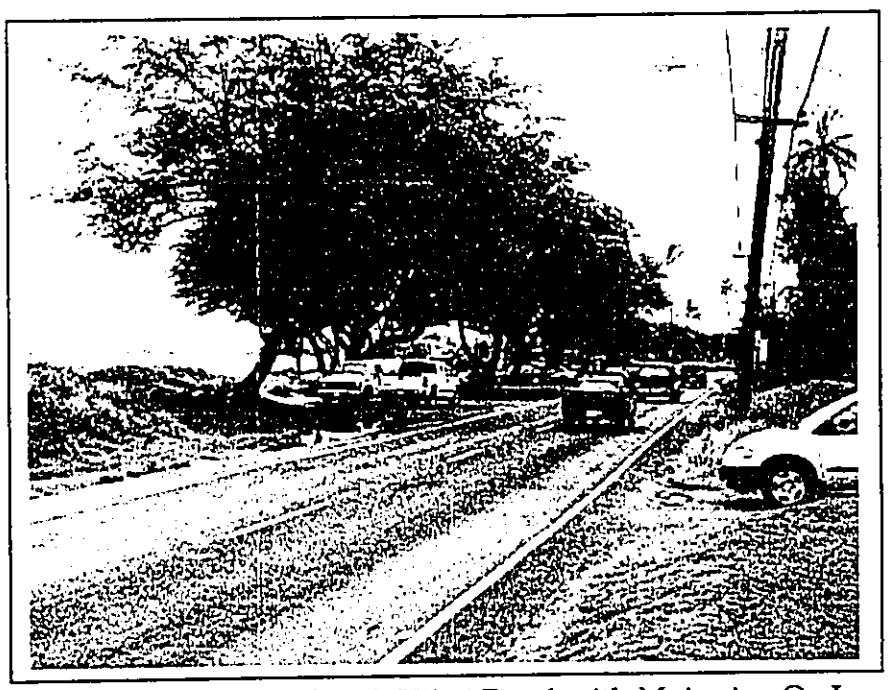
d adjacent to the southern



The Kihei Holiday multi-family residential development situated to the south of subject property.



ith subject property across



Looking north along South Kihei Road with Maipoina Oe Lau Beach Park situated to the west.

FIGURE 10, C

SITE PHOTOGRAPHS

KAI MAKANI

03/2004

CHRIS HART & PARTNERS

RECEIVED AS FOLLOWS

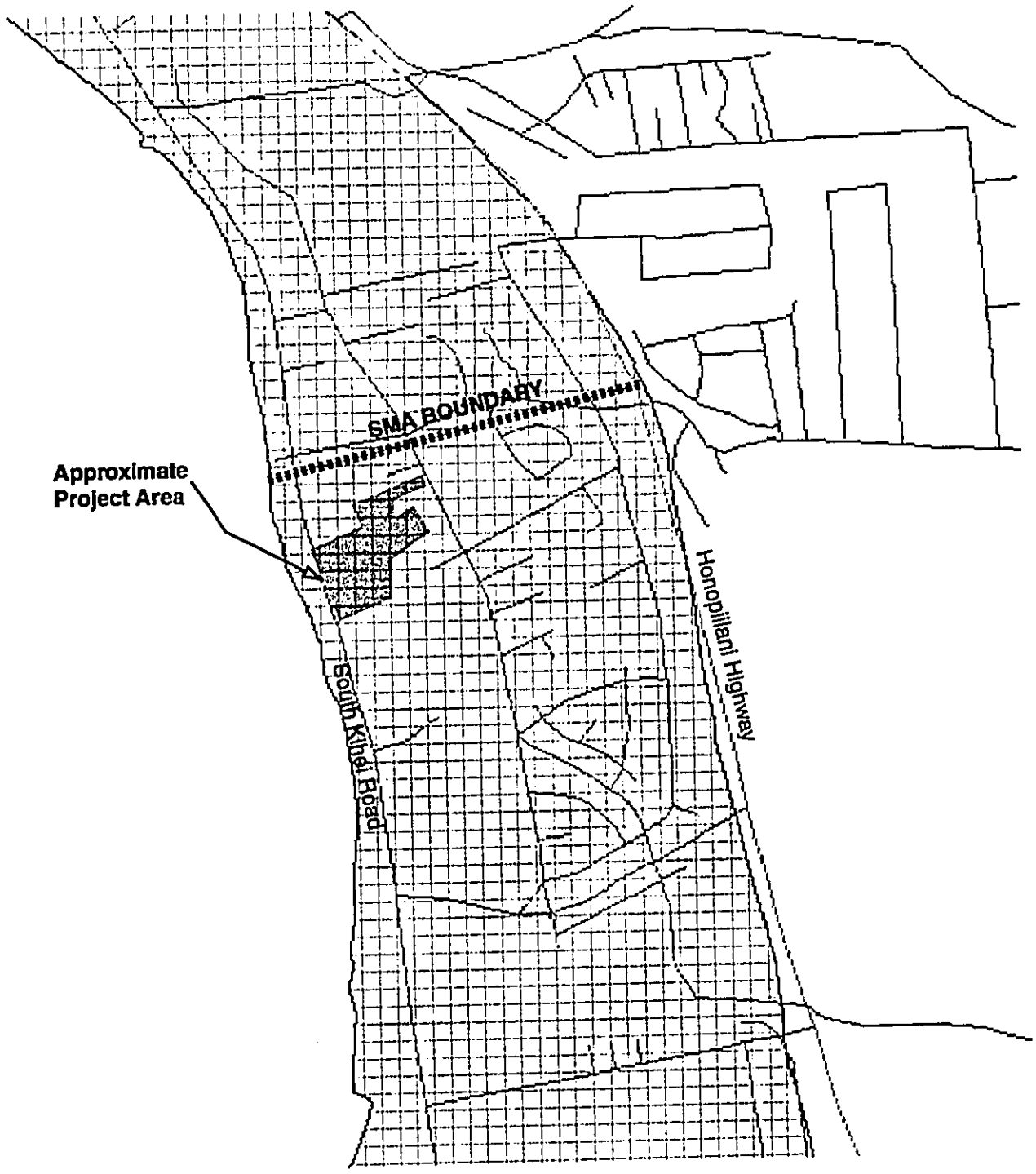


Figure 11
SMA MAP

N

KAI MAKANI

04/2004 NOT TO SCALE

CHRIS HART & PARTNERS

APPENDICES

Appendix - A
Pre-consultation

- List of Consultation Activities with Agencies, Community Organizations, and Neighbors Prior to public hearing
- Pre-consultation Letters dated March 19, 2001, with Concerned Agencies and Adjacent Neighbors
- Pre-consultation Letters dated August 20 and 26, 2002, to Property Owners within 500' of Property

List of Consultation Activities with
Agencies, Community Organizations,
and Neighbors

List of Existing and Planned Consultation Activities with Agencies, Community Organizations, and Neighbors prior to Public Hearing

Agencies

1. Letter dated March 19, 2001, to the County of Maui's Department of Planning, Department of Public Works and Waste Management, Department of Water Supply, and the State Department of Transportation.
2. May 7, 2002, meeting with the Department of Public Works and Waste Management.
3. May 10, 2002, meeting with Department of Parks and Recreation.
4. May 23, 2002, letter to Department of Parks and Recreation.
5. June 4, 2002, meeting with Department of Parks and Recreation.
6. June 17, 2002, meeting with Department of Parks and Recreation.
7. June 27, 2002, meeting with Department of Public Works and Waste Management and Department of Planning.
8. July 1, 2002, meeting with Department of Parks and Recreation.
9. July 9, 2002, meeting with Department of Public Works and Waste Management.
10. July 15, 2002, meeting with Department of Planning.
11. July 17, 2002, meeting with Department of Planning, Department of Parks and Recreation, and Department of Public Works and Waste Management.
12. September 6, 2002, meeting with the Department of Public Works and Waste Management.
13. September 9, 2002, meeting with the Department of Parks and Recreation.
14. September 12, 2002, meeting with Department of Planning.
15. September 17, 2002, meeting with Department of Public Works and Waste Management, Department of Parks and Recreation, and Department of Planning.

Community Organizations

1. Letter dated March 19, 2001, to the Kihei Community Association.
2. Meeting with the Kihei Community Association's Planning and Development Committee on August 19, 2002.
3. Letter dated August 20, 2002, informing of project and that the applicant will meet with neighboring property owners on August 29, 2002, to discuss the project.
4. Meeting on September 17, 2002, with the Kihei Community Association's General Membership.

Neighboring Property Owners

1. Letter dated March 19, 2001, to all neighbors adjacent to the project site informing of the project and requesting comments and concerns.
2. Letter dated August 20 and August 26, 2002, to all neighbors within 500 feet informing of the project and that the applicant will meet with neighboring property owners on August 29, 2002, to discuss the project. The subject letter was mailed to approximately 670 persons.
3. Meeting on August 29, 2002, at the Kihei Community Center to discuss the project with neighbors within 500 feet of project.
4. Meeting on September 3, 2002, at the Kihei Community Center to discuss the project with neighbors within 500 feet of project.
5. A Notice of Application Map and map will be published in the Maui News prior to the public hearing.
6. A Notice of Application will be mailed to all owners and lessees within 500 feet as prescribed by Chapter 205 A, HRS.

Urban Design and Review Board

1. Project will be reviewed by the Urban Design and Review Board prior to the public hearing.

Pre-consultation Letters dated March 19, 2001, to Concerned Agencies and Adjacent Property Owners

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. Brian Minaai
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Minaai:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

Chris Hart & Partners, Inc. (CH&P) is preparing an Environmental Assessment (EA) as part of a Special Management Area (SMA) permit application in support of Kai Makani, a proposed multi-family residential development situated in Kihei, Maui, Hawaii (See Exhibit 1 and 2). As part of the EA pre-consultation process, we are requesting comments from interested parties on topics they wish to be considered in the assessment. A brief description of the project and topics to be addressed by the EA are below.

Project Description

Kai Makani was originally conceived during the late 1980's as an ocean-oriented residential project that would appeal to windsurfing enthusiasts. In July 1994, the County Planning Commission approved a Special Management Area (SMA) Permit for the project. However, as a result of the contraction of the local real estate market during the period, the previous owner never proceeded to build the project.

The current project is identical to what was proposed in 1994, which was an 88-unit multi-family residential development consisting of 44 duplex units and 44 multi-family apartment units on 7.03 acres. The apartments will be situated within the area encompassing TMK: 3-9-041:002 and 003. Multi-family units will be located within the area encompassing TMK: 3-9-041:026. Access to the duplex units will be via a single driveway off of South Kihei Road while access to the multi-family units will be via a single driveway off of Kenolio Road.

The property is bounded on its northerly, southerly, and easterly boundaries by existing single- and multi-family residential development. To the west, across South Kihei Road, is the Maipoina Oe Lau Beach Park (Memorial Park). See: Figures "1" and "2'.

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 the following specific impact assessments prepared by qualified professionals:

- Engineering, Drainage, and Erosion Control
- Traffic
- Archeological
- Cultural

Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

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

April 9, 2001

IN REPLY REFER TO:
STP 8.9854

Mr. Rory Frampton
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793-1706

Dear Mr. Frampton:

Subject: Kai Makani
Environmental Assessment
TMK: (2) 3-9-41: 002, 003, and 026

Thank you for your transmittal requesting our review of the subject project.

Individual parcel development of and by itself, such as the subject proposal, may not have a significant impact on the transportation facilities; however, the cumulative impact of the total development in the area will require regional roadway improvements. As such, the applicant should be required to pay his prorata share of required improvements.

We appreciate the opportunity to provide comments.

Very truly yours,

BRIAN K. MINAAI
Director of Transportation

CHRIS HART & PARTNERS, INC.

March 19, 2001

Mr. John E. Min
Director
Department of Planning
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. ~~Min~~ John

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

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Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Depuly Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

April 10, 2001

Mr. Rory Frampton
Chris Hart &Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793

Dear Mr. Frampton:

Re: Pre-Consultation for an Environmental Assessment for Kai Makani, a Multi-family Residential Development at TMK: 3-9-041:002, 003, and 026, Kihei, Maui, Hawaii

The Maui Planning Department has reviewed the above-referenced project and has the following comments:

1. The subject property is identified as multi-family use on the Kihei-Makena Community Plan. The assessment, in addition to the Community Plan, shall address the various land use documents in greater detail. The property is also zoned A-1 Apartment District through a change in zoning from R-2 Residential District granted by Ordinance No. 1981 on December 26, 1990.

2. A previous Special Management Area Use Permit was granted on July 23, 1991 (SM1 910016) for an 88-unit apartment project on the subject property. Time extensions were granted on August 27, 1993 and July 26, 1994. The permit expired in 1995. Issues relevant at the time of the original SMA permit that are still applicable are the following:

   a. A Traffic Impact Analysis was required for the subject property.
   b. Affordable housing requirements were placed on the original project.
   c. Park improvements for 16 off-site beach parking stalls and a beach drop- off area for Mai Poina Oe Lau Beach Park was assessed for the project.

d. Compliance to the flood hazard district ordinance.
e. Archaeological and cultural resources were identified as a concern relative to sand dune formations on the property.
f. Concerns were raised regarding the access from Kenolio Road and its impacts on the surrounding residential properties in the area.

3. The assessment shall include all public organizations and individuals who were consulted regarding the subject project. Of particular concern are the residents in the area to be directly affected as well as the Kihei Community Association and the Kihei Canoe Club (Mai Poina Oe Lau Beach Park).

4. Relative to Mai Poina Oe Lau Beach Park, since the original SMA Use Permit the park has seen a significant increase in beach users, primarily by the ocean recreation users such as the windsurfers. A comprehensive analysis of the impacts on the beach park should be included in the assessment, especially relating to parking and the need for increased facilities.

Thank you for the opportunity to comment. If additional clarification is required, please contact Ms. Colleen Suyama, staff planner, of this office at 270-7735.

Very truly yours,

JOHN E. MIN
Planning Director

JEM:CMS:cmb
c: Clayton Yoshida, AICP, Deputy Planning Director
Jeffrey Chang, Acting Planning Program Administrator
Colleen Suyama, Staff Planner
Project File
General File
(S:\ALL\COLLEEN\KaiMakaniEAConsult.wpd)

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. David R. Craddick
Director
Department of Water Supply
County of Maui
P.O. Box 1109
Wailuku, Hawaii 96793-6109

Dear Mr. Craddick:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

Chris Hart & Partners, Inc. (CH&P) is preparing an Environmental Assessment (EA) as part of a Special Management Area (SMA) permit application in support of Kai Makani, a proposed multi-family residential development situated in Kihei, Maui, Hawaii (See Exhibit 1 and 2). As part of the EA pre-consultation process, we are requesting comments from interested parties on topics they wish to be considered in the assessment. A brief description of the project and topics to be addressed by the EA are below.

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Topics to be addressed by the Environmental Assessment include:

Physical Environment, including:
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- Visual Resources

Public Services, including:
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- Police and Fire Protection
- Educational Resources
- Medical Services

Social/Economic Environment, including:
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- Transportation

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

The EA will also contain the following specific impact assessments prepared by qualified professionals:

- Engineering, Drainage, and Erosion Control
- Traffic
- Archeological
- Cultural

Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 270-7816 • Fax (808) 270-7199

April 18, 2001

Mr. Rory Frampton
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793

SUBJECT: Pre-Consultation for an Environmental Assessment in support of Kai Makani
TMK 3-9-41:002, 003, and 026

Dear Mr. Frampton,

Thank you for the opportunity to provide comments in preparation of the environmental assessment (EA).

The EA should include the sources and expected potable and non-potable water usage. This project area is served by the Central Maui System. The major source of water for this system is the Iao Aquifer. Rolling annual average groundwater withdrawals from the Iao Aquifer as of April 1, 2001 were 17.075 MGD. The regulatory sustainable yield of this aquifer is 20 MGD. If rolling annual average withdrawals exceed 20 MGD, the State Commission on Water Resource Management will designate Iao Aquifer. The Department is implementing a plan to bring new sources on-line and to mitigate withdrawals. Two wells in North Waihee were brought on-line in July 1997 and another two adjacent wells were brought on-line during 2000. The Department is continuing to implement a plan to bring new sources on-line and to mitigate withdrawals. Nevertheless, the applicants should be made aware that the timing of this project may be affected with possible delays until new sources can be brought on-line. No guarantee of water is granted or implied as a result of these comments. Water availability will be reviewed at the time of application for meter or meter reservation.

We have included a portion of our water system map pertaining to the project area. The applicant will be required to provide water service and fire protection to standards.

As much of the water demand as possible should be delivered from non-potable sources (reclaimed or brackish). Where appropriate, the applicants should consider these measures:
Use Climate-adapted Plants: The project site is located in "Maui County Planting Plan" - Plant Zones 3 and 5. Please refer to the "Maui County Planting Plan", and to the attached document. We encourage the applicants to use climate-adapted and salt-tolerant native plants and adopt xeriscaping design in all landscaping, as proposed in the original Project Assessment Report to this development. Native plants adapted to the area, conserve water and further protect the watershed from degradation due to invasive alien species.
Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20.675 requires the use of low flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs.

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.
Limit Irrigated Turf: Limit irrigated turf to 25% or less of total landscaped area. Low-water use shrubs and groundcovers can be equally attractive and require substantially less water than turf.
Prevent Over-Watering By Automated Systems: For all landscaping, provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site.

The project overlies the Kamaole aquifer. The Department of Water Supply strives to protect the integrity of surface water and groundwater resources by encouraging applicants to adopt best management practices (BMPs) relevant to potentially polluting activities. We list a few BMP references here. Additional information can be obtained from the State Department of Health.

"The Megamanual - Nonpoint Source Management Manual - A Guidance Document for Municipal Officials." Massachusetts Department of Environmental Protection.
"Guidance Specifying Management Measures For Sources of Nonpoint Pollution In Coastal Waters." United States Environmental Protection Agency, Office of Water.

If you need additional information, please call our Water Resources and Planning Division at 270-7199.

Sincerely,

David Craddick
Director
emb

cc: engineering division

attachments:
1) "The Costly Drip"
2) "Saving Water in the Yard: What & How to Plant in Your Area"
3) Ordinance 2108 - "An ordinance amending Chapter 16.20 of the Maui County Code, pertaining to the plumbing code"
4) A Checklist of Water Conservation Ideas for the Condominiums
5) Portion of fire water system map

C:\WPdocs\EAs EISs\Kai Makani pre-consult EA.wpd

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. David Goode
Director of Public Works and Waste Management
Department of Public Works and Waste Management
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. ~~Goode~~ David

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

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Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART & PARTNERS, INC.

March 19, 2001

Mr. Barney Eiting
Kihei Community Association
Chairman, Planning and Development Committee
P.O. Box 662
Kihei, Maui, Hawaii 96753

Dear Mr. Eiting:

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1955 MAIN STREET, SUITE 200 LANDSCAPE ARCHITECTURE AND PLANNING WAILUKU, MAUI, HAWAII 96793-1708 · PHONE: [illegible]

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Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART & PARTNERS, INC.

March 19, 2001

Mr. Robert A. King
72 Kalola Pl
Kihei, Hawaii 96753

Dear Mr. King:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

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- Traffic
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Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

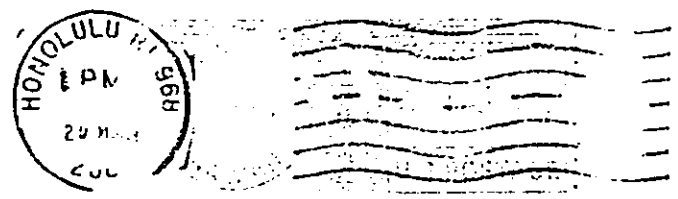
CC: Mr. Adam Sparks, Aheahe Makani, LLC

3/26/01

Mike,
This was returned.
See forwarding
address on
yellow label.
Charmaine

To avoid delay in delivery of your mail please obtain a form from the post office for notifying correspondents and publishers of your correct address.

Mr. Mark S. Cramer
1444 Halama St., #1
Kihei, HI 96753



CRAM444 967533002 1100 15 03/22/01
FORWARD TIME EXP RTN TO SEND
CRAMER
52 KALOLA PL
KIHEI HI 96753-9066

RETURN TO SENDER

96793-174575

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. Mark S. Cramer
1444 Halama Street, #1
Kihei, Hawaii 96753

Dear Mr. Cramer:

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RECEIVED AS FOLLOWS

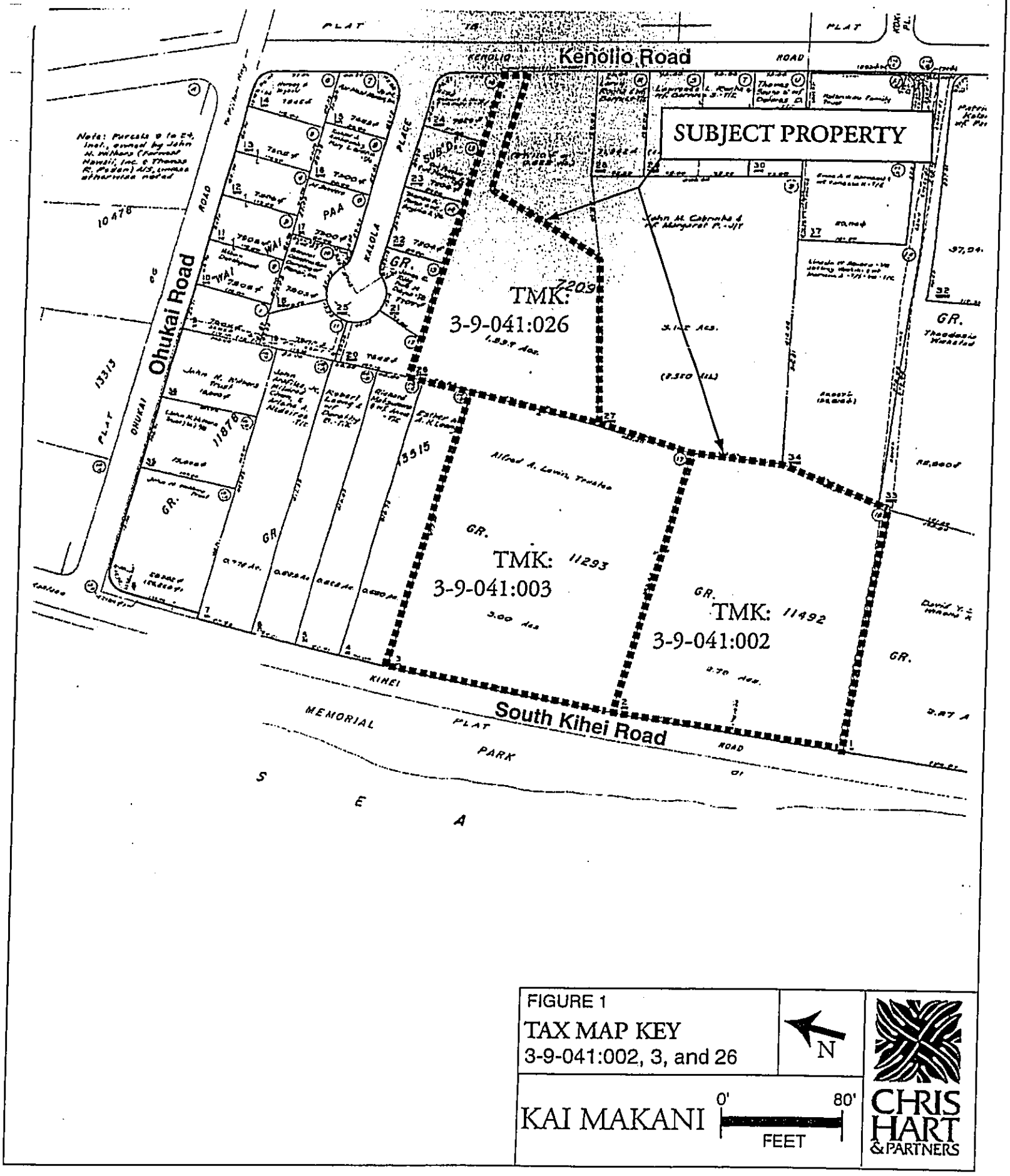

FIGURE 1
TAX MAP KEY
3-9-041:002, 3, and 26

N

KAI MAKANI

0' 80'
FEET

CHRIS HART & PARTNERS

RECEIVED AS FOLLOWS

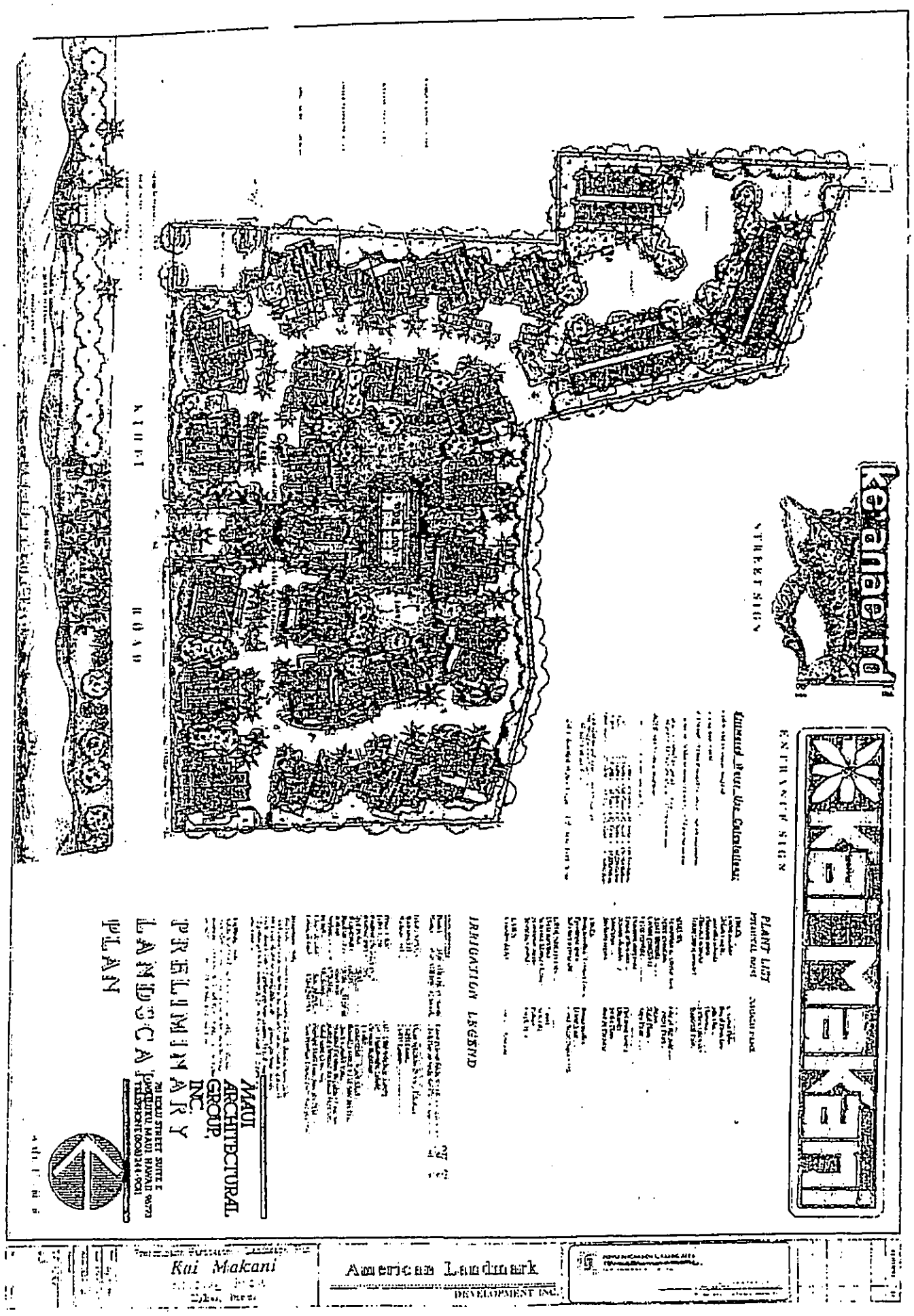

FIGURE 2

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. David YS Kong
P.O. Box 655
Kihei, Hawaii 96753

Dear Mr. Kong:

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Rory Frampton
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CC: Mr. Adam Sparks, Aheahe Makani, LLC

Hello Mr. Kong –
Please call me if you have any questions or concerns.
Rory 242-1955

CHRIS HART
& PARTNERS, INC.

March 19, 2001

E A H Leong Ltd Ptnsp II
745 Fort Street, Ste 2000
Honolulu, Hawaii 96813

To whom it may concern:

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Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. Arlen L. Cabrinha
1554 Hoohulu St.
Pearl City, Hawaii 96782

Dear Mr. Cabrinha:

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Rory Frampton
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CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. Michael Connolly
46 Kalola Place
Kihei, Hawaii 96753

Dear Mr. Connolly:

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CHRIS HART & PARTNERS, INC.

March 19, 2001

Mr. Mark S. Cramer
1444 Halama Street, #1
Kihei, Hawaii 96753

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CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. Kala W. Singh
58 Kalola Place
Kihei, Hawaii 96753

Dear Mr. Singh:

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CHRIS HART
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March 19, 2001

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CHRIS HART
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March 19, 2001

Mr. Christopher B. Takitani
56 Kalola Place
Kihei, Hawaii 96753

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- 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 the following specific impact assessments prepared by qualified professionals:

- Engineering, Drainage, and Erosion Control
- Traffic
- Archeological
- Cultural

Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART & PARTNERS, INC.

March 19, 2001

Mr. Lincoln W. Abiera
432 Kenolio Road
Kihei, Hawaii 96753

Dear Mr. Abiera:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

Chris Hart & Partners, Inc. (CH&P) is preparing an Environmental Assessment (EA) as part of a Special Management Area (SMA) permit application in support of Kai Makani, a proposed multi-family residential development situated in Kihei, Maui, Hawaii (See Figure 1 and 2). As part of the EA pre-consultation process, we are requesting comments from interested parties on topics they wish to be considered in the assessment. A brief description of the project and topics to be addressed by the EA are below.

Project Description

Kai Makani was originally conceived during the late 1980's as an ocean-oriented residential project that would appeal to windsurfing enthusiasts. In July 1994, the County Planning Commission approved a Special Management Area (SMA) Permit for the project. However, as a result of the contraction of the local real estate market during the period, the previous owner never proceeded to build the project.

The current project is identical to what was proposed in 1994, which was an 88-unit multi-family residential development consisting of 44 duplex units and 44 multi-family apartment units on 7.03 acres. The apartments will be situated within the area encompassing TMK: 3-9-041:002 and 003. Multi-family units will be located within the area encompassing TMK: 3-9-041:026. Access to the duplex units will be via a single driveway off of South Kihei Road while access to the multi-family units will be via a single driveway off of Kenolio Road.

The property is bounded on its northerly, southerly, and easterly boundaries by existing single- and multi-family residential development. To the west, across South Kihei Road, is the Maipoina Oe Lau Beach Park (Memorial Park). See: Figures "1" and "2".

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
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Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Russell A. Bergantino
365 Kenolio Road
Kihei, Hawaii 96753

Dear Mr. Bergantino:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

Chris Hart & Partners, Inc. (CH&P) is preparing an Environmental Assessment (EA) as part of a Special Management Area (SMA) permit application in support of Kai Makani, a proposed multi-family residential development situated in Kihei, Maui, Hawaii (See Exhibit 1 and 2). As part of the EA pre-consultation process, we are requesting comments from interested parties on topics they wish to be considered in the assessment. A brief description of the project and topics to be addressed by the EA are below.

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Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Matsumra Gain,Etal
363 South Kihei Road
Kihei, Hawaii 96753

To whom it may concern:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

Chris Hart & Partners, Inc. (CH&P) is preparing an Environmental Assessment (EA) as part of a Special Management Area (SMA) permit application in support of Kai Makani, a proposed multi-family residential development situated in Kihei, Maui, Hawaii (See Exhibit 1 and 2). As part of the EA pre-consultation process, we are requesting comments from interested parties on topics they wish to be considered in the assessment. A brief description of the project and topics to be addressed by the EA are below.

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Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. Harold A. Nacua
373 Kenolio Road
Kihei, Hawaii 96753

Dear Mr. Nacua:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

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- Archeological
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Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART & PARTNERS, INC.

March 19, 2001

Mr. Lawrence J. Rocha
P.O. Box 663
Kihei, Hawaii 96753

Dear Mr. Rocha:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

Chris Hart & Partners, Inc. (CH&P) is preparing an Environmental Assessment (EA) as part of a Special Management Area (SMA) permit application in support of Kai Makani, a proposed multi-family residential development situated in Kihei, Maui, Hawaii (See Exhibit 1 and 2). As part of the EA pre-consultation process, we are requesting comments from interested parties on topics they wish to be considered in the assessment. A brief description of the project and topics to be addressed by the EA are below.

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- Cultural

Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

CHRIS HART
& PARTNERS, INC.

March 19, 2001

Mr. Walter T. Yoshida
385 Kenolio Road
Kihei, Hawaii 96753

Dear Mr. Yoshida:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK's: (2) 3-9-41:002, 003, and 026.

Chris Hart & Partners, Inc. (CH&P) is preparing an Environmental Assessment (EA) as part of a Special Management Area (SMA) permit application in support of Kai Makani, a proposed multi-family residential development situated in Kihei, Maui, Hawaii (See Exhibit 1 and 2). As part of the EA pre-consultation process, we are requesting comments from interested parties on topics they wish to be considered in the assessment. A brief description of the project and topics to be addressed by the EA are below.

Project Description

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The property is bounded on its northerly, southerly, and easterly boundaries by existing single- and multi-family residential development. To the west, across South Kihei Road, is the Maipoina Oe Lau Beach Park (Memorial Park). See: Figures "1" and "2".

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Thank you for your cooperation. Should you have any additional issues that you would like to see addressed in the EA or have any comments or concerns, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely,

Mike J. Summers

Rory Frampton
Chris Hart & Partners, Inc.

CC: Mr. Adam Sparks, Aheahe Makani, LLC

Pre-Consultation Letters dated August 20 and 26, 2002, to Property Owners within 500′ of Property

CHRIS HART
& PARTNERS, INC.

August 20, 2002

Dear Neighboring Property Owner:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential planned development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK Parcel Nos: (2) 3-9-41:002, 003, 026, 038, and fronting a portion of 027 and TMK No. (2) 3-9-001:025 (Maipoina Oe Lau Beach Park).

This is to inform you that Chris Hart & Partners, Inc., on behalf of Aheahe Makani LLC, will soon be filing an application with Maui County's Department of Planning for a Special Management Area (SMA) Permit for Kai Makani, a proposed 112-unit multi-family residential planned development situated along South Kihei Road, across from Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park), on approximately 10.442 acres of undeveloped land.

The subject property is zoned (A-2) Apartment District and (R-2) Residential District and is identified as Multi-Family (MF) and Single-Family (SF) on the Kihei Makena Community Plan Map. The project will be developed in accordance with Maui County Code, Chapter 19.32, "Planned Development", which allows for a mixture of densities and/or dwelling units on lands including more than one zoning district. The following is a brief description of the project:

- ***Multi-Family Residences***. Kai Makani will offer 112-multi-family residential units featuring twenty-eight (28) 3-bedroom models and eighty-four (84) 2-bedroom models. Units will range in size from 806 – 1,140 square feet. Each unit will include 2 parking stalls. Kai Makani has been designed with a mixture of four, six, eight, and ten unit building types sensitively sited as clusters within the 10.44-acre project site.

- ***On-site Recreation and Open-space***. An open-space pedestrian/bikeway linking South Kihei Road and Kenolio Road will provide visual relief to and from the project. Also, a central landscaped corridor will accommodate a swimming pool and recreation cabana for Kai Makani residents and will provide a pedestrian and visual linkage between the project site and Maipoina Oe Lau Beach Park (Kihei Memorial Beach Park). Landscape planting consisting of primarily native species (i.e. palm trees, shade trees, shrubs, flowers, and grasses) will beautify the grounds.

On-site public recreation improvements will include a tennis court and a pedestrian/bikeway linking Kenolio Road with South Kihei Road and Maipoina Oe Lau Beach Park.

- ***Improvements to Maipoina Oe Lau Beach Park.*** The applicant proposes to develop thirty-nine (39) on-street parallel parking stalls along South Kihei Road along with concrete curb, gutters, sidewalks and shade trees in order to alleviate the current parking shortage at the park. Improvements within the park include the provision of a 3-car loading zone, and concrete walkway, fencing, picnic tables, planting, and irrigation improvements designed to beautify the park and stabilize the existing dune system.

- ***On-site Infrastructure Improvements***. Site improvements will consist of, but are not limited to, an asphalt paved internal roadway with parking lots, concrete sidewalks, concrete curb and gutters, and landscape planting. Underground utility improvements will consist of drainage, sewer, and water delivery and fire protection systems, along with underground electrical, telephone, and cable distribution systems.

- ***Construction***. Construction is anticipated to begin after all of the required State and County permits have been issued. It is anticipated that full build-out of the site will require approximately 18 months to complete. During the constructions phase, standard mitigation measures, as required by State and County law, will be employed to control noise, dust, run-off, and other construction phase impacts.

Kai Makani will offer a mixture of affordable and market-priced units within an attractive and livable community.

Please note that we will be available at the **Kihei Community Center (Small Meeting Room) on Thursday, August 29, at 7:00 p.m.** to provide an overview of the project. If you are not able to attend this meeting, and have comments or concerns about the project, please contact myself, or Mr. Michael Summers, at 242-1955.

Thank you very much for your attention to this matter.

Sincerely yours,

Christopher L. Hart, ASLA
Landscape Architect – Planner

Enclosure: Regional Location Map, Tax Map, and Concept Landscape Master Plan
cc: Adam Sparks, Aheahe Makani LLC

CHRIS HART & PARTNERS, INC.

August 26, 2002

Dear Neighboring Property Owner:

RE: Pre-Consultation for an Environmental Assessment in support of Kai Makani, a multi-family residential planned development situated along South Kihei Road, Kihei, Maui, Hawaii; TMK Parcel Nos: (2) 3-9-41:002, 003, 026, 038, and fronting a portion of 027 and TMK No. (2) 3-9-001:025 (Maipoina Oe Lau Beach Park).

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Kai Makani will offer a mixture of affordable and market-priced units within an attractive and livable community.

Please note that we will be available at the **Kihei Community Center (Small Meeting Room) on Thursday, September 3, at 7:00 p.m.** to provide an overview of the project. If you are not able to attend this meeting, and have comments or concerns about the project, please contact myself, or Mr. Michael Summers, at 242-1955.

Thank you very much for your attention to this matter.

Sincerely yours,

Christopher L. Hart, ASLA
Landscape Architect – Planner

Enclosure: Regional Location Map, Tax Map, and Concept Landscape Master Plan
cc: Adam Sparks, Aheahe Makani LLC

Appendix – B

Archeological Assessment Report and Letters

- Archeological Assessment Post-Field Summary for parcels 3-9-041:002, 003, and 026 by Bishop Museum, October 8, 1990
- Archeological Monitoring Plan for parcels 3-9-041:002, 003, and 026 by Scientific Consultant Services, April 2000
- Letter dated May 10, 2001, from the State Historic Preservation Divisioin
- Archeological Inventory Survey for parcel 3-9-041:038 (previously identified as a portion of TMK Parcel No. 3-9-041:027) by Scientific Consultant Services, January 2002
- Letter dated March 4, 2002, from the State Historic Preservation Division

Archeological Assessment Post-Field Summary for parcels 3-9-041:002, 003, and 026 by Bishop Museum, October 8, 1990

B I S H O P M U S E U M
1525 BERNICE STREET • P.O. BOX 19000-A • HONOLULU, HAWAI'I • 96817-0916 • (808) 847-3511 • FAX (808) 841-8968

October 8, 1990

Mr. Jim Neiss
Maui Architectural Group
781 Kolu Street, Suite E
Wailuku, Maui, Hawai'i 96793

Dear Mr. Neiss:

Subject: Post-field Summary, Kihei Kai Makani Testing
TMK 3-9-41:2,3,26

Archaeological field investigations of the above referenced parcels were conducted during 22 September and 24 through 27 September 1990 by Lisa J. Rotunno-Hazuka and AndreèConley, both staff members of the Public Archaeology Division, Applied Research Group, Bishop Museum.

The project area is located in northern Kihei, two lots south of Ohukai Road, fronted by Kihei Road across from the Maipoina Oe Iau Beach Park and bounded on the east by Kenolio Road. According to an initial literature search, no previous archaeological surveys have been undertaken in the immediate vicinity of the subject area.

According to the soil survey manual, the project area is composed entirely of the land type, Dune Land. This land type extends approximately 1000 feet inland from the ocean and consists of sand predominantly from coral and seashells. Usually no soil horizons develop and silts present in these areas are due to aeolian forces, alterations by man, and/or the accumulation of grasses and dense Kiawe forests.

This phase of work entailed a surface walk-through survey followed by the placement of backhoe-assisted trenching in selected areas. The methodology employed allowed for expedient evaluation of the character and condition of subsurface deposition within the project area. A total of nine backhoe trenches were excavated, a map of trench locations and a table of stratigraphic layers are included as attachments. All trenches were virtually devoid of any observable cultural remains. One marine shell and one sea urchin fragment were recovered from BHT-1.

The typical stratigraphy for the project area was a three layer sequence. Layer I was either a humic/organic layer and or a grass root zone. Layer II was a light yellowish brown coral sand. This sand is same as that observed along the beach at Maipoina Oe Iau Beach Park located across Kihei Road. Layer III was a very moist, coarse basaltic sand. The origin of this sand is unkown at this time since no exposures of basaltic sand is currently observable near the project area.

Stratigraphic variation among the trenches occurred mostly within Layer II with the major difference being in the grain sizes of the coral sand. Most trenches contained the dark gray basaltic sand. Exceptions were BHT 4 and 8. Usually the basaltic sand was an indicator of the water table, however,

in both BHT 4 and 8, the water table was reached prior to the basaltic layer, so its presence/absence could not be verified. The water table was reached as shallow as 1.2 meters below surface in BHT 3 and as deep as 2.1 meters below surface in BHT 8.

Based on the negative results of this testing phase and the absence of any significant remains, no further archaeological work is recommended prior to construction. Archaeological monitoring is recommended during all construction-related ground disturbing activities. We will transmit a proposal for this undertaking upon notification from you.

If you have any questions or comments, please contact Lisa Rotunno-Hazuka on Maui at 879-0722 or Aki Sinoto on O'ahu at 848-4126.

Sincerely,

Aki Sinoto
Public Archaeology Contract Manager
Applied Research Group

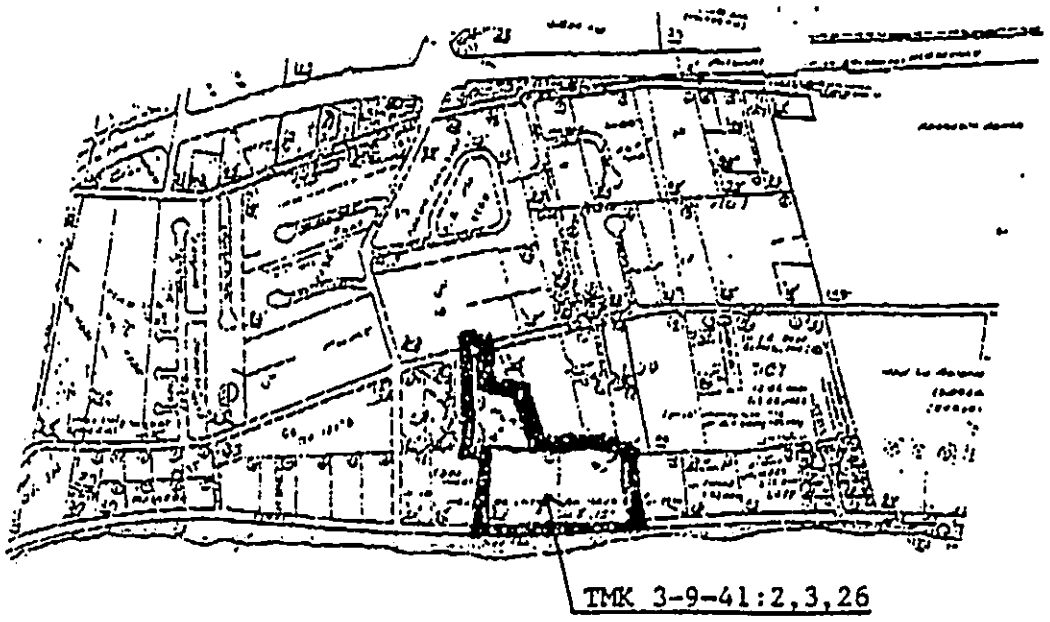
attachments

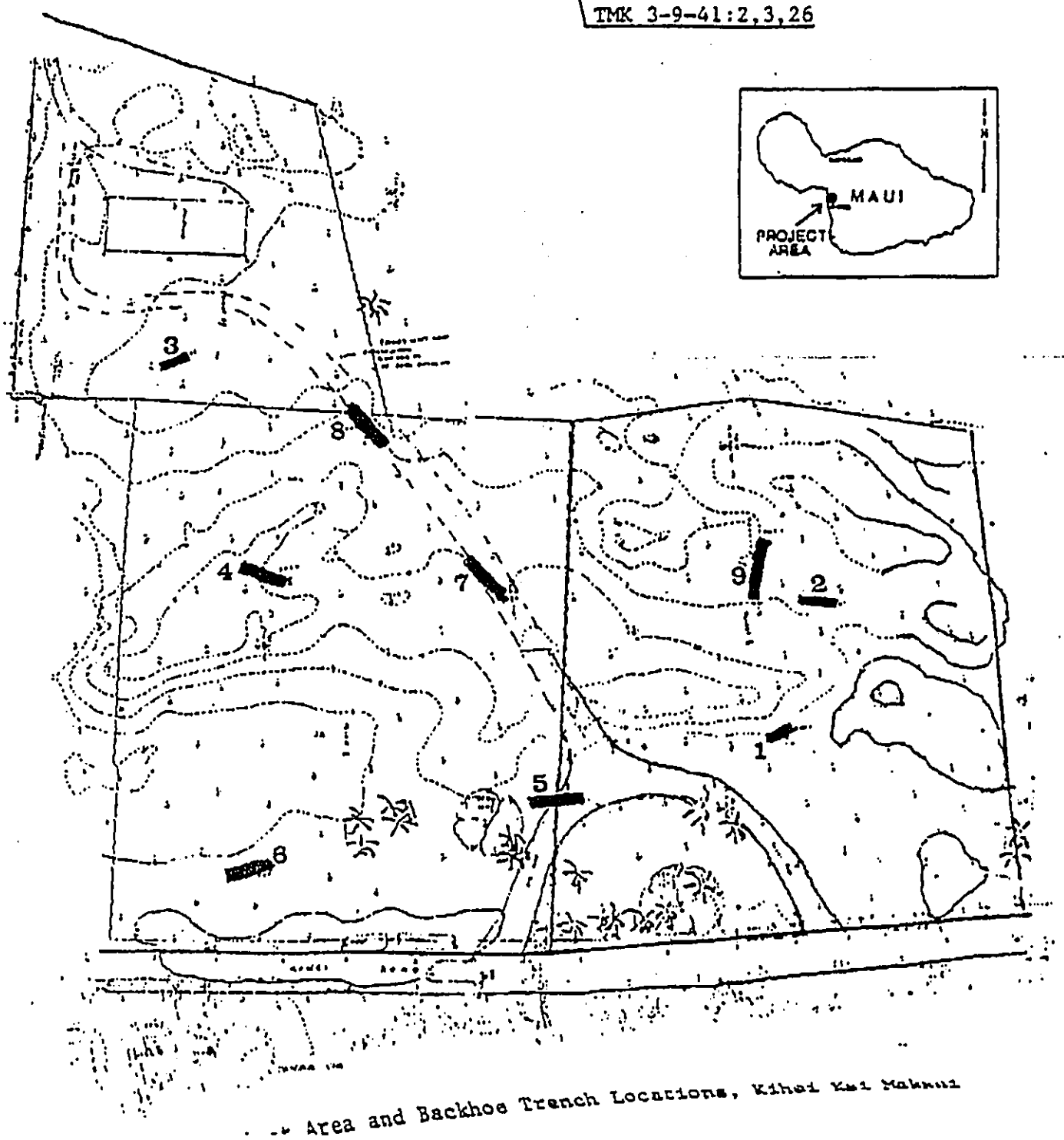
fc: Annie Griffin, HPP/DLNR
Martin Luna, Carlsmith
Chuck Brewster

Table 1: Stratigraphy of Backhoe Trenches 1 - 9

B.H.T.	L.I humic/grass	L.II coral sand	L.III basalt sand*	Water Table
1	0-5 humic	5-1.30	1.30-1.65/1.80	1.65/1.80
2	0-5 grass	5-1.73	1.90	**
3	0-5 humic	5-.82	.82/1.15-1.30	1.20
4	0-5 grass	5-2.05	**	**
5	0-5 humic	5-1.30/1.65	1.30/1.65-1.80	1.80
6	0-5 grass	5-1.30	1.30-1.35	1.35
7	0-58 fill	58-2.30	2.35-2.40	2.40
8	0-5 humic	5-1.20/2.10	none	1.20
9	0-8 grass	8-1.70/1.87	1.87	unknown

*bottom measurement for black sand is bottom of excavation and not base of layer.
**measurements unknown either because side wall collapsed or water table came before the layer was reached.





Area and Backhoe Trench Locations, Kihei Kai Nakoa

Archeological Monitoring Plan for parcels 3-9-041:002, 003, and 026 by Scientific Consultant Services, April 2000

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SCS Project Number 269-Mon

ARCHAEOLOGICAL MONITORING PLAN
KAI MAKANI PROPERTY
KĪHEI, ISLAND OF MAUI, HAWAI`I
(TMK:3-9-041:2, 3, and 26)

Prepared by:
Leann McGerty, B.A.
and
Robert L. Spear, Ph.D.

March, 2000

Prepared for:
Chris Hart & Partners
1955 Main Street
Wailuku, Maui 96793

SCIENTIFIC CONSULTANT SERVICES Inc.

711 Kapiolani Blvd. Suite 1475 Honolulu, Hawai'i 96813

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INTRODUCTION

This archaeological monitoring plan (AMP) has been prepared by Scientific Consultant Services, Inc. (SCS) for Cris Hart & Partners in preparation for construction of the Kai Makani condominium project within Waiakoa Ahupua`a, Honua`ula District, Island of Maui, Hawai`i. SCS has been contracted to provide archaeological monitoring and sampling services during the construction of a proposed 88-unit condominium located along South Kīhei Road (TMK:3-9-041:2, 3, and 26; Figures 1 and 2). The results of the archaeological investigation will ensure that significant cultural remains, if present, are identified, documented and adequately sampled.

More succinctly, the project consists of Archaeological Monitoring during all ground disturbing activity and is required for this location for several reasons. Beach sections and sand dunes are known to have been the location for pre-Contact burials and other historic sites, such as habitation. These sites may occur within the project area and must be appropriately documented.

This archaeological monitoring plan (AMP) itemizes how historic sites, if identified within the project area, will be documented. In addition, this AMP outlines consultation procedures to be followed in the event that any burials or archaeological deposits are identified, the measures to be taken to ensure that an adequate amount of time is allotted to properly record and treat any burials/deposits which may be encountered, and that an acceptable report be submitted to the State Historic Preservation Division (SHPD) upon completion of the project.

REASON FOR MONITORING

A previous archaeological inventory survey within the project area, including the excavations of nine backhoe trenches, resulted in the identification of no cultural material (letter report, Sinoto 1990; Figure 3). However, the Department of Land and Natural Resources sent a letter to Mr. Hart in November of 1988, stating a human burial had been uncovered during construction work in an adjacent parcel (parcel 1). Given the project area's proximity to the beach, it has been determined that the likelihood of burials occurring within the project locus is a high one. Though less likely, there is also the possibility that subsurface cultural deposits may be identified during the course of construction. Should sites be encountered in the course of development, SHPD will then be contacted to discuss an appropriate mitigation strategy.

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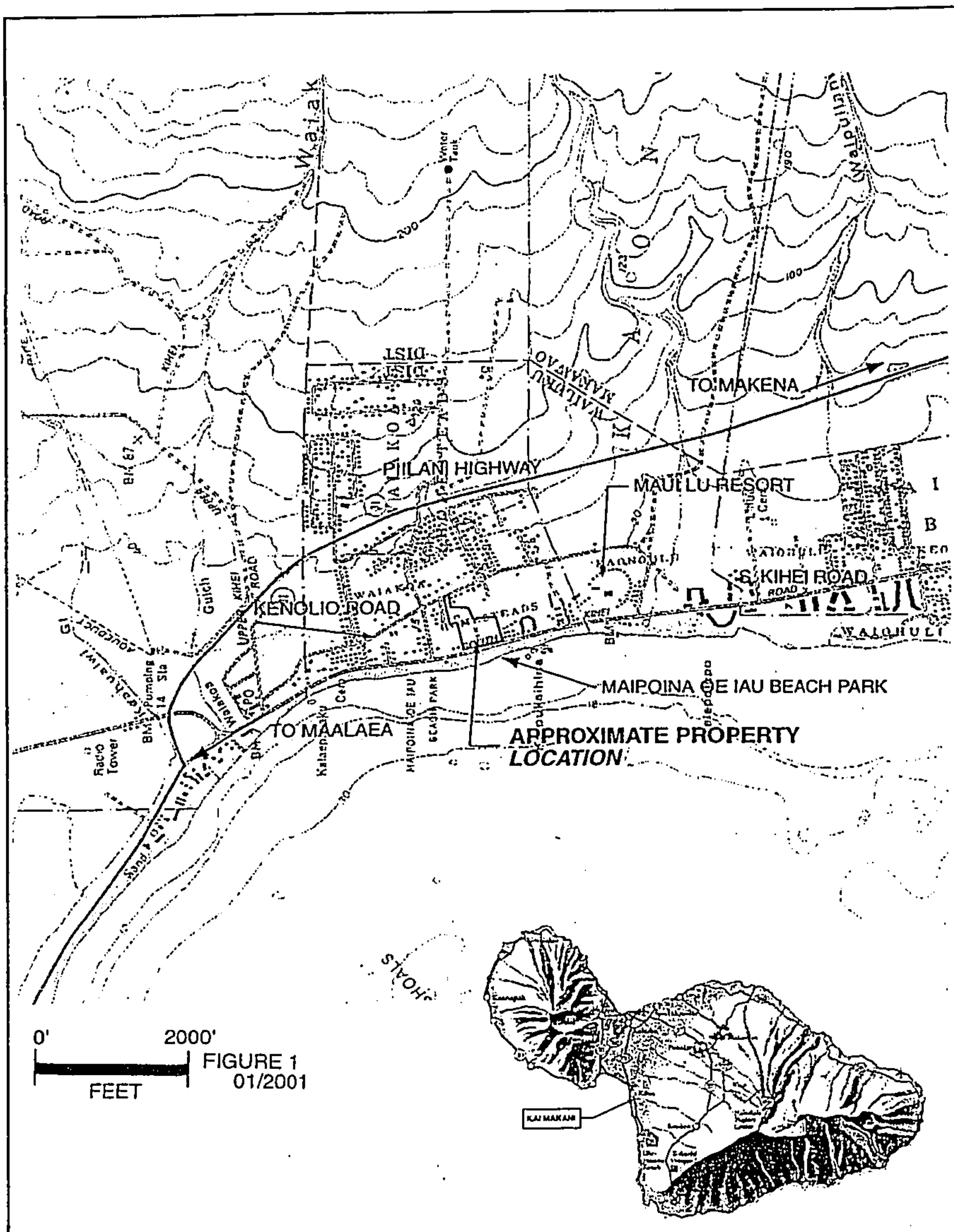

Figure 1: USGS Ma`alaea Quadrangle Map Showing Project Area.

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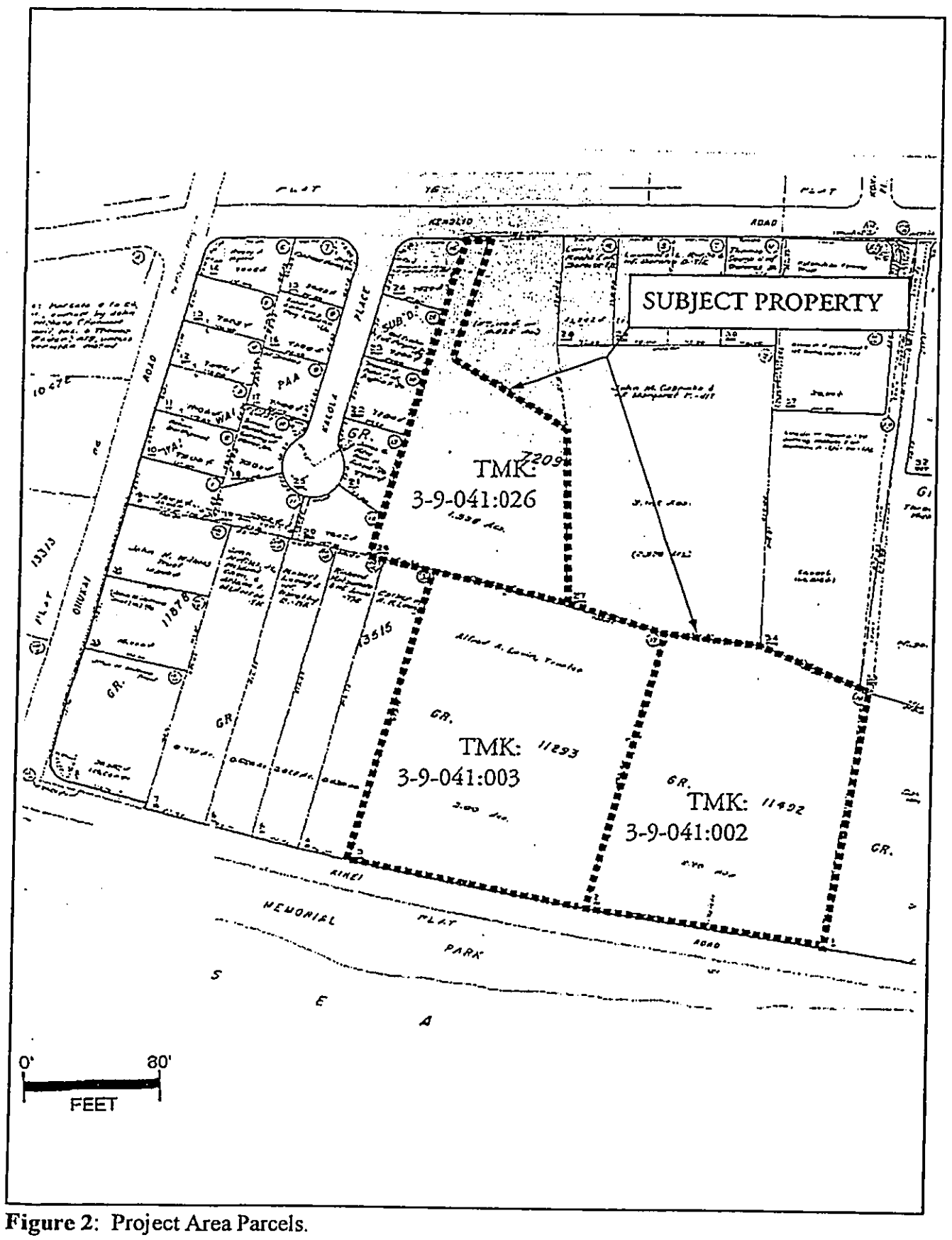

Figure 2: Project Area Parcels.

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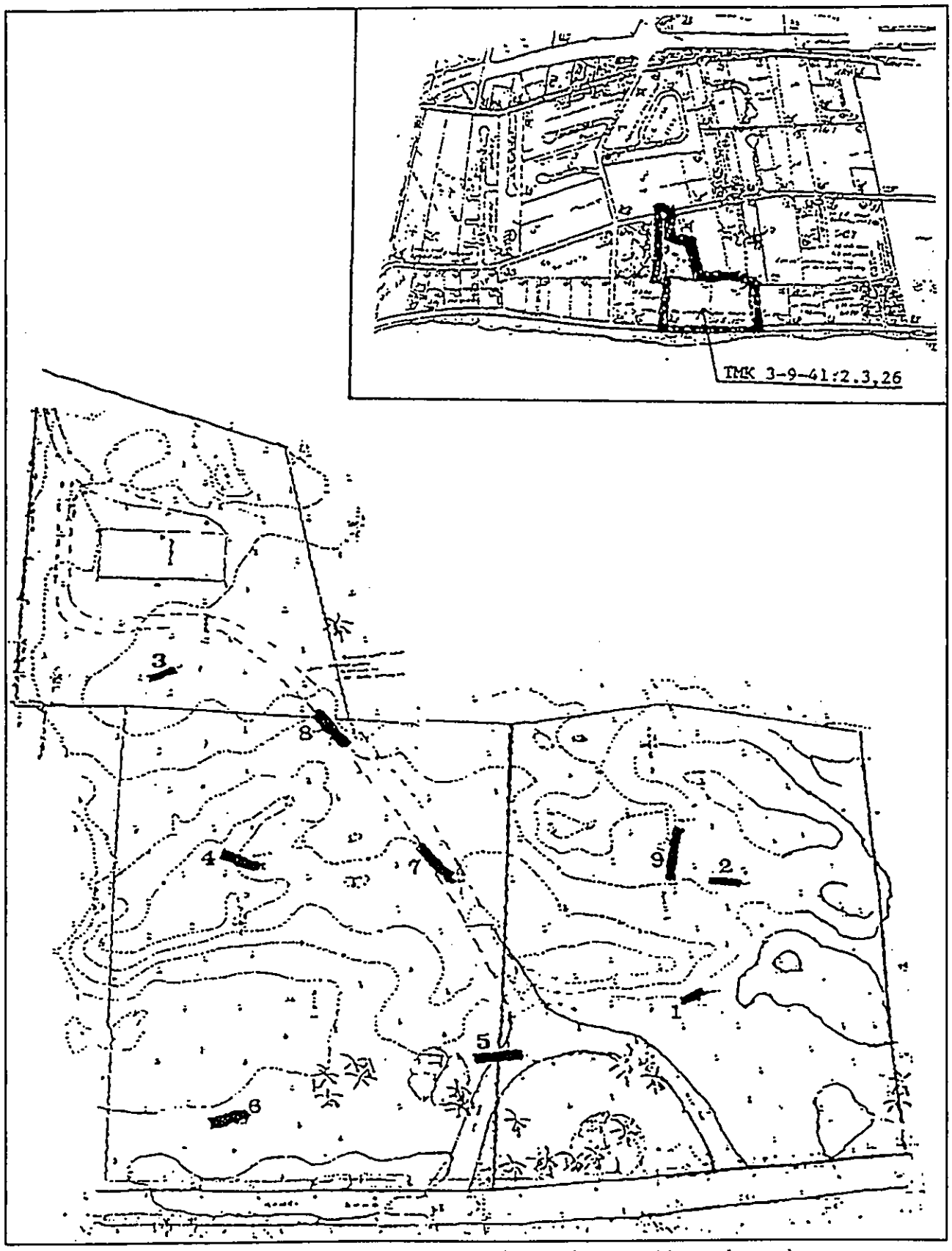

Figure 3: Location of Inventory Survey Trenches (from Sinoto 1990 attachment).

LIKELY SITE TYPES TO BE ENCOUNTERED

As no cultural material has been recovered within the current project area (see Figures 1 and 2), a review of some of the past research occurring in similar conditions along the coast has been utilized to infer the site types that are likely to be encountered within the proposed project area. In traditional Hawai`i both economic and spiritual aspects of life were closely associated with the ocean. Alalakeiki Channel was particularly productive with fishing *ko`a* on and off shore, providing guidance to the best locations. Habitation, fishing camps, and religious sites were scattered along the shore near fish ponds and canoe landings, developing into historic villages consisting of ware houses, churches, schools, and western-style homes (Thrum 1908; Walker 1933; Fornander 1865; Wailuku Station Reports 1833-63). Although greatly impacted by 20th century development, recently conducted archaeological studies have confirmed the coastal region as just as desirable in the past as it is today (Cordy 1977; Mayberry and Haun, Hammatt and Shideler 1989, 1992; Fredericksen & Fredericksen 1998 a, b, c; Dohnam 1998; Roberts *et al.*2000; Cordero and Dega 2001).

Isolated and scattered human burials, as well as some burial clusters have been documented by previous archaeological work conducted in similar circumstances. Typical traditional burials are identified as flex burials within fairly deep pits. Results from archaeological studies indicate a general absence of burial remains of traditional cultural activities other than the internment of the dead with single, isolated burials appearing randomly in the interior of the beach.

In summary, the most likely type of sites to be encountered during this monitoring project are flex burials in either isolated pits or possibly within clusters. Although less likely, there is also the possibility of subsurface cultural deposits. The following paragraphs address monitoring procedures should burials and/or cultural materials be encountered.

MONITORING CONVENTIONS AND METHODOLOGY

This monitoring plan has been outlined in accordance with DLNR/SHPD rules governing standards for archaeological monitoring (DLNR/SHPD 1996). SCS monitors will adhere to the following guidelines during monitoring of the Mansat property:

1. The presence of a qualified archaeologist will be required to monitor subsurface construction activities within the project parcel on a full-time basis. If additional archaeological field personnel are required, SCS will notify the appropriate representatives before the additional field personnel are brought to the project.

2. When cultural materials or features are identified, the archaeological monitor will have the authority to temporarily stop construction activities at the location of the find so that the monitoring archaeologist is able to evaluate the finds, record all required information and carry out the required treatment. Documentation will include profile maps, photos (with the exception of human burials), artifact and sample collection, and locational mapping. In the event that recording has not been completed by the end of the work shift, the area will be temporarily non-accessible until work is complete.

3. In the event that a habitation feature, site or remnant of a site is identified in the trenches within the parameters of the project area, work in that area will be halted and the archaeological staff at SHPD will be consulted to establish site significance. If the identified sites are deemed significant, then mitigation approaches will be worked out in conjunction with the archaeological staff at SHPD. Minimal documentation will include profile maps, photos, artifact and charcoal collections from features as well as locational mapping. In the event that extensive mitigation tasks are required, a scope shall be prepared and additional archaeologists may be brought in to expedite the work.

4. If human burials are encountered, work will cease in the vicinity and the area will be secured from further activity. The SHPD archaeologist will be immediately notified to discuss likely age and ethnicity. The SHPD Burials program will then be consulted with this age and ethnicity information so they can determine treatment. Additionally, a specific member of the Burial Council will be contacted if the Burials Program staff deems such action to be appropriate. Procedures from Hawaii Revised Statutes (HRS), Chapter 6e, Section 43 shall be followed. HRS 6.E-43.6, Procedures Relating to Inadvertent Discoveries, will be complied with if the remains are to be removed. Profiles, plan maps and documentation of skeletal parts recovered will be recorded to document the burial. The burial location will be properly identified and marked. If a burial is disturbed during trench excavations, materials excavated from the area will be manually screened to recover any displaced skeletal material.

5. The control stratigraphy will be noted and photographed, and plan view sketches and photographic documentation shall be undertaken for excavation levels containing cultural features.

6. To ensure that the construction crew is aware of this monitoring plan, a coordination meeting should be held with the construction team and monitoring archaeologist prior to initiation of the project. The construction crew will be informed as to the possible presence of human burials. The crew will be informed how to proceed if they observe such remains.

7. SCS will provide all coordination with the contractor, SHPD, and any other agencies involved in the project. SCS shall coordinate all monitoring and sampling activities with the safety and health officers for the prime and sub-contractor(s) of the project. This is to ensure that proper safety regulations and protective measures are complied with. Close coordination will also be maintained with construction representatives in order to adequately inform personnel of the likelihood of the presence of open archaeological excavation units within the project areas.

8. As necessary, verbal reports will be made to SHPD and any other agencies requested.

LABORATORY ANALYSES

All samples, photographs, and monitoring notes gathered from the project will undergo analysis and be catalogued at the SCS laboratory in Honolulu, Hawai`i. All retrieved artifact and midden samples shall be thoroughly cleaned and examined in the laboratory. Significant artifacts shall be photographically recorded, sketched, and identified. All metric attributes and weights shall be recorded. These data shall be presented in coherent tabular format within the final report for this project. Midden samples shall be minimally identified as to major "class" (e.g., bivalve, gastropod mollusk, Crustacea, echinoderm, fish, bird, mammal bone, etc.). All data shall be clearly recorded on standard laboratory forms which also include number and weight (as appropriate) of each constituent category. This material shall also be presented in the final report.

Should any significant dating samples be collected, they shall be adequately and appropriately prepared in the laboratory. While primary emphasis will be placed on submitting charcoal samples for dating, we do not preclude the use of other material such as marine shell or non-human bone material. This project budget provides for a minimum of four radiocarbon dates. SCS shall consult with the client if a greater number of radiocarbon dates are deemed to be necessary.

All stratigraphic profiles shall be appropriately drafted for presentation in the final report. Representative plan view sketches showing the location and form of cultural features throughout the project areas shall also be compiled and drafted.

CURATION

SCS, Inc. shall provide necessary curation services as required by SHPD until a permanent, more suitable curation center is located.

REPORTING

An acceptable report documenting the project findings, following SHPD guidelines, will be prepared after the completion of field work. This report will be submitted to both the client and SHPD.

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Letter dated May 10, 2001, from the State Historic Preservation Division

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BENJAMIN J. CAYETANO
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BOARD OF LAND AND NATURAL RESOURCES
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STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

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HISTORIC PRESERVATION
LAND
STATE PARKS

May 10, 2001

Robert L. Spear, Ph.D.
Scientific Consultant Services
711 Kapiolani Blvd., Suite 1475
Honolulu, Hawai'i 96813

LOG NO: 27402
DOC NO: 0104MK16

Dear Dr. Spear,

SUBJECT: Review of Archaeological Monitoring Plan, Kai Makani Property
Waiakoa ahupua'a, Wailuku District
TMK 3-9-41:2, 3, and 26

Thank you for the opportunity to review this plan which was sent to our office on 21 March 2001. We apologize for the delay in our response.

We initially had three comments on the plan. First, the ahupua'a name needs to appear in the title and on the title page. Second, in the introduction the plan mentions Waiakoa ahupua'a, but places this ahupua'a in the Honua'ula district. This is not correct. Please correct. Finally, in the monitoring conditions, you indicate that a qualified archaeologist will be required to monitor, but you do not specify is this is one individual monitoring multiple machines, or if, when multiple machines are in operation, additional monitors will be added.

The plan is acceptable. The above changes have been discussed with the author, and replacement pages are currently in the mail. If you have any questions, please contact Dr. Melissa Kirkendall at 243-5169.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

MK:jen

Archeological Inventory Survey for parcel 3-9-041:038 (previously identified as a portion of TMK Parcel No. 3-9-041:027) by Scientific Consultant Services, January 2002

SCS Project No. 290-1

ARCHAEOLOGICAL INVENTORY SURVEY FOR THE PROPOSED KAI MAKANI CONDOMINIUM PROJECT, WAIAKOA AHUPUA`A, KULA DISTRICT, MAUI ISLAND, HAWAI`I [TMK (2)3-9-041:038]

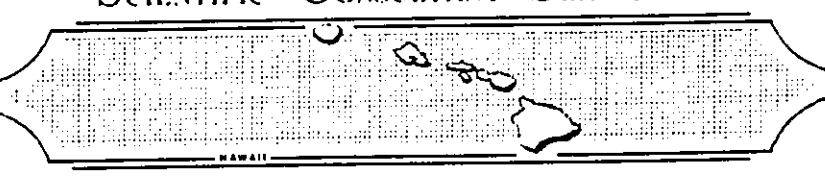
(Previously Identified as a Portion of 3-9-41:27)

Prepared by:
Elizabeth Pestana, A.A.,
and
Michael F. Dega, Ph.D.

January, 2002

Prepared for:
Chris Hart and Partners, Inc.
1955 Main Street, Ste. 200
Wailuku, Maui, HI 96793-1706

SCIENTIFIC CONSULTANT SERVICES Inc.



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ABSTRACT

Archaeological Inventory Survey was conducted on a 2.5 acre parcel located near the coastline in Mākena, Waiakoa Ahupua`a, Kula District, Maui Island, Hawai`i (TMK:(2)3-9-41:27). The Inventory Survey included historic background research and settlement pattern analysis prior to fieldwork, a complete pedestrian survey of the project area, representative subsurface testing, and reporting.

Complete systematic pedestrian survey of the subject parcel and representative trenching activities failed to reveal significant cultural features or deposits. It is estimated that one reason the research produced negative results was that the project area occurred in a former marsh area (ancient alluvium at the interface of old sand belts) subject to tidal inundations. The land surface and below surface strata represented a commingling of mobile sediments (sands) with inundated marsh soils (clays), with neither providing very complementary conditions for agriculture or even habitation. This scenario shows that the natural environment may have been the most deterministic in selection of cultural activity loci along this portion of the Leeward Maui coastline.

Based on the results of survey and subsurface trenching, the subject parcel does not contain significant cultural features or deposits. No additional archaeological mitigation, including monitoring during construction, is deemed necessary for the project area.

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INTRODUCTION

At the request of Chris Hart Partners, Inc., Scientific Consultant Services, Inc. (SCS) conducted Archaeological Inventory Survey of a 2.5 acre parcel Waiakoa Ahupua`a, Kula District, Maui Island, Hawai`i [TMK:(2) 3-9-41:27] (Figures 1 and 2). Fieldwork, including systematic pedestrian survey and representative subsurface testing, was conducted on the 5th of December, 2001 by SCS personnel Michael Dega, Ph.D. (Project Director) and Elizabeth Pestana, A.A. (Field Assistant).

Archaeological Inventory Survey was conducted to determine the presence/absence of archaeological sites and/or deposits in the project area through systematic survey and subsurface testing. Prior to current fieldwork, there were limited expectations for documenting significant archaeological sites on the parcel as prior archaeological research adjacent to the present parcel yielded negative results (Sinoto 1990). The present research also produced negative results. The lack of significant cultural resources is explained in terms of the natural environment of the parcel: the project area was situated in former marshlands that were subject to tidal inundations. A portion of the land surface was mobile (sands) and another portion was marshy (clays) in character. As such, the surface for "place", an area subject to permanent habitation and/or activity, was quite mobile and wet and may not have been selected for (or it was selected against) being a primary location. As the results of this project were negative, as were the results of archaeological research conducted on directly adjacent parcels, there are no recommendations for further archaeological work on the subject parcel.

ENVIRONMENTAL SETTING

LOCATION

The project area consists of a single land parcel totaling a recorded area of 2.520 acres (Figure 3). The parcel is located between c. 100 to 250 meters (m) to the west of the coast (see Figures 1 and 2). The western flank of the subject property abuts undeveloped property (Parcels 2 and 3 of the same TMK) bordering South Kihei road. The northern boundary abuts another undeveloped parcel (Parcel 26). The southern boundary runs along existing residential housing (Parcels 34 and 37), as does the eastern flank of the project area (Parcels 28, 29, and 30). The project area surface was modified through the accumulation of modern debris and soil and rock

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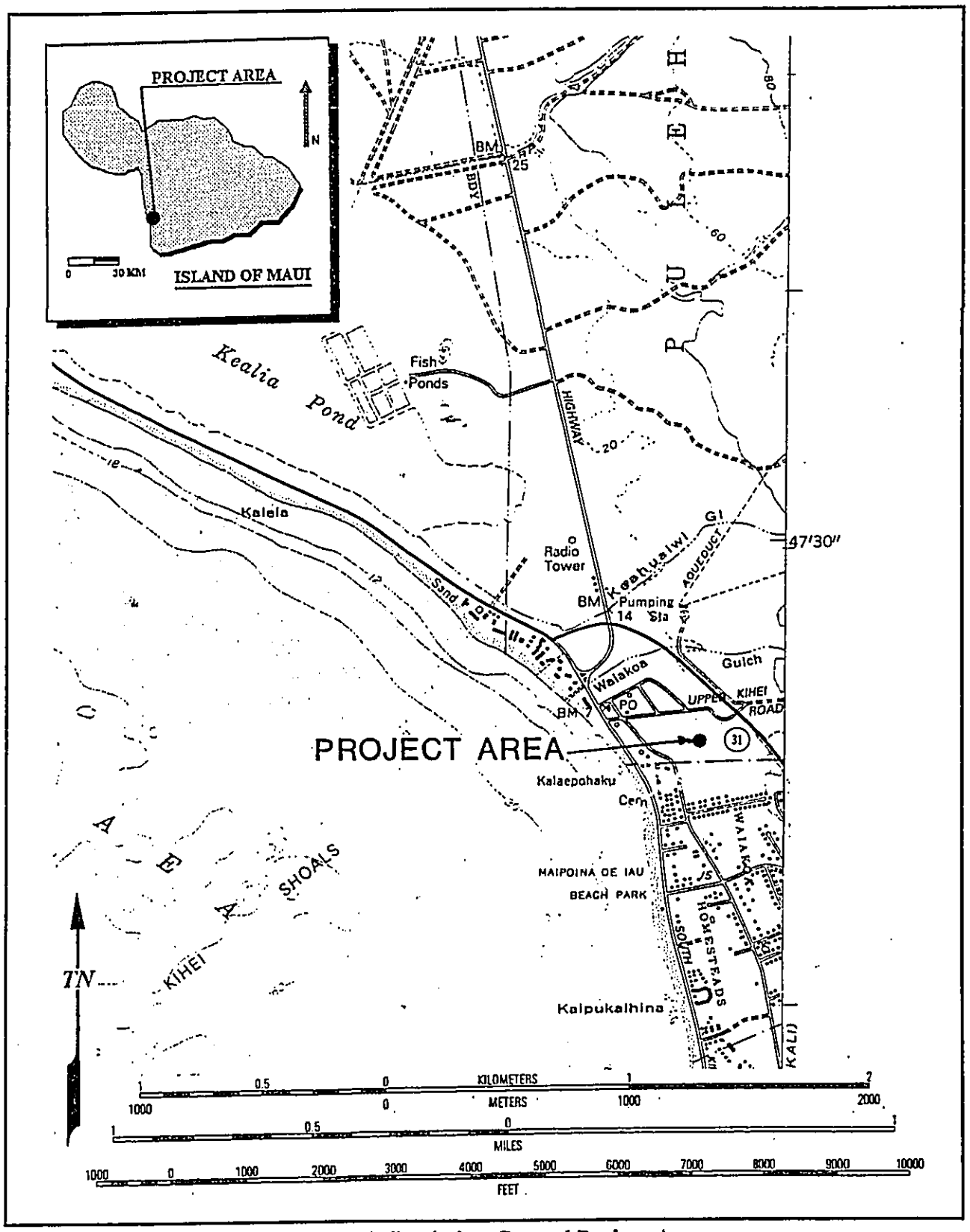

Figure 1: USGS Maalaea Quadrangle Depicting General Project Area.

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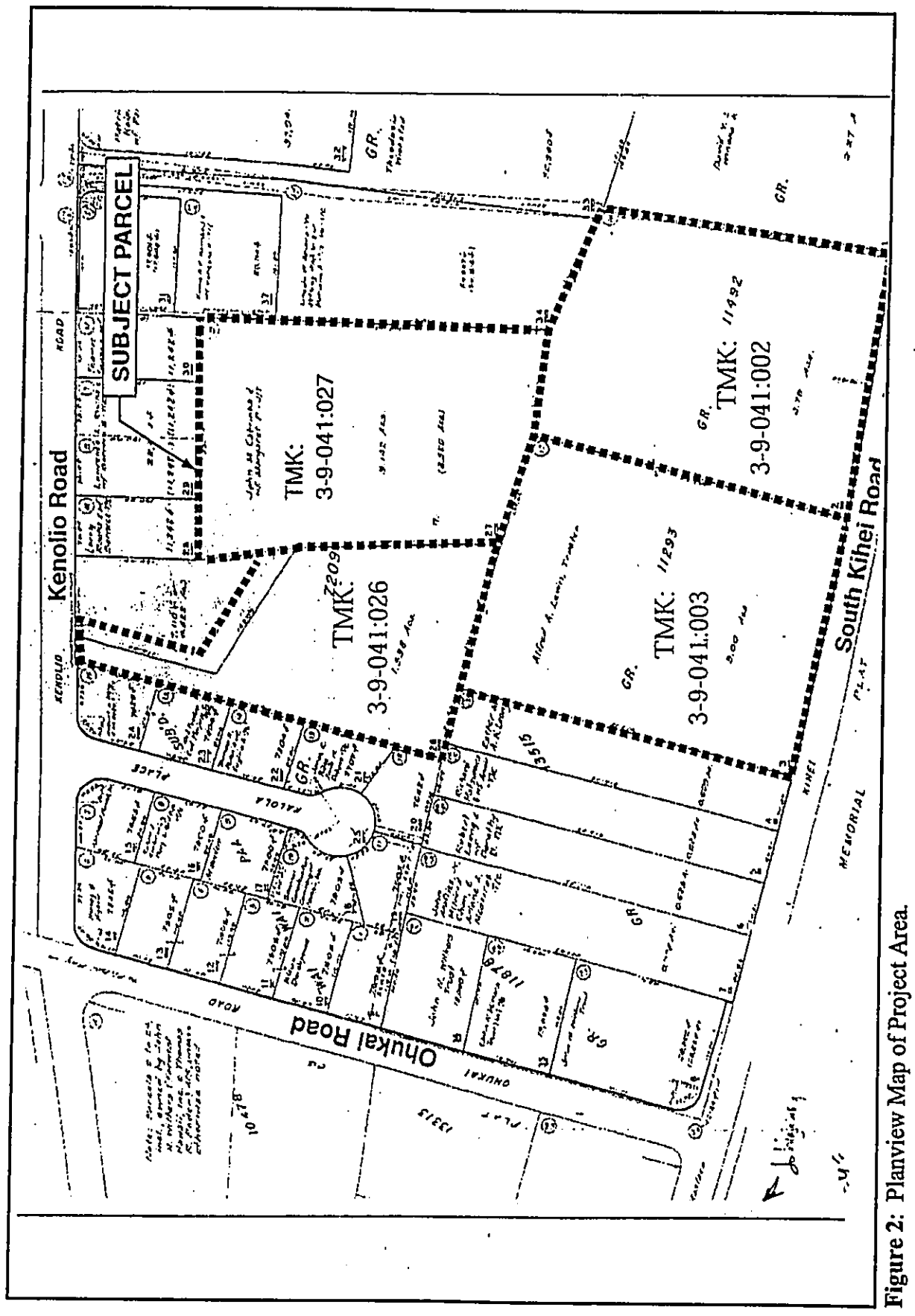

Figure 2: Planview Map of Project Area.

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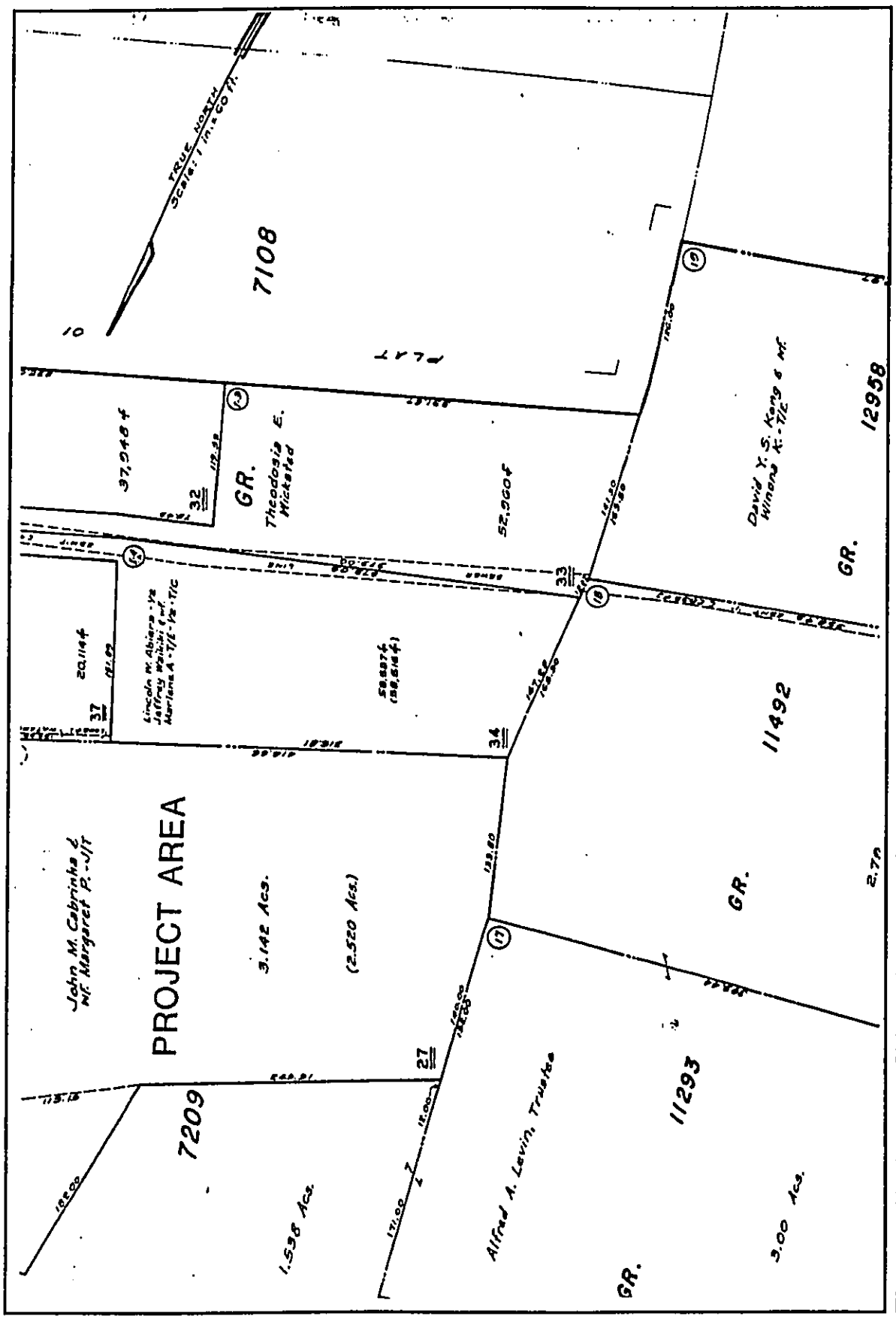

Figure 3: Tax Map Key [(2) 3-9-41:27] Showing Project Area and Adjacent Parcels.

deposition. Several large push piles of sandy sediment and cleared *kiawe* trees occupy large tracts of the land (Figures 4 and 5).

PROJECT AREA LANDFORM

The rectangular-shaped property is primarily flat, with several depressions and artificially- created mounds creating topographical variances. Located at c. 0-10 feet above mean sea level (amsl.), two depressions (c. 20 feet in diameter) occur along the western flank of the parcel. It appears as though these depressions were created during mechanical sand removal (recent activity). Sand mounds mixed with cleared *kiawe* branches occur across the landscape. (see Figures 4 and 5). In some cases, sand mounds with piled *kiawe* occur near depressions; this may simply reflect contents of the depressions piled nearby their excavation location. All of these landscape features were artificially created by bulldozing and backhoe work in recent times.

Characteristic of this portion of the Leeward coast, no perennial streams directly run through this flat former marshland. Former movement of the sandy surface (at present, movement has been impeded by vegetation) was likely a function of high water table-ocean saturation and the nature of the sediments themselves (sand) which could have also moved through aeolian processes (wind action). The largest alterations to the landscape, however, have been caused by mechanical transformations during modern times.

VEGETATION

Vegetation in the project area is dominated by the presence of the non-native *kiawe* tree (*Prosopis pallida*). Secondary vegetation includes several palm trees (*Arecaceae*), secondary growth shrubs, and various introduced grasses. Much vegetation has been cleared from the parcel, likely when portions of the area were stripped for *kiawe* wood and during the acquisition of sand.

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 the winter months (November-April). Seasonal variation in rainfall amount 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 in non-perennial fashion from these upland watersheds to coastal reaches.

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Figure 4: Photographic Overview of General Project Area. View to Southeast.

Figure 5: Photographic Overview of General Project Area, Central Section. View to Northeast. Note: *Kiawe* Piles over Pushed Sand Area.

This leeward side of the island does not receive much annual rainfall or other direct participation (streams). No freshwater streams or springs occur in the project area. Erosion through the rapid gravitational flow of upland water during heavier rains is evident in the western portion of the project area and likely provided a secondary water resource for those along the coast. Overall, it is presumed that the project area and its sandy environs were not typically conducive to large-scale agricultural endeavors in the traditional past. However, there may be exceptions. Crops such as sweet potato would have thrived much more readily than taro, both being traditional dietary staples. The evidence for such cultivation, without formal architecture, is usually quite modest in archaeological contexts however. Examining soil horizons that may reveal oxidation/reduction strata associated with cultivation were indeed examined during the present fieldwork (see below).

SOILS

In general, soils in the project area have been classified as Dune Land (DL) and Kealia Silt Loam (KMW) (Foote *et al.* 1972:Sheet 102). First, Foote *et al.* (1972:29) state the Dune Land soil series consists of hills and ridges of sand-sized particles drifted and piled by the wind. The sand is predominantly formed from coral and seashells. Prior to the introduction of *kiawe* to the area, the hills and ridges of the sand would have shifted considerably over time and, having not remain fixed or stabilized, not allowed soil horizons to develop. The second general soil series consists of Kealia Silt Loam (KMW). Foote *et al.* (1972:67) describe this soil series by its association with water. Briefly, the soil is poorly drained and has a high salt content. Ponding occurs in low areas after appreciable rainfall and the soil has a brackish water table that fluctuates with the tides. A typical soil profile involving this series consists of a dark reddish-brown silt loam surface layer. Underlying stratified layers include silt loam, loam, and fine sandy loam. The brackish water table occurs relatively near the surface. As was identified during excavation, subsurface strata are dark reddish brown to dark reddish grey in the upper portions and dark grayish brown to black near the water table line (see Foote *et al.* 1972:67).

Subsurface testing on adjacent land parcels (Sinoto 1990), if interpreted correctly, revealed the dominant presence of a humic layer (surface) overlaying several variable sand layers (yellowish brown coral sand to coarse basaltic-derived sands). Stratigraphic differences were suggested to be the result of grain sizes of the coral sands.

During current testing, many of the same stratigraphic sequences documented by Sinoto (1990) were identified. There was variation however. Many of the lower portions of the trench profiles appeared more similar to the general descriptions of Kealia Silt Loam documented by Foote *et al.* (1972) wherein underlying layers were stratified and included combinations of sand, silty loam, and silty clay. Subsurface strata were primarily yellowish brown and olivine in the upper portions and dark grayish brown, red, and black near the water table line. There was a positive correlation between blackish sediment and the presence of the water table. Soil sequences identified during current testing are discussed in more detail below.

TRADITIONAL AND HISTORIC SETTING

The present project area is located in Waiakoa Ahupua`a on the southwestern side of Maui, in the district of Kula (see Figures 1 and 2). The project area occurs along a coastal strip situated at the base of the southwestern slope of Maui's largest volcano, Haleakalā, which rises to over 10,000 feet amsl. Upland portions of Kula District are well known for their cultivation potential. Coastal portions were less favorable to planting. Fishing and other marine species acquisition burgeoned along the Leeward Maui coast. Many *heiau* have been documented in upland locales while a smaller percentage have been documented in coastal Kula. Traditional battles were fought near the present town of Kihei in Kamaole (Sterling 1998). Population of coastal areas was prevalent from traditional through modern times. Waiakoa Ahupua`a and Kula District in general have occupational time depth and much history, portions of which will are discussed below.

TRADITIONAL TIMES

Documented oral accounts of prehistoric activities and events occurring in the Waiakoa area are limited in terms of area usage. Traditional accounts of coastal Kula describe the area as a fairly arid zone where marine resources were paramount to any other. Handy and Handy (1972:511) state:

> "Both on the coast, where fishing was good, and on the lower westward slopes of Haleakala a considerable population existed. So far as we could learn Kula supported no Hawaiian taro, and the fishermen in this section must have depended for vegetable food mainly on *poi* brought from the wet lands of Waikapu and Wailuku to westward across the plain to supplement their usual sweet-potato diet. . .`Uala was the staple of life here."

Handy (1940:161) further intimates that a sizeable population existed during traditional times along the Kihei coastline:

> "On the coast, where fishing was good, and lower westward slopes of Haleakala, a considerable population existed, fishing and raising occasional crops of potatoes along the coast, and cultivating large crops of potatoes inland, especially in the central and northeastern section including Keokea, Waiohuli, Kohéo, Kaonoulu, and Waiakoa, where rainfall drawn round the northwest slopes of Haleakala increases toward Makawao."

That a "sizeable population" existed along this coastline during early traditional times is somewhat opposed by Kolb *et al.* (1997), as based on the presence of only two *heiau* (at Kalepolepo in coastal Waiohuli Ahupua`a) and fishponds along the coast that were recorded by Walker in 1931. Kolb *et al.* (1997:28-29) note the fallacy in assuming that the presence of a *heiau* (and even fishponds, which may have only required at least one family to maintain) directly correlates with community settlements; often, densely populated communities contain a large number of *heiau* structures. Kolb *et al.* (1997:28) dispel this notion with empirical data: "If this model holds true for Kula, then a large number of upcountry *heiau* suggest that almost all settlement was concentrated there as well, rather than the coast." Thus, if based solely on the *heiau*-village model, traditional population sizes along the Kula Ahupua`a coastline were smaller than upcountry. This idea has been supported by archaeological survey in both upland and coastal locations (see below).

Fishing and sweet potato cultivation were the dominant forms of traditional subsistence in coastal Kula. Handy and Handy (1972:272) intimate that fishing was an important component of the Waiokea 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 offshore fishing grounds that were favorably utilized during pre-Contact times that includes waters off the Kihei-coastal Kula area. Further, the presence of several fishponds at Waiohuli Kai, Keokeo Kai, and an unnamed pond south of Kalepolepo Fishpond attest to the pre-Contact activities along the Kula coast (see Colin *et al.* 2000:11).

As the project area (and coastal Kula in general) occurs in one of the driest areas of Maui, agricultural subsistence regimes were very limited. As noted by Handy and Handy (1972) among others, sweet potato was probably the only crop that could have thrived in such an arid

environment. Cordy (1977:23) supports this notion: "The extreme aridity and long distance to inland zones makes the Kihei area one of the least favorable areas for farming on Maui." This creates something of a dilemma for empiricists: if sweet potato was the primary crop cultivated along the Kula coastline, the evidence remains absent, both in soil profiles and macrobotanical analysis. The recovery of sweet potato indicators in Hawaiian (and Oceanic) archaeological contexts is rare indeed. Historic records and oral histories remain the prime records of the past in these situations.

Kolb *et al.* (1997:281) discuss the traditional sequence in coastal Kula District (which includes the project area), illustrating the low intensity use of the coast prior to the A.D. 1200s (see also Colin *et al.* 2000:9). Permanent settlement along the coastal plain of Kula may have commenced during the A.D. 1200-1400s at a time when permanent occupation had begun at upland locales of the district and *ahupua`a*. Kolb *et al.* (1997:189, 281) provide a model explaining that "the presence of settlement both on the shore and in the uplands seems to mark the establishment of a dual settlement pattern (shore and uplands) from the very start of permanent occupation in Kula." Recall archaeological evidence to support this model intimates greater population numbers in the uplands than along the coastline.

Colin *et al.* (2000:11) provide a fairly succinct discussion of archaeological evidence for traditional settlement along the Kula District shoreline. They note that based on the "few available radiocarbon dates" from the area, more intensive (read: permanent) occupation of the Kihei shoreline was a later prehistoric development that was contemporaneous with the expansion of permanent habitation and agricultural in more upland areas after A.D. 1400-1500. The upland timing of expansion has been supported by more recent fieldwork in Waiohuli Ahupua`a, Kula District (Dunn *et al.* 1999).

Further, traditional archaeological sites such as burials that are common along coastlines throughout the islands are almost completely absent in the Kula coastal zone. Colin *et al.* (2000:11) state "as far as we can determine, the only account of any burials in coastal Kula (Waiakoa, Ka`ono`ulu, Waiohuli, Keokea or Kama`ole Ahupua`a) is Neller's (1982) account of burials reported (not seen) at Kalama Beach Park. This may be a function of the massive land alterations occurring throughout this area from the 1970s to promote tourism in the form of hotel and infrastructure construction (and when archaeological mitigation was not as specific nor required as today). Generally, however, data from the Kula coastal zone depicts limited use

of the area during traditional times, particularly when compared to other coastal areas around the island (and even the uplands of the same *ahupua`a*-district).

HISTORICAL TIMES

The history of the project area is intrinsically tied to that of the Kihei area in general. Land utilization and occupation of this coastal area from the early historic period through mid-1800s and into more recent times is amply covered by Colin *et al.* (2000) and will not be repeated in depth here. Only a brief discussion of land use near the project area and environs from post-Contact times will be outlined below, following Colin *et al.* (2000).

From the early historic period, several industries became paramount in Kula: whaling, Irish potato cultivation, ranching, and sugar cane cultivation. Most of these endeavors transformed the upland landscape itself. The coastal areas were more impacted by commerce-related activities (businesses, hostels, stores). Kolb *et al.* (1997:68-69) state that Kalepolepo (Kihei) was an important provisioning area through the 1850s, when the area became "a hub of activity for all of Kula."

From the 1840s-1860s a whaling station was maintained in Kihei. According to Colin *et al.* (2000:14), in 1849 John Halstead constructed "The Koa House" at Kalepolepo in Kihei, one of several such buildings supporting the whaling industry in Kihei. The Koa House served as a store, a residence, and a gathering place for whalers.

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, Kauikeaouli (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.

Although the present project area does not contain Land Commission Awards (LCAs), the history of Kula is traceable. Kame`eleihiwa (1992:52) suggests that Kekau`onohi was the land owner of Kula District prior to the *Mahele*. During the *Mahele*, Kamehameha III retained ownership of portions of Kula, including Keokea Ahupua`a and the *`ili* of Keauhou 1 and 2. The kingdom retained many *ahupua`a* as part of "government lands", including Waiakoa Ahupua`a. Importantly, no kuleana land claims occur within or near the present project area. The most proximate kuleana land claims were those from Kalepolepo Village (Kihei). Awarded parcels included settlement (houses), potato patches, taro lands, and pastures (see Colin *et al.* 2000:17).

From the mid-1800s through the early 1900s, coastal activity remained concentrated at Kalepolepo but by the 1870s+, whaling diminished and the potato industry moved to the Ulupalakua area (Colin *et al.* (2000:26). Coastal Kula became somewhat of a dusty, "dirty place" (see Wilcox 1921). As a result of industry movement out of the Kihei area (for a time) or the vast expanses of land available, Haleakala Ranch utilized many coastal portions of Kula in the later 1800s (Donham 1990a:6).

Between the early 1900s through the 1970s, upland areas of Kula District to the Kihei area came under intensive sugar cane cultivation and other areas were utilized as pasture lands (see Cox 1976). During World War II, coastal reaches of Kula were important for amphibious training. The area continued to steadily grow until the 1970s when Kihei and neighboring coastal areas underwent a rapid and prolonged development of residential and commercial projects. The area continues to undergo large-scale development.

PREVIOUS ARCHAEOLOGY

Prior to the current archaeological investigations, the present project area had not been subject to archaeological evaluation. However, one archaeological project was conducted on two directly adjacent parcels (Sinoto 1990). A sample of other archaeological projects conducted on nearby land parcels within Waiakoa Ahupua`a and other coastal portions of Kula District are presented.

T. Thrum (1909), J. Stokes (1909-1916), and W. M. Walker (1931) conducted the earliest archaeological surveys of Leeward Maui and inventoried both coastal and upland sites of Kula District, including fishponds and *heiau*. Fairly close to the current project area (c. 2 miles to the northwest), Walker (1931:284-285) recorded two *heiau*: Site 219 (notched *heiau*) and Site 220 (open platform).

During the late 20th century, Kihei and environs were 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. While many archaeological projects were conducted in the general vicinity of the present project area, many of these projects also had negative results. A complete listing of all archaeological projects conducted in coastal Kihei-Kula and their geographic location are provided in Colin *et al.* (2000) and will not be redundantly presented here. Several archaeological projects applicable to the present study are briefly discussed (Figure 6).

First, Sinoto (1990) conducted survey and testing on two land parcels directly abutting the western and northern flanks of the presently discussed Inventory Survey parcel. Surface finds were non-existent. Nine trenches were excavated across a representative portion of the parcel and yielded only negative results. Of notable exception in the report, besides the negative findings, was the identification of various coastal strata which were almost exact with those identified during the current project (see Results below).

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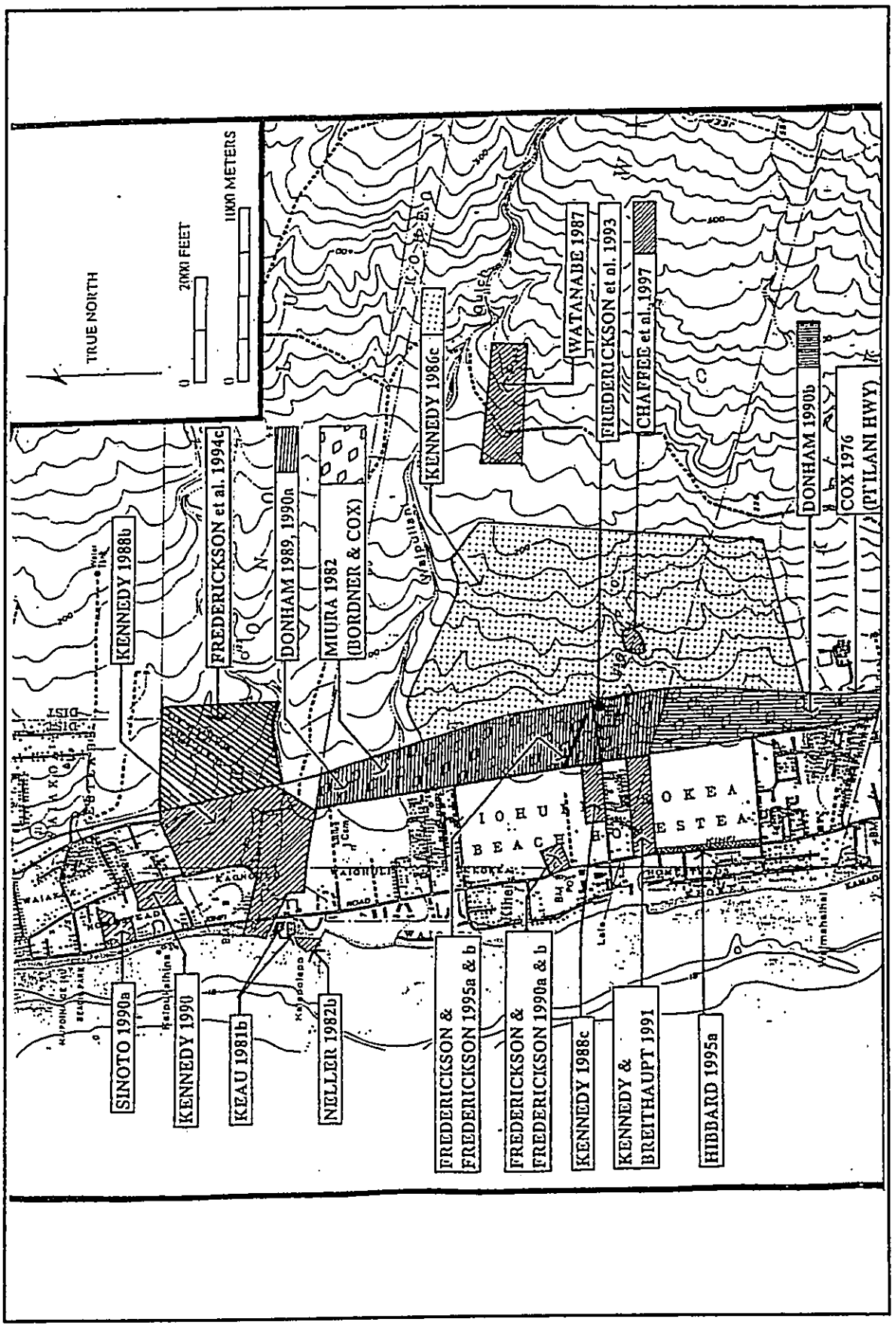

Figure 6: Map of Archaeological Projects Conducted in Coastal Kihei. Adopted from Colin *et al.* (2000:44).

In 1988, Kennedy (1988) conducted large scale reconnaissance on a parcel located just to the southeast of the current project area. The parcel, located between South Kihei Road and Pi`ilani Highway, failed to contain any significant archaeological sites or surface deposits. Results of the reconnaissance were negative.

In 1990, Kennedy (1990) conducted archaeological survey of a land parcel occurring directly adjacent to the southeastern boundary of the current parcel. Again, only negative findings were produced from the study.

Fourth, Fredericksen *et al.* (1994) conducted Inventory Survey to the southeast of the current project area, *mauka* of Pi`ilani Highway. Twenty-one archaeological sites of both traditional and military periods were recorded during the research. Traditional sites were primarily temporary habitation and agricultural loci. Again, this research was conducted across Pi`ilani Highway in areas not previously subject to development. By contrast, the long coastal strip of land occurring along South Kihei Road has not only been subject to much previous construction, but has been utilized as baseyards and such over time during the construction of roads and other infrastructural needs. As such, while a parcel may not yet have been formally developed, it was likely subject to some sort of land altering activity (landfill, dumping, soil mining) in recent times.

Still within the general vicinity of the current project area, Keau (1981a, 1981b) conducted archaeological reconnaissance survey along the coastline to the south of the current project parcel. Both survey's failed to produce significant archaeological materials (although Keau 1981b notes several historic features and the overall significance of the area).

Proceeding south from the current project area, the many other archaeological projects conducted over the past 20 years have produced variable results (see Figure 6). While studies such as Neller (1982), Kennedy (1988), Fredericksen and Fredericksen (1990a, 1990b), and Kennedy and Maigret (1991) yielded only negative results in the coastal sections, several other projects led to the identification of archaeological resources. In brief, the combined efforts of Cox (1976), Miura (1982), Donham (1989, 1990a, 1990b), Fredericksen *et al.* (1993), Fredericksen and Fredericksen (1995a, 1995b) have generally shown that the general, traditional landscape of the coastal area of Kihei-Kula District primarily contained temporary habitation sites date from middle (A.D. 1500s) to late pre-Contact times (1600s+). Evidence for historic-

period structures (ranching walls and such) have also been documented in the coastal zone. The inferred nature of the coastal settlement pattern is discussed in more intimate detail below.

SETTLEMENT PATTERN

The settlement pattern for the district of Kula is varied, as are the models describing the such settlement patterns. From environmental deterministic models to the "exclusive upland permanent settlement model", the "exclusive coastal permanent habitation model", the "bimodal model-permanent habitation in the uplands and on the coast", and the "transhumance model" (Hayden in Kolb *et al.* 1997:145-152), the history of Kula District has been somewhat dichotomized into a classic upland-lowland motif. Of interest is that all four models mentioned above are indeed directly relevant to Kula District, and were formed during work in the district. As is duly noted by Hayden (in Kolb *et al.* 1997:157), and must be considered in any settlement pattern model of the islands,

> "One problem with the coastal sample set is that a large amount of construction had occurred prior to the introduction or enforcement of the preservation laws, particularly in the Kula area. This development proceeded without archaeological work, and as a result little information is available, and many of the coastal Kula sites have been destroyed. Thus, we know little yet about the coastal zone of Kula."

The prevailing "model" at this time for Kula settlement patten analysis has been formed by Kolb *et al.* (1997:191) and consists of a combination of all four models. Briefly, to summarize, the archaeological record of the district (and by extension, Honua`ula District) indicates "considerable permanent habitation in the uplands and associated burials, more large heiau and extensive agricultural fields. . .In the coastal zone. . .the archaeological record also indicates some permanent habitation. Also, the chronology of the uplands and the coast from the A.D. 1200s on suggests these zones both saw some permanent habitation and use over that span." Based on the absolute number of documented house sites, *heiau*, and agricultural features, a bulk of the population lived inland (upland Kula). However, fishponds, some temporary habitation loci, and two *heiau* have been documented in coastal Kula, thereby intimating that at least a small population likely permanently occupied coastal regions during this time period.

Overall, the settlement pattern of the Kula District, incorporating Waiakoa Ahupua`a, would include both permanent and temporary sites near the coast, a minimal amount of ceremonial sites (*heiau*), dryland field and field *hale*, and burials, although the latter have not yet been reported in large concentrations. Proceeding upland, the "barren zone" would have trails and associated shelters leading to the uplands. Both the barren zone and coastal areas are suggested to have a low density of sites (see Cordy 2000:2). The barren zone and far above the upland field zones would also have few sites. The upland field zone, at c. 1500-2000 ft. would contain the bulk of traditional-1800s sites, including permanent habitation loci, garden enclosures, some taro fields, ceremonial sites, and temporary habitation areas and trails, among other site classes. By way of comparison, while the upland field zone was occupied contemporaneously with coastal reaches of Kula, the upland zone contains a higher density of sites as well as greater diversity of site types. Again, evidence for the Kula coastal zone may have been obscured during recent developments. If one were to conjecture that coastal Kula and coastal Makena exhibited similar settlement patterns, the picture may be presented somewhat differently. The present Inventory Survey research was primed to address such issues, if the archaeological data was available.

Recent modeling for the Makena coastline, to the south, has provided an interesting comparison with that of the Kihei coastline. Unlike the coastal reaches of Kihei-Kula District, the coastal setting of Honoua`ula has been amenable to much more succinct analysis. As Hayden (in Kolb *et al.* 1997:157, 159) noted, it may be possible to suggest that settlement pattern of coastal Makena is representative of the Kihei coastline. As such, a explicitly coastal settlement model is presented below that was to be tested during the current archaeological work.

The earliest known settlements of Maui occurred in both windward valleys and adjacent to perennial stream locations of leeward areas (Cordy 1974; Kirch 1971). However, due to a dearth of oral historical and archaeological information pertaining to settlement (particularly coastal habitation in Kula and Makena), there is no clear model for pre-contact settlement history before A.D. 1200 (Cordy and Athens 1988). Cordy and Athens (1988:8) state that "archaeological models of Hawaiian prehistory, largely based on O`ahu, Molokai, and Hawaii island information, suggest that windward areas were first occupied on the large islands, such as Maui, about A.D. 300-600 ... then for a number of centuries population grew in the windward areas at ca. A.D. 1000-1200". Expansion of settlement into more environmentally marginal areas supposedly occurred after A.D. 1000 (Kirch 1971).

Cordy (1981) has suggested 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). However, recently acquired evidence suggests that permanent habitation initially appeared in the Mākena area from approximately A.D. 1200, with increased settlement by A.D. 1650 (Gosser *et al.* 1996; Cordero and Dega 2000). Though Cordy's settlement model has been substantiated by a majority of dated sites in the Mākena area, an argument for this earlier settlement (ca. A.D. 1200+) can also be made: the Mākena area is known for its rich traditional history based on "good fishing" and "noteworthy" subsistence agriculture (Handy and Handy1972:272). In other words, the statement implies that portions of Mākena may have been settled early as they were non-marginal in terms of subsistence resources, an argument made for early settlement of Windward areas as well [Note: this portion of the model does not appear to hold true for coastal Kula which, as discussed below, was marginal in every sense except for marine acquisition resources]. Temporary habitation loci and agricultural complexes occurring in upper areas of the Mākena area have been dated to no earlier than A.D. 1500 (Cordy and Athens 1988).

Directly applicable to the present research, Cordy (1978) and Cordy and Athens (1988) remark that permanent house sites in Mākena (and by extension, coastal Kula) were situated within 0.25 miles of the coastline and agricultural lands and temporary house sites were located over .25 miles inland from the coast. Permanent housing settlements scarcely occurred beyond 0.25 miles from the coast. The current project area is located just beyond the 0.25 mile marker from the coast.

Overall, in terms of settlement pattern models and previous archaeology in the coastal Kula area, it was expected that temporary house sites and/or agricultural lands (dryland fields) could be identified during Inventory Survey. The results of the research are presented below.

METHODOLOGY

FIELD METHODS

Fieldwork primarily consisted of systematic pedestrian survey and mechanical subsurface testing. Documentation occurred during each phase of research. First, a 100% systematic pedestrian survey of the c. 2.50 acre parcel was conducted to assess the presence/absence of surface features, artifacts, and soil deposits amenable to testing. Survey was conducted by two

crew members spaced 3 m apart, walking north-south transects in parallel fashion. When surface structures, possible artifacts, or intriguing topographical changes were identified, they were plotted on an overall site map and flagged. After survey, the crew returned to each flagged location and more fully investigated the area. Representative areas containing presumed variable soil deposits were further marked for subsurface testing. During survey, only modern refuse and structures and several soil mounds (learned to be push piles) were documented. As the result of survey was negative for significant cultural resources, only general overviews of the project area landscape were photographed and documented.

Following pedestrian survey and documentation, nine stratigraphic trenches (ST-1 through ST-9) were placed in representative fashion across the project area (Figure 7). These trenches were placed to sample a wide array of subsurface contexts on the subject parcel. Table 1 illustrates ST designations, measurements, and overall excavated area.

Table 1: Stratigraphic Trench Designations, Dimensions, and Area Excavated

Stratigraphic Trench (ST) Number	Length (m)	Width (m)	Depth Below Surface (m)	Area (m^2)	Area (m^3)
ST-1	10.00	1.40	1.55	14.00	21.70
ST-2	11.50	1.05	0.95	12.07	11.47
ST-3	6.20	1.10	1.43	6.82	9.75
ST-4	11.50	1.15	1.23	13.22	16.26
ST-5	3.75	1.22	1.45	4.57	6.63
ST-6	4.50	1.27	1.35	5.71	7.71
ST-7	5.30	1.25	1.55	6.62	10.26
ST-8	3.50	1.30	1.31	4.55	5.96
ST-9	3.40	1.10	1.40	3.74	5.23
TOTAL	----	----	----	**71.30**	**94.97**

As illustrated in Table 1, a total 71.30 m (linear) and 94.97 m (three-dimensions) of soil was excavated during testing. These rather large sampling figures are primarily indicative of the negative results achieved for each trench; if significant cultural resources were documented, it is likely that less area would have been excavated as documentation and sampling of such cultural resources would have been more time consuming. In the amount of time allowed for the project, fieldwork was geared toward obtaining the most information available to assess past land use in the project area. Trenches were primarily mechanically excavated in the western half of the project area (see Figure 7).

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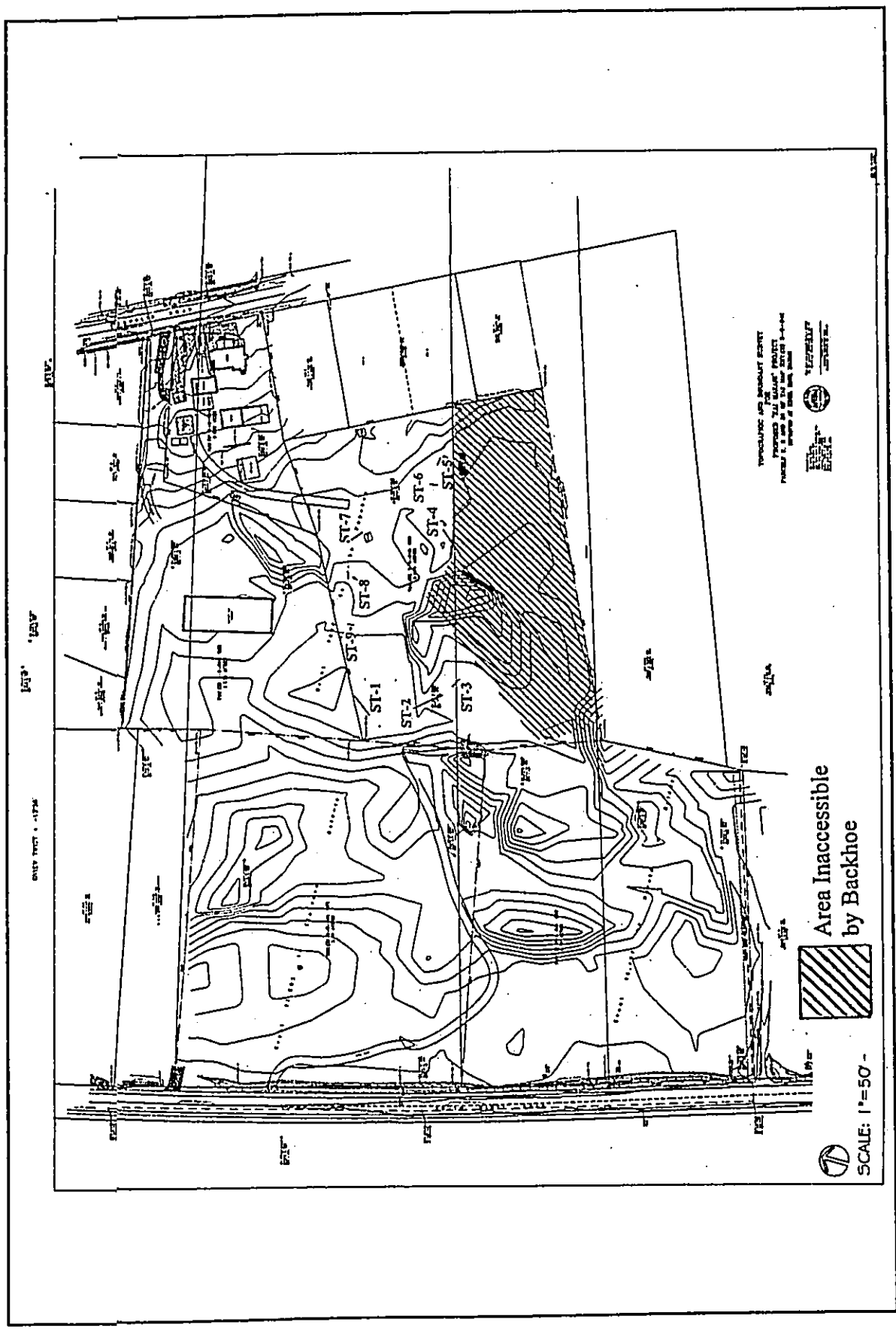

Figure 7: Map of Current Project Area and Locations of Stratigraphic Trenches.

Dividing the project area along a north-south axis, it is conspicuous that all nine trenches were excavated in the western half of the property. While subject to complete pedestrian survey, no trenches were excavated in the eastern portion of the subject property. Access to the eastern portion of the project area was severely impeded by artificially-created sand mounds (push piles) and stacks of cleared *kiawe*. Backhoe access to this area was extremely restricted. However, based on the testing results, the western portion of the project area, it was highly unlikely that significant cultural materials would have been documented in the eastern half of the project area. This seemed especially acute as more modern development had occurred along the eastern portion's boundary than within the western half.

While no cultural materials were collected from any trench, soil samples were acquired for additional analysis in the laboratory. None of the soil was screened but all trench walls were inspected. Photographs were taken of trench locations prior to excavation, at least one profile (or multiples) of each trench, and an overview of the respective trench at the base of excavation. Soil samples were acquired from several trenches through column sampling individual strata. Post-excavation documentation consisted of trench descriptions and photographic recordation, stratigraphic profiles of at least one face of each trench, and sectional drawings. Each trench location was demarcated on the overall site plan map (see Figure 7).

LABORATORY METHODS

As the results of survey and excavation were negative, laboratory work was limited in scope. Soil analysis was accomplished on five samples acquired from three trenches (see below). As none of the soils were deemed to be associated with past habitation surfaces or agricultural levels, no samples were submitted for specialized analysis (e.g., radiocarbon, pollen, phytolith analysis). Archival and background research, as well as drafting of stratigraphic profiles and section drawings, were completed in the laboratory.

All field notes, maps, and photographs pertaining to this project are being curated at the SCS facilities in Honolulu.

ARCHAEOLOGICAL INVENTORY SURVEY RESULTS

SURVEY

A 100% pedestrian survey of the project area failed to reveal the presence of architectural features, artifacts, or midden scatters. The surface of the subject property had been subject to extensive modification in recent times. Artificially-created (mechanical) sand mounds occurred throughout the area, as did large accumulations of *kiawe* branches and trunks (see Figures 4 and 5). Modern rubbish was dispersed across the parcel and on occasion commingled with several deceased animals (several chickens and a cat). Survey produced negative results but did allow for determining appropriate locations for subsurface testing.

SUBSURFACE TESTING

Nine stratigraphic trenches of varying length and depth were excavated across portions of the project area (see Figure 7 and Table 1). Due to artificial impediments, trenching primarily covered the entire western half of the project area. Trenching did not occur in the eastern half of the parcel. The eastern flank had been graded and during the time of investigation, was almost barricaded by sand mounds and *kiawe* piles. Some of these landscape changes may have been caused during construction of adjacent residential housing. Thus, testing was concentrated in the western half of the parcel.

Stratigraphic Trench 1 (ST-1):

ST-1 measured 10.00 meters (m) long, 1.40 m wide, and was excavated to a maximum depth of 1.55 meters below the surface (mbs). The trench was oriented on a northeast-southwest axis at 43°/223° and placed in the northwestern corner of the parcel. ST-1 contained three discrete stratigraphic layers, none of which contained subterranean structures, artifacts, or cultural deposits (Figures 8 and 9). Beneath a thick humic horizon (Layer I; 0-0.25 mbs), the strata alternated from reddish brown (2.5YR 4/6) clay to light yellowish brown (2.5Y 6/4) sand. Layer II (0.25-0.95 mbs) consisted of clay with many gravels, cobbles, and boulders. This stratum appeared to represent a fill event of some sort; it was a layer unique to this location of the project area. As such, it may have been utilized to in-fill a sandy depression during construction of a small dirt road through this portion of the parcel. Several pieces of oyster shell (Family *Ostreidae-Crassostrea gigas*) were recovered from the fill layer. Layer III (0.95-1.55 mbs) consisted of fine-grained beach sand and was sterile but for three small fragments of coral and a single bird bone (foreclaw of *Gallus gallus*). As brackish water seeped into this strata, it was

Figure 8: Photograph of ST-1 Stratigraphic Profile. View of East Wall.

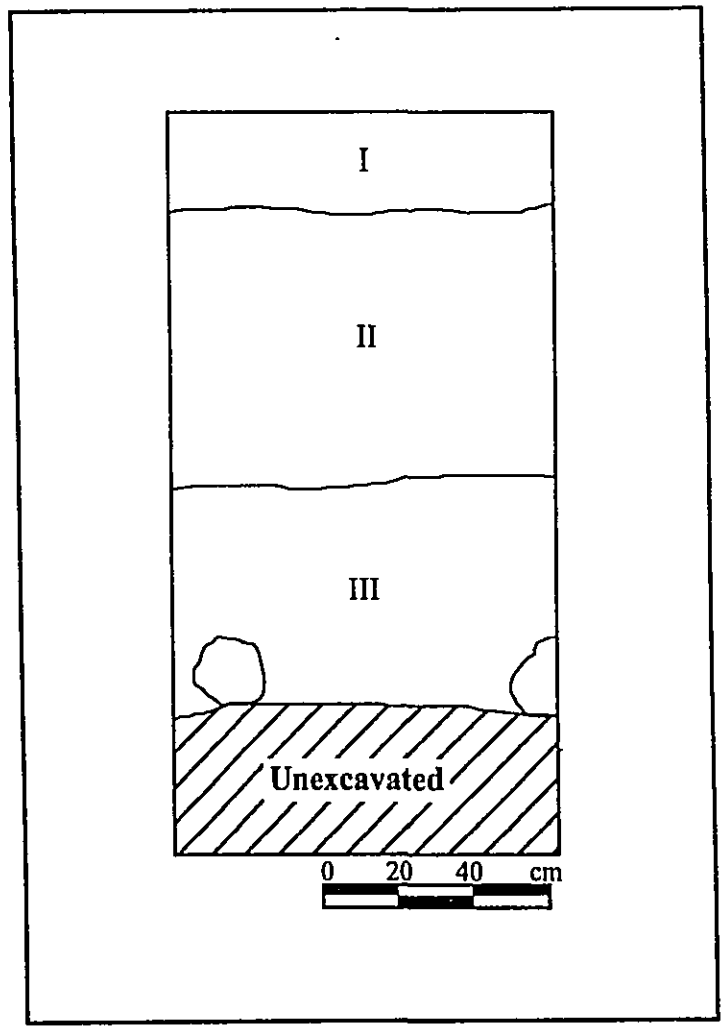

Figure 9: Stratigraphic Profile of ST-1, East Wall.

surmised that the water table occurred just below the base of excavation. Soils in the trench did not reveal archaeological signatures reflecting a former occupation surface nor one reflective of agricultural practices. Regardless, the original sandy sediments did not appear to be conducive to agriculture.

Stratigraphic Trench 2 (ST-2):

ST-2 measured 11.50 m long, 1.05 m wide, and was excavated to a maximum depth of 0.95 mbs. The trench was oriented on a northwest-southeast axis at 143°/323° and was placed in the southwestern portion of the parcel perpendicular and to the south of ST-1. The trench was located in a low-level, marshy area. Three discrete stratigraphic layers were identified in the trench (Figures 10 and 11). Layer I (0-0.25 mbs) consisted of a thick humic horizon. Layer II (0.25-0.70 mbs) was composed of olive yellow (2.5Y6/6) sand. The sand was fine-grained and sterile. Slight mottling occurred in this sandy matrix from root leaching. Layer III (0.70-0.95 mbs) consisted of white (2.5Y 8/1) sand. This sand was very course-grained, immature, and defined the boundary of the water table. The coralline sand had not evolved into fine-grained sediment; shell, coral, and pebbles were clearly evident in the matrix. This layer was also sterile.

Stratigraphic Trench 3 (ST-3):

ST-3 measured 6.20 m long, 1.10 m wide, and was excavated to a maximum 1.43 mbs. The trench was roughly oriented on a east-west axis at 110°/290° and was excavated just to the southeast of ST-2. The trench bisected both the western marshy area and a sandy mound (push pile). Similar in number and texture to ST-2, three stratigraphic layers were identified in the trench (see Figure 10). Layer I (0-0.10 mbs) was the area's humic layer. Layer II (0.10-1.15 mbs) was composed of olive yellow (2.5Y 6/6) fine-grained sand. Layer III (1.15-1.43 mbs) consisted of white (2.5Y 8/1) course-grained, immature sand. As noted by water seepage, the water table occurred just below Layer III. All three strata were sterile.

Stratigraphic Trench 4 (ST-4):

ST-4 measured 11.50 m long, 1.15 m wide, and was excavated to a maximum 1.23 mbs. This trench was oriented on a northeast-southwest axis at 35°/215° in the central portion of the project area. As seen in Figure 5 above, between ST-3 and ST-4 is a large bulldozed mound composed of sand and stacked *kiawe*. ST-4 was utilized to excavated into a portion of the mound and to test the presence/absence of cultural material to the east of the marshy area. The topography of the central portion of the subject parcel was fairly flat due to grading.

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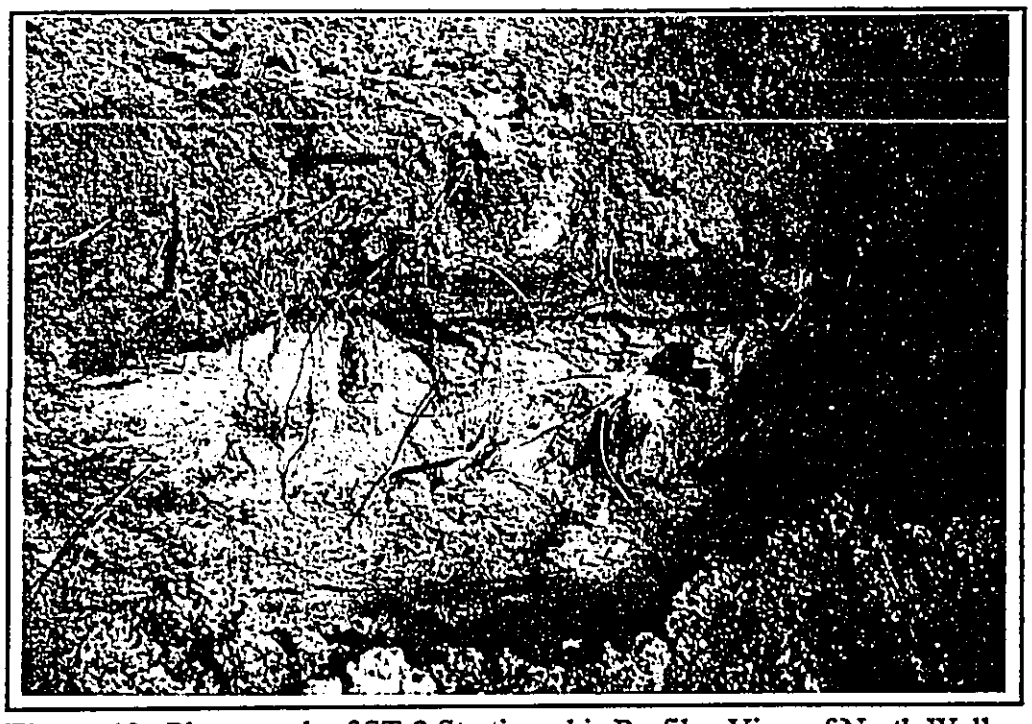

Figure 10: Photograph of ST-2 Stratigraphic Profile. View of North Wall.

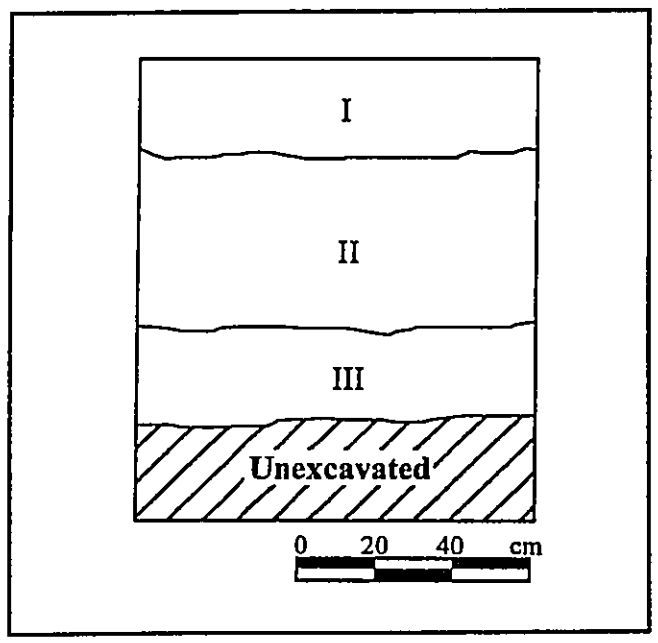

Figure 11: Stratigraphic Profile of ST-2, North Wall.

Three stratigraphic layers similar to those identified in ST-2 and ST-3 were identified in the trench (see Figure 10 for representative profile). Layer I (0-0.10 mbs) was the area's humic layer. Layer II (0.10-1.15 mbs) was composed of olive yellow (2.5Y 6/6) fine-grained sand. Layer III (1.15-1.43 mbs) consisted of white (2.5Y 8/1) course-grained, immature sand. As noted by water seepage, the water table occurred just below Layer III. All three strata were uniform throughout the trench and were sterile.

Stratigraphic Trench 5 (ST-5):

ST-5 measured 3.75 m long, 1.22 m wide, and was excavated to a maximum 1.45 mbs. The trench was oriented on a northwest-southeast axis at 112°/292° and was excavated to the east of ST-4 near the eastern edge of the project area. The trench was placed in a flat area beneath a *kiawe* grove. Four stratigraphic layers were identified in ST-5, most of the layers representing the *in situ* decomposition of underlying igneous rock (Figures 12 and 13). Layer I (0-0.08 mbs) consisted of a relatively thin humic layer. Layer II (0.08-0.48 mbs) was composed of pale brown (10YR 6/3) sandy silt. This stratum contained a high concentration of roots and was formed through a combination of terrigenous soil (silt) mixing with sand. In this portion of the parcel, terrigenous soil types were more common than the central and western portions of the parcel where sand is ubiquitous. Layer III (0.48-0.97 mbs) consisted of red (2.5YR 4/8) clay. This *in situ*, natural layer was derived from the decomposition of underlying igneous rock. Layer IV (0.97-1.45 mbs) was composed of dark reddish brown (2.5YR 2.5/4) clay. This layer retained a darker coloration than Layer III due to the presence of water near its base; the water table lay just below 1.45 mbs. The lower two clay layers were devoid of empirical evidence suggesting past agricultural use (oxidation/reduction layering, charcoal, truncated deposits, and such). The difference between Layer III and Layer IV was a matter of disparate water movement through the respective layers. All four strata were sterile.

Stratigraphic Trench 6 (ST-6):

ST-6 measured 4.50 m long, 1.27 m wide, and was excavated to a maximum 1.35 mbs. The trench was oriented on a north-south axis at 2°/182° and was excavated perpendicular, and just to the west, of ST-5. Although excavated very close to ST-5, there was a slight differences in the stratigraphic profile of ST-6. Four layers were discerned in ST-6 (Figure 14). Layer I (0-0.10 mbs) consisted of the area's humic layer. Layer II (0.10-0.70 mbs) was composed of olive yellow (2.5Y 6/6) fine-grained, silty sand. Layer III (0.70-1.28 mbs) consisted of red (2.5YR 4/8) clay. Layer IV (1.28-1.35) was composed of gray (10YR 6/1) silty sand. The "gray" coloration

Figure 12: Photograph of ST-5 Stratigraphic Profile. View of West Wall.

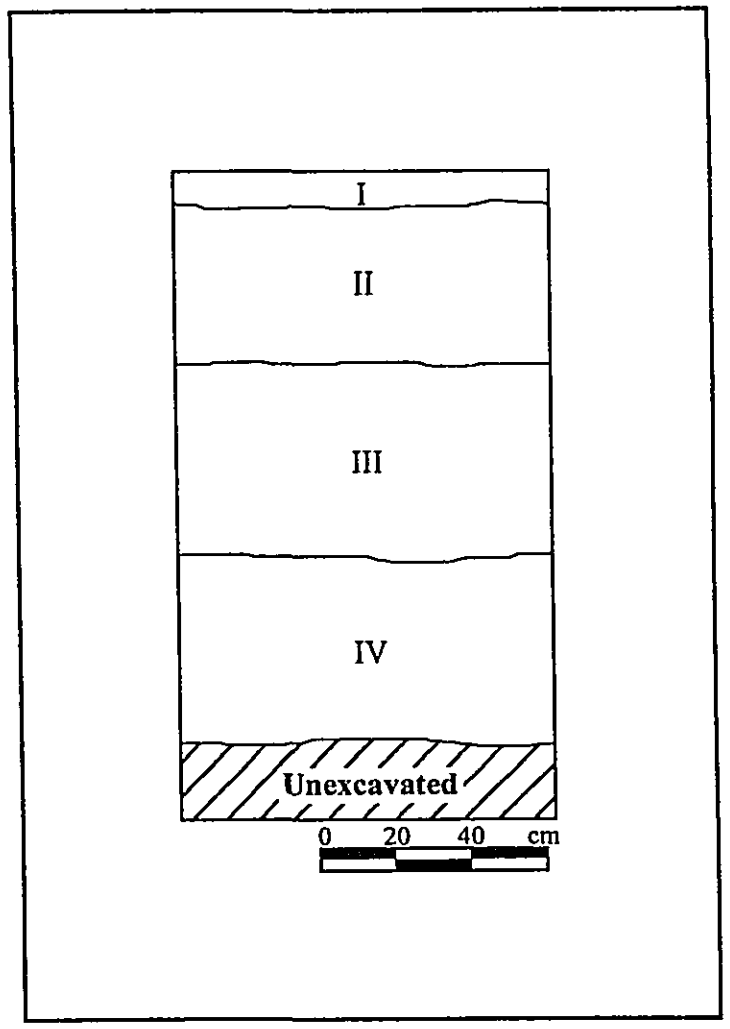

Figure 13: Stratigraphic Profile of ST-5, East Wall.

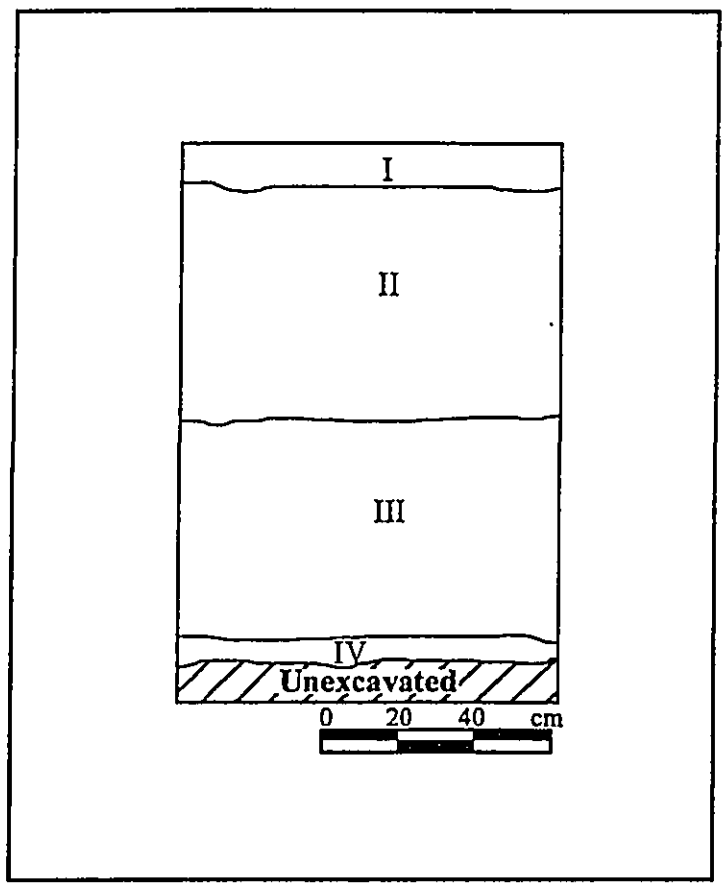

Figure 14: Stratigraphic Profile of ST-6, West Wall.

stems from leaching, not charcoal flecking. The water table was measured at 1.30 mbs in this location and may have been one element mixing the sand and silt in a low energy deposition environment. All four strata were negative for cultural materials, deposits, and archaeological signatures indicative of habitation and/or past agricultural use of the area.

Stratigraphic Trench 7 (ST-7):

ST-7 measured 5.30 m long, 1.25 m wide, and was excavated to a maximum 1.55 mbs. The trench was oriented on a northwest-southeast axis at 130°/310° and was placed in the north-northeastern portion of the project area. The trench bisected a sandy area near the northern boundary of the parcel (Figure 15). Three stratigraphic layers were identified in the trench (Figure 16). Layer I (0-0.12 mbs) consisted of the humic layer. Layer II (0.12-0.99 mbs) was composed of olive yellow (2.5Y 6/6) fine-grained sand ubiquitous throughout the project area. A common concentration of roots intruded into this layer. Layer III (0.99-1.55 mbs) consisted of gray (10YR 6/1) fine-grained sand. Again, this gray coloration stems from root leaching and is not a product of charcoal flecking or staining. While Layer II and Layer III had similar texture,

Figure 15: Photograph of ST-7 Location. View to West.

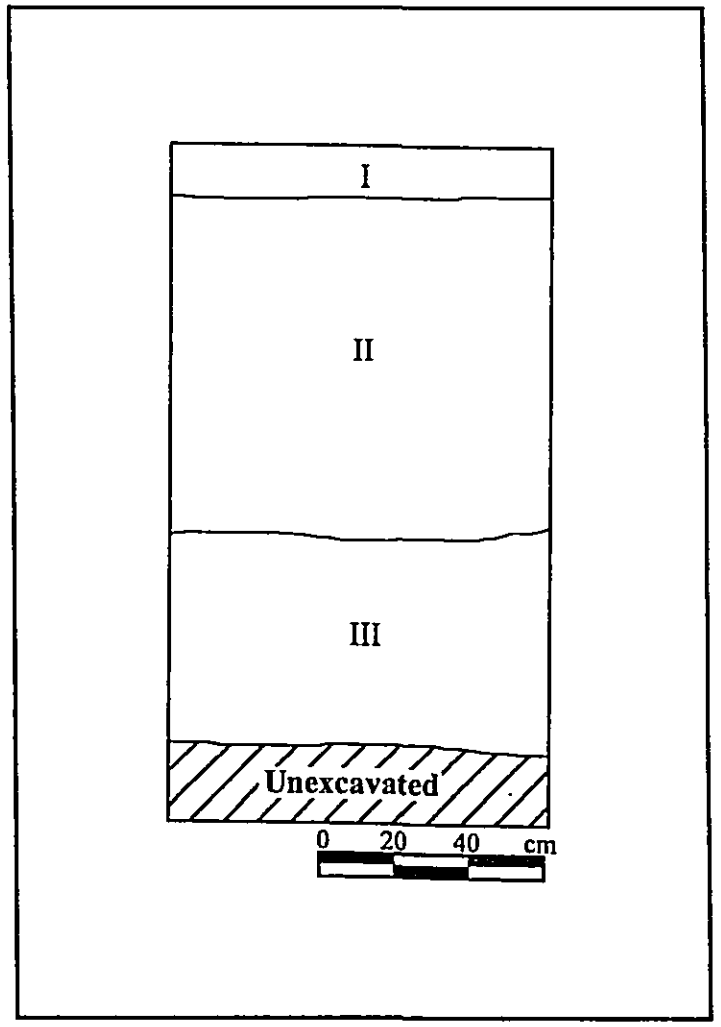

Figure 16: Stratigraphic Profile of ST-7, West Wall.

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there was a slight coloration difference. This may be attributed to the leaching of roots from Layers I and II and the proximity of the bottom of Layer III to the water table. All three strata were sterile.

Stratigraphic Trench 8 (ST-8):

ST-8 measured 3.50 m long, 1.30 m wide, and was excavated to a maximum 1.31 mbs. The trench roughly oriented on a northeast-southwest axis at 75°/255° and was excavated to the west of ST-7 in the north-central portion of the subject parcel. The trench was excavated in a sandy, flat area beneath *kiawe* trees. Five discrete stratigraphic layers were identified in the trench (Figures 17 and 18). The overall sequence contained stratified sand and clay layering. Layer I (0-0.17 mbs) consisted of a thick humic layer. Layer II (0.17-0.51 mbs) was composed of olive yellow (2.5Y 6/6) fine-grained sand. Layer III (0.51-0.65 mbs) consisted of dark gray (10YR 4/1) clay. This layer was formed near the water table line (the implication of these characteristics has been mentioned further above). Layer IV (0.65-1.20 mbs) consisted of light brown (7.5YR 6/4) course-grained sand. The barely perceptible Layer V (1.20-1.30) was composed of red (2.5YR 4/8) clay. The stratified soil deposits identified in ST-8 show much variation in texture, grain size, and coloration, all presumably being a function of soil derivation, sorting, and water fluctuations. The water table in this near-shore environment does fluctuate significantly with the tides. Nonetheless, all five strata were sterile.

Stratigraphic Trench 9 (ST-9):

ST-9 measured 3.40 m long, 1.10 m wide, and was excavated to a maximum 1.40 mbs. The trench was oriented on a north-south axis at 5°/185° and was placed to the immediate west of ST-8. The trench was located to bisect a portion of the marshy area to the west and surface sands visible along the eastern flank. Four stratigraphic layers were identified in the trench (Figure 19). Layer I (0-0.12 mbs) consisted of a thick humic layer. Layer II (0.12-0.50 mbs) was composed of the ubiquitous olive yellow (2.5Y 6/6) fine-grained sand. Layer III (0.50-1.00 mbs) consisted light brown (7.5YR 6/4) course-grained sand. Layer IV (1.00-1.40 mbs) was composed of red (2.5YR 4/8) clay. In this stratified sequence, beach sand has overlain clay soils derived from the *in situ* decomposition of underlying igneous rocks. In one case, this particular area was thus presumably subject to tidal inundations post-formation of the underlying clays. Further, considering that the water table begins below in Layer V (not analyzed), decomposition of underlying bedrock has likely continued for some time. These combination of factors have created stratified profiles in the project area, particularly along the fringes of the low-lying areas. As was the case for each trench before it, all the strata in ST-9 were sterile.

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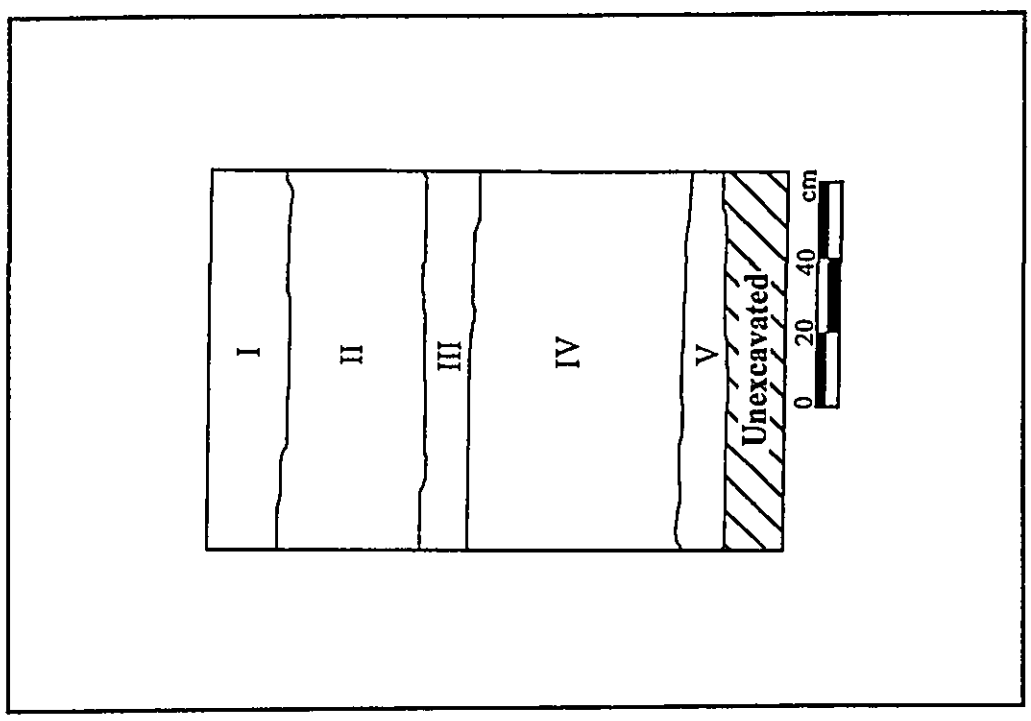

Figure 18: Stratigraphic Profile of ST-8, East Wall.

Figure 17: Photograph of ST-8 Stratigraphic Profile. View of East Wall.

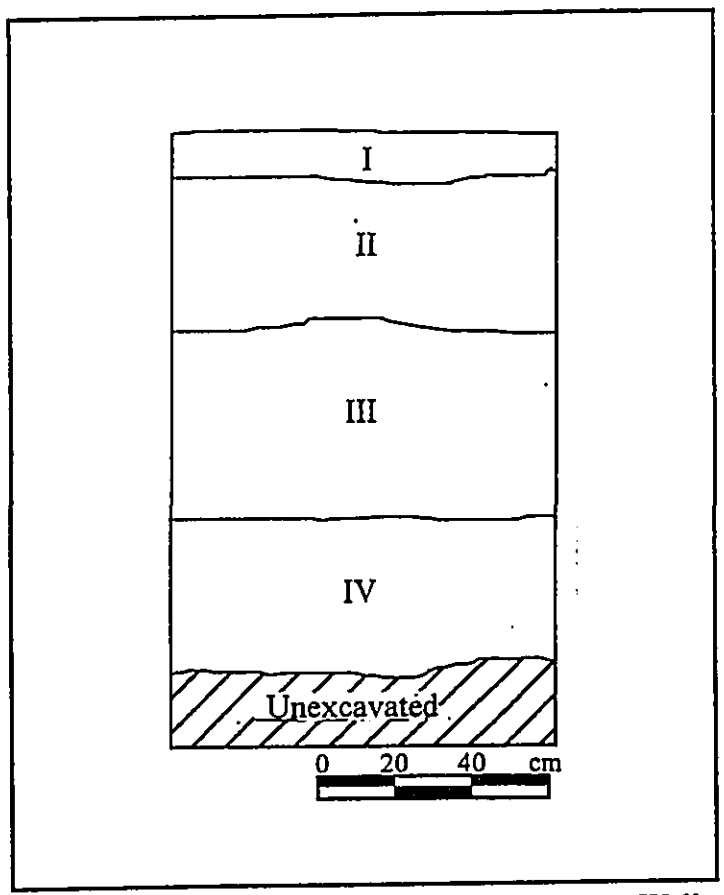

Figure 19: Stratigraphic Profile of ST-9, West Wall.

The overall results of this archaeological Inventory Survey were negative in terms of significant archaeological resources. However, this does not mean that these lands were never utilized during prehistoric or historic times. As discussed below the location of the area, combined with soils, produced a location not selected as an optimal habitation or subsistence producing zone of Leeward Maui.

DISCUSSION

Archaeological Inventory Survey investigations were conducted on a c. 2.5 acre parcel of undeveloped land located near the coastline in Waiakoa Ahupua`a, Kula District, Maui Island, Hawai`i (TMK:(2)3-9-41:27). Inventory Survey included archival research, systematic pedestrian survey of the entire parcel, and representative subsurface testing. In terms of these three methods, use of the project area through time remains relatively enigmatic because there was no archaeological evidence (artifacts, deposits, soils, botanical remains) to directly support traditional or historic land use through time. To make matters more complicated, no LCA's were awarded for the subject parcel nor adjacent parcels.

Survey and testing on directly adjacent parcels also yielded only negative results (see Sinoto (1990). Explanations as to why this near-coastal area did not relinquish archaeological structures, artifacts, or deposits is discussed below in terms of the natural and cultural landscape, both always being intrinsically linked.

Prior to the recent formation of sand dune deposits so common along the western flank of the project area, the surface of that particular area would likely have been open coral shelving. If the general area was occupied during early traditional times, then activity loci (read: habitation areas) would have occurred on stable sand or clay deposits further to east; the sites would have been distributed in slightly more *mauka* locations as the coral shelving would have been rather inhospitable. More inland traditional activity areas at the coastal-barren zone interface have been confirmed for this area (see Colin *et al.* 2000).

In the western, central, and northern portions of the project area, it may be argued that there was no stable surface to establish settlement or activity areas in the present project area prior to sand dune progradation. While the original dates of prograding sand dune formation are not known, based on the fine texture of sand and virtual absence of clastics in the matrix, the dune formation appears fairly recent in geological time. In other words, the dune's were likely formed during or slightly after traditional occupation of the area, with dune formation and movement occurring over a several hundred year period. The ubiquitous presence of fine-grained (sorted) sand identified in most trenches also shows major tidal influences near the coastline. The above mentioned flanks of the project area are coastal in nature. However, there are terrestrial elements as well.

Underlying and interspersed with sandy strata were clay and silty clay layers (ST-5, ST-6, and ST-9 for example). The clays and silty clays (with the exception of the clay fill layer identified in ST-1) are terrestrial in origin, with some having been imported in recent times and some having been deposited during natural events. The clay-silty clay soils identified in eastern and northern trenches are primarily derived both from the *in situ* decomposition of underlying igneous rock and from alluviation. The eastern portion of the subject property contains ancient alluvium, interspersed with marine sediment strata. Alternating layers of marine and terrestrial sediments (e.g., ST-8) are typically characteristics of a dynamic coastal plain.

It is estimated that one reason the research produced negative results was that the project area occurred in a former marsh area (ancient alluvium commingled at the interface of old sand belts) subject to tidal inundations. The older land surface was dynamic and represented a commingling of mobile sediments (sands) with less-mobile, inundated marsh soils (clays). This coastal environmental interface would likely not have been readily conducive to agriculture or even permanent habitation endeavors of any duration. The brackish water, captured in low-lying areas from rainfall, tidal inundations, and run-off from more upland locations could have severely lessened the carrying capacity of the localized area.

Cultural adaptations often occur at the interface of dynamic environment. The strategy is typically most beneficial as a variety of resources maybe exploited in a smaller, localized arena. Yet, the present project area contained a commingling of older alluvial soil and sand deposition (and brackish water). In such a case as this, the interface of the two environments may not have been beneficial but more a hindrance to settlement, particularly when more profitable ecological zones existed nearby (e.g., Makena, upland Kula). It may be that the natural environment more acutely determined parameters for human settlement and adaptation than the cultural environment through time.

Overall then, in the project area, both natural and cultural (modern) formation processes have commingled to produce an extremely naturally dynamic environment. Natural sand movements, alluviation, decomposition of the area's C-horizon, and modern disturbances (a cultural formation process) have all apparently combined to create an environment not readily amenable to the recovery of archaeological remains. In the end, the lack of archaeological materials on the parcel may be attributed to a multitude of reasons: archaeological sampling, the ecological and geomorphic nature of the area, site preservation, artifact/deposit preservation, modern land disturbances, and finally, limited use of the area during traditional and historic times. The idiomatic case that "the grass is always greener on the other side" may have held true for potential occupants of this parcel during traditional and historic times through the present (Figure 20).

SIGNIFICANCE ASSESSMENT AND RECOMMENDATIONS

As the results of this Archaeological Monitoring program were entirely negative, the project area has not been evaluated under significance criterion of the State Historic Preservation

Figure 20: "We Have No (R)egrets."

Division. Based upon the results of this Inventory Survey and archaeological work on adjacent parcels that have also produced negative results, it appears as though additional research on the parcel would not contribute a significant volume of data to the interpretation of the area or region or to Hawaiian prehistory/history. Further, Archaeological Monitoring during construction does not appear warranted for the parcel. Based upon the lack of archaeological deposits on the subject parcel, no additional archaeological work is deemed necessary.

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Letter dated March 4, 2002, from the State Historic Preservation Division

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

-290

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

GILBERT S. COLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
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COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

March 4, 2002

Robert Spear. Ph.D.
Scientific Consultant Services, Inc.
711 Kapiolani Boulevard, Suite 1475
Honolulu, Hawaii 96813

LOG NO: 29301
DOC NO: 0202MK06

Dear Dr. Spear,

SUBJECT: **Historic Preservation Review - 6E-42 - Archaeological Inventory Survey Proposed Kai Makani Condominium Project**
Waiakoa Ahupua'a, Wailuku District, Maui
TMK (2) 3-9-41:27

Thank you for the opportunity to review this report which our staff received on February 11, 2002 (Pestana and Dega 2002, *Archaeological Inventory Survey for the Proposed Kai Makani Condominium Project, Waiakoa Ahupua'a, Kula District, Maui Island, Hawai'i, TMK (2) 3-9-041:027)*...SCS ms.

We find the background section reviewing the ahupua'a settlement pattern and likely project area site patterns acceptable. It provides a well-written summary of the precontact Kula District settlement pattern. The historical information provided summarizes the history of the post-contact period land uses.

The survey has adequately covered the project area documenting no historic properties. Subsurface testing was conducted on the parcel to determine the presence or absence of subsurface archaeological features. During the testing no historic properties were identified. Other projects in the general vicinity have produced similar negative results.

We find this report to be acceptable. The historic preservation review process is concluded. Development of the project areas will have "no effect" on significant historic sites. Should you have any questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Aloha,

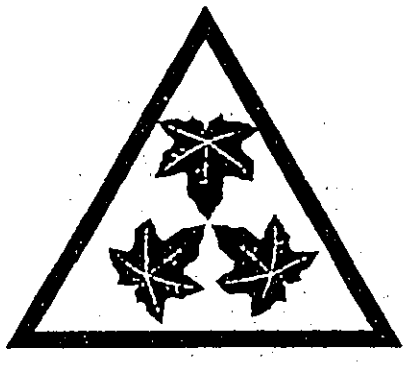
Don Hibbard, Administrator
State Historic Preservation Division

MK:jen

c: John Min, Director, Department of Planning, County of Maui, FAX 270-7634
Bert Ratte, County of Maui, Land Use and Codes, FAX 270-7972
Glen Ueno, County of Maui, Land Use and Codes, FAX 270-7972

Appendix – C
Cultural Impact Assessment Report

Kapiioho Lyons Naone Cultural Consulting



Kai Makani Project
Cultural Impact Assessment

P.O. Box 814, Wailuku (Maui), HI 96793 Phone: 808-871-7555; Fax: 808-893-0521

Table of Contents

Kapiioho Lyons Naone Cultural Consulting

Kai Makani Estates
Cultural Impact Assessment

Introduction

The author of this Cultural Impact Assessment Report is Kapiioho Lyons Naone III, a native Hawaiian who was born and raised in the Kipahulu and Hana areas of Maui. Kapiioho has been teaching cultural traditions and language in Maui and internationally for several years and currently holds a position as one of the third highest chiefs of the Royal Order of Kamehameha. This author is familiar with cultural practices and features throughout the Hawaiian Islands. In addition, he has professional and cultural access to other people of similar stature who have specific knowledge of the general Kai Makani area.

The methods used to conduct this assessment included: a personal survey which included walking and feeling the property for the proposed Kai Makani project; interviewing members of three different Ohana who are long-time residents of the greater Kai Makani area. Kapiioho consulted those Ohana members about cultural features and practices as well as how the land has been used for the past several years. In addition, Kahu Naone was a part-time resident of Kihei in the 1950's and a full time resident during the 1970's; thus, he has personal knowledge of the area and its use because of his familiarity with the area.

Location of Proposed Kai Makani Estates

The property is located two lots south of Ohukai Road; is bounded on the east by Kenolio Road and fronted by S. Kihei Road. It is on the mauka side of South Kihei Road.

This property is further identified as TMK: 3-9-041:016; TMK: 3-9-041:003 and TMK: 3-9-041-002.

Summary of Interview Results

From a cultural practices and beliefs perspective, the proposed Kai Makani project bears no apparent signs of cultural practices or gatherings taking place on the proposed project property either currently or for more than 30 previous years. The land appears to have been used for construction storage and if there ever were any features on this property, it appears they would have been previously destroyed, covered up by the moving of ground material, or covered with trash.

No architectural features were identified in Kapiioho's walk of the land and none were identified or recollected by the members of the Kanana, Okina, or Akaka Ohanas.

Members of the three Ohana stated that the property had been owned by either the Baldwin family or the Rice family for as long as any of them could remember and further stated that it had long been used for storage and trash dumping in their collective memories. None of the members of any of the Ohana wished to be specifically identified and felt no such identification was necessary as the property has long been used for storage and dumping.

Methods, Interviews & Related Biographical Information

Mr. Naone went to the land for the proposed Kai Makani project and walked it to feel and observe the land and conducted a cultural survey of the entire area. He took a detailed walk through the land and identified no significant sites. His tour of the property was consistent with the testimony of the Kanana, Okina and Akaka Ohana mentioned above. The property has been used for what appears to be construction storage and dumping and bears no signs of cultural sites or practices at this time.

Constraints

There were no constraints. Due to Mr. Naone's own knowledge of the area, he believes that those parties who were contacted have given definitive testimony about area cultural beliefs and practices for the property.

Cultural Resources, Practices and Beliefs

Based on Mr. Naone's time spent on the Kai Makani project site; based on the collective recollections of those Ohana interviewed; and based on the findings of the

Bishop Museum Public Archaeology Applied Research Group, Mr. Naone feels he can state that for the past 30 years at least, there have been no significant cultural practices or beliefs associated with this particular property. He also believes there are no cultural resources that will be affected by the proposed project.

Confidential Information

No documentation is being presented separately from this report. All information was shared freely and willingly.

Conflicts

There are no known conflicts or unresolved issues regarding this assessment.

Analysis/Recommendations

1. Archaeological monitoring is recommended during all ground-disturbing activities and a cultural specialist should be called to assist the developer should any skeletal remains or any artifacts be found.

2. The cultural specialist and/or the developer should contact the State Historic Preservation Division of the Department of Land and Natural Resources for the State of Hawaii and the Maui Burial Council immediately if any remains or artifacts are found.

3. If remains or artifacts are found, such skeletal remains and/or any artifacts should be temporarily stored and then reinterred at one ceremony near the time of project completion.

4. A place for reinternment should be designated although it appears that such a need is highly unlikely.

5. A cultural specialist should perform an appropriate Hawaiian cultural blessing ceremony of the area once the building is done.

Bibliography

Maps provided by Chris Hart & Partners as follows: Kai Makani project TMK Map Key; Kai Makani Regional Location map; and Kai Makani Aerial Photograph.

Post-field Summary, Kihei Kai Makani Testing TMK 3-9-41: 2, 3, 26 by Applied Research Group of Bishop Museum dated October 8, 1990.

Appendix – D
Botanical Assessment Report

BOTANICAL RESOURCES ASSESSMENT STUDY
KAI MAKANI PROJECT
KIHEI, MAUI

by

Winona P. Char

CHAR & ASSOCIATES
Botanical Consultants
Honolulu, Hawai'i

Prepared for: **Chris Hart & Partners, Inc.**

November 2001

BOTANICAL RESOURCES ASSESSMENT STUDY
KAI MAKANI PROJECT
KIHEI, MAUI

INTRODUCTION

The Kai Makani project site consists of approximately 10.44 acres located in Kihei, Maui; TMK (2) 3-9-041: 2, 3, 26, and 27. The project site is bounded by the Nona Lani Cottages and residential lots to the south, Kenolio Road to the east, residential lots to the north, and South Kihei Road to the west. The vegetation on the property consists of a somewhat dense kiawe forest. Almost all of the property has been disturbed at some time in the past. Part of Lot 27 is currently used to store vehicles and equipment. A condominium development is proposed for the site.

Field studies to assess the botanical resources on the ±10.44-acre Kai Makani project site were conducted on 15 November 2001 by a team of two botanists. The primary objectives of the survey were to:

1) provide a general description of the vegetation on the site;
2) search for threatened and endangered species as well as species of concern; and
3) identify areas of potential environmental problems or concerns and propose appropriate mitigation measures.

SURVEY METHODS

Prior to undertaking the field studies, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area. Recent colored aerial photographs and topographic maps were examined to

determine vegetation cover patterns, terrain characteristics, access, boundaries, and reference points. The site is easily accessed from South Kihei Road and Kenolio Road.

A walk-through survey method was used. Notes were made on plant associations and distribution, disturbances, drainage, substrate types, topography, exposure, etc. Plant identifications were made in the field; plants which could not be positively identified were collected for later determination in the herbarium, and for comparison with the recent taxonomic literature.

DESCRIPTION OF THE VEGETATION

The plant names used in the discussion follow Wagner et al. (1990), and Wagner and Herbst (1999). The few recent name changes are those reported in the Hawaii Biological Survey series (Evenhuis and Eldredge, editors, 1999-2000).

Kiawe trees (Prosopis pallida), 25 to 30 ft. tall, form a closed canopy forest throughout most of the ±10.44-acre site. Ground cover is patchy and sparse under the heavily shaded areas. Clumps of buffelgrass (Cenchrus ciliaris), 1 to 2 ft. tall, are occasional, but barren, sandy substrate predominates. Low lying areas support shrubs of Indian pluchea (Pluchea indica) and Bermuda grass (Cynodon dactylon).

Along South Kihei Road there are remnant landscape plantings, probably from a former house site. Several coconut palms (Cocos nucifera) and a very large Chinese banyan tree (Ficus microcarpa) border the road. Also found here are shrubs of silver buttonwood (Coronopus erectus) and white and pink flowered oleander (Nerium oleander), and milo trees (Thespesia populnea), 12 ft. tall.

A weedy patchwork of plants is associated with a bulldozed road, "sand road" on the topographic maps, and an abandoned quonset hut. These more open, disturbed areas support scattered shrubs of koa haole (Leucaena leucocephala), Indian pluchea, 'uhaloa (Waltheria indica), virgate mimosa (Desmanthus pernambucanus), sourbush (Pluchea carolinensis), Australian saltbush (Atriplex semibaccata), and swollen fingergrass (Chloris barbata). The portion of Lot 27 currently used to store vehicles and equipment is largely barren with only a few scattered weedy patches.

The ±10.44-acre property is surrounded by developed lands and is easily accessed from South Kihei Road. Unfortunately, it is being used as an illegal dump site. Piles of scrap lumber, an old couch, washing machines, barrels, concrete slabs, piles of household trash and yard trimmings, etc. litter the site. Vagrants have set up camp on the site; a total of six tents were found.

DISCUSSION AND RECOMMENDATIONS

The vegetation on the site is typical of disturbed, lowland, dry, coastal areas in the Hawaiian Islands. It consists of kiawe trees with patches of buffelgrass and other weedy introduced species. Introduced or alien species are all those plants which were brought to the islands by humans, intentionally or accidentally, after Western contact, that is, Cook's arrival in the Hawaiian Islands in 1778. Only one native species, the 'uhaloa (Waltheria indica), was observed on the site. The 'uhaloa is an indigenous species, that is, it is native to the Hawaiian Islands and elsewhere. No endemic species, i.e., native only to the Hawaiian Islands, were found.

None of the plants found on the site is a threatened and endangered species or a species of concern (U.S. Fish and Wildlife Service 1999; Wagner et al. 1999). The vegetation is dominated by

introduced plants. No wetlands occur on the site; the well-drained substrate consists of sand or sandy loam.

Almost all of the site appears to have been disturbed at some time. There are piles of trash and people illegally camping on the site without sanitation facilities, not a healthy situation.

Given these findings, the proposed use of the site for a condominium development is not expected to have a significant negative impact on the botanical resources. There are no botanical reasons to impose any restrictions, conditions, or impediments to the proposed development.

LITERATURE CITED

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U.S. Fish and Wildlife Services. 1999. U.S. Fish and Wildlife Service species list, plants. March 23, 1999. Pacific Islands Office, Honolulu, HI.

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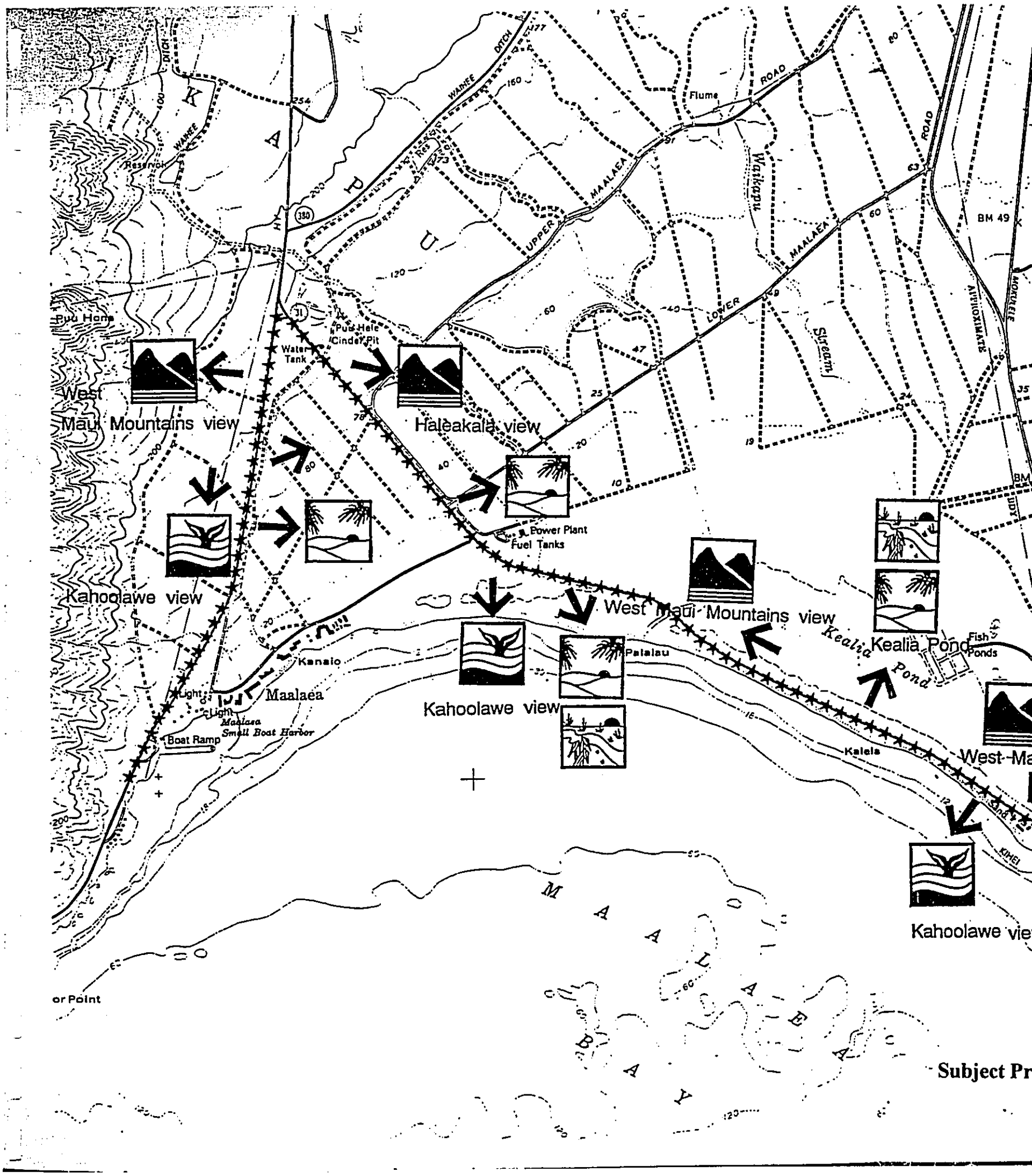
Wagner, W.L., D.R. Herbst, and S.H. Sohmer. 1990. Manual of the flowering plants of Hawai'i. 2 vols. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI. Bishop Museum Special Publication 83.

Wagner, W.L. and D.R. Herbst. 1999. Supplement to the Manual of the flowering plants of Hawai'i, pp. 1855-1918. In: Wagner, W.L., D.R. Herbst, and S.H. Sohmer, Manual of the flowering plants of Hawai'i. Revised edition. 2 vols. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.

Appendix – E
Maui Scenic Coastal Resources Study, Kihei Map

RECEIVED AS FOLLOWS



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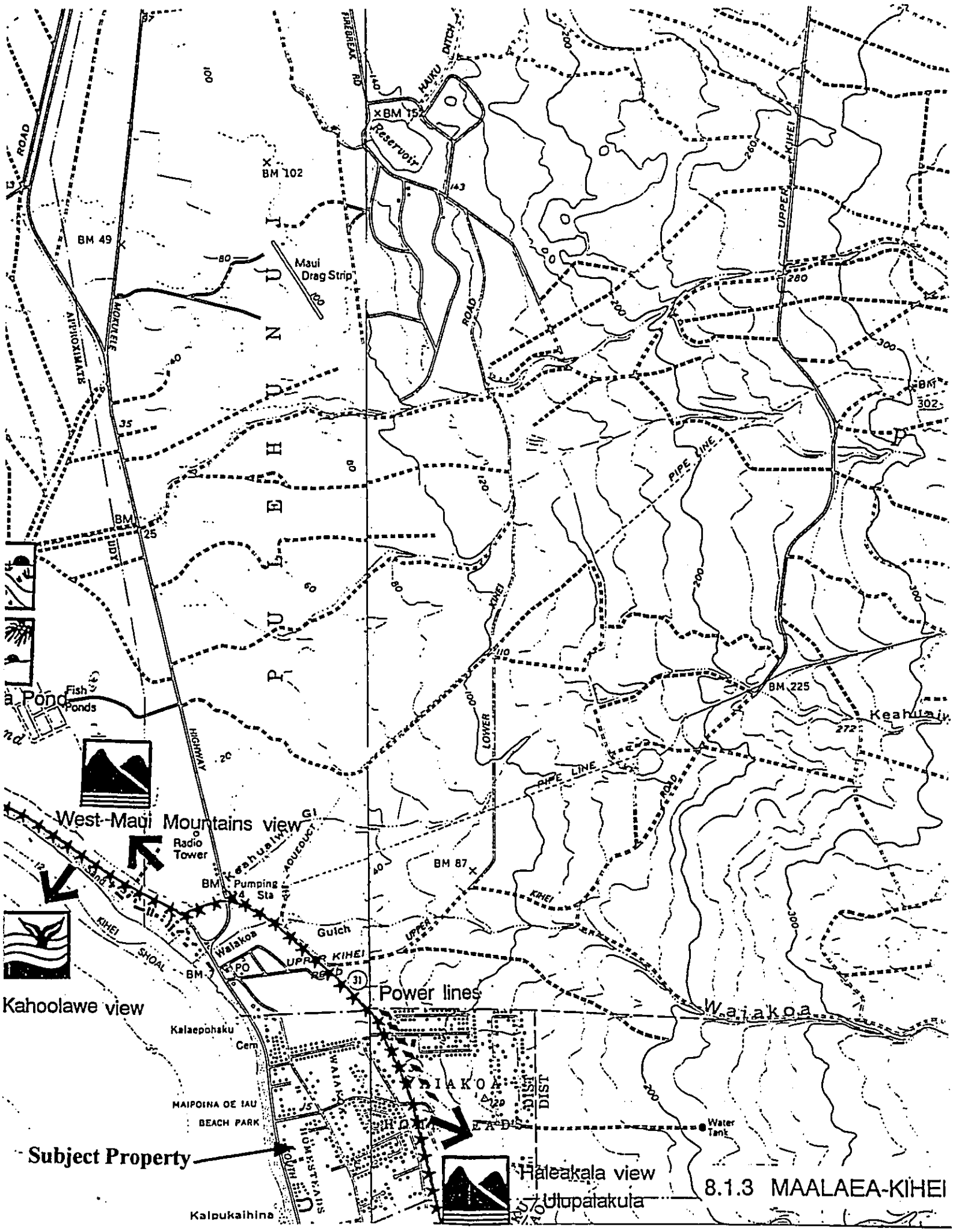

Appendix - F
Preliminary Engineering and Drainage Report

PRELIMINARY ENGINEERING REPORT

FOR

KAI MAKANI CONDOMINIUM

Kihei, Maui, Hawaii

T.M.K.: (2) 3-9-041: 002, 003, 026 & 027

Prepared For:

Aheahe Makani LLC
c/o 1955 Main Street, Suite 200
Wailuku, Maui, Hawaii 96793

Prepared By:

OTOMO
ENGINEERING, INC.
CONSULTING CIVIL ENGINEERS
305 SOUTH HIGH STREET, SUITE 102
WAILUKU, MAUI, HAWAII 96793
PHONE: (808) 242-0032
FAX: (808) 242-5779

June, 2002

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PRELIMINARY ENGINEERING REPORT
FOR
KAI MAKANI CONDOMINIUM

I. 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 any improvements which may be required for the proposed project.

II. SITE LOCATION AND PROJECT DESCRIPTION

The subject parcels are identified as T.M.K.: (2) 3-9-041: 002, 003, 026 and 027. Parcel 002 contains an area of 2.79 acres, parcel 003 contains an area of 3.00 acres, parcel 026 contains an area of 1.538 acres, and parcel 027 contains an area of 2.52 acres. The project site encompasses a total area of 9.848 acres. The project site is bordered by residential developments to the north and south, Kenolio Road and residential development to the east, and South Kihei Road to the west.

The development plan includes 19 buildings which will contain four, six, eight, or ten apartment units in each building, for a total of 112 units. Amenities include a community pool and recreation building, tennis court, and private and public walking paths. Associated improvements include grading, paved parking areas, utility connections, and landscaping. Offsite improvements include road widening, parking and sidewalk improvements, and landscaping along South Kihei Road.

III. ROADWAYS

The major roadways into the Kihei-Makena area are Mokulele Highway and North Kihei Road. Within the Kihei area, the major roadways linking Kihei and Makena are Piilani Highway and South Kihei Road.

Access to the project site will be provided by two driveways from South Kihei Road and a driveway from Kenolio Road. Neither South Kihei Road or Kenolio

Road have concrete curbs, gutters or sidewalks fronting the project site. One of the project's interior roadways will connect the northern driveway on South Kihei Road to the driveway on Kenolio Road.

IV. DRAINAGE

There are no existing drainage systems in the immediate vicinity of the project site. Presently, onsite runoff sheet flows across the project site in an east to west direction. As the runoff sheet flows toward South Kihei Road, it ponds in the low lying areas within the project site, mauka of South Kihei Road.

There is an existing 6' x 4' concrete box culvert which crosses South Kihei Road and outlets onto the shoreline. Said box culvert is located approximately 500 feet south of the project site, at the Maui Isana Development. According to the Drainage Master Plan for Kihei, Maui, Hawaii, dated August 1977, prepared by Norman Saito Engineering Consultants, Inc., the capacity of the 6' x 4' concrete box culvert is 200 cfs.

According to the Drainage and Erosion Control Report for Waiakoa Villages (now known as Southpointe), revised November 1990, prepared by Norman Saito Engineering Consultants, Inc., the existing flow for a 50-year recurrence interval is 187.3 cfs at the outlet of the 6' x 4' concrete box culvert.

It is estimated that the existing 50-year storm runoff from the project site is 7.0 cfs. After the development of the proposed project, it is estimated that the 50-year storm runoff will be 18.7 cfs, a net increase of 11.7 cfs.

Onsite runoff will be intercepted by grated catch basins located within the paved parking and landscape areas. The runoff will be conveyed to an onsite detention basin, which will be incorporated into the landscape planting scheme. Overflow from the detention basin will be limited to the runoff amount in excess of the existing runoff volume. The excess runoff volume will be conveyed by an underground culvert system to the existing 6' x 4' concrete box culvert. This plan meets the drainage criteria set forth in Chapter 4 - Rules for the Design of Storm Drainage Facilities in the County of Maui.

The drainage design criteria shall be to minimize any alterations to the natural pattern of the existing onsite surface runoff.

V. SEWER

There is an existing 21-inch sewerline fronting the project site along South Kihei Road and a 10-inch sewerline within an existing sewerline easement along a portion of the southerly boundary of the project site. The 10-inch sewerline connects to the sewer system on South Kihei Road.

Wastewater collected from the Kihei area is transported to the Kihei Wastewater Treatment Plant.

According to the Wastewater Reclamation Division, County of Maui, as of December 31, 2001, said treatment plant has ample capacity, with a remaining allocation of approximately 2 million gallons per day. At the present time, the County is assessing sewer fees of $1,743.00 per unit for the collection system and $1,185.75 per unit for the treatment plant expansion for multi-family projects.

VI. WATER

Domestic water and fire flow for the for the proposed project will be provided by the County's water system. There are two existing waterlines on South Kihei Road which can provide service for the project. The first is a 6-inch waterline located on the mauka side of South Kihei Road and the second is a 12-inch waterline, which is located on the makai side of South Kihei Road.

As part of the building permit process, domestic water and fire flow calculations will be provided to determine the adequacy of the existing water system, in accordance with the rules of the Department of Water Supply.

VII. ELECTRIC, TELEPHONE AND CABLE TV

Existing overhead utility lines are located along the mauka side of South Kihei Road fronting the project site. The installation of electrical, telephone and cable TV systems for the project will be coordinated with Maui Electric Company, Verizon Hawaii, and Hawaiian Cablevision.

PRELIMINARY

DRAINAGE AND SOIL EROSION CONTROL REPORT

FOR

KAI MAKANI CONDOMINIUM
Kihei, Maui, Hawaii

T.M.K.: (2) 3-9-041: 002, 003, 026 & 027

Prepared For:

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June, 2002

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PRELIMINARY
DRAINAGE AND SOIL EROSION CONTROL REPORT
FOR
KAI MAKANI CONDOMINIUM
Kihei, Maui, Hawaii

I. INTRODUCTION

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

In addition, this examination and plan has been prepared to determine the potential movement of soil due to rainfall and surface runoff from the project site, and to prepare for measures which will control erosion therefrom. This is in accordance with Chapter 20.08 "Soil Erosion and Sediment Control" of the Maui County Code as part of the application for the grading and building permits.

II. SITE LOCATION AND PROJECT DESCRIPTION

The subject parcel is identified as T.M.K.: (2) 3-9-041: 002, 003, 026 and 027. Parcel 002 contains an area of 2.79 acres, parcel 003 contains an area of 3.00 acres, parcel 026 contains an area of 1.538 acres, and parcel 027 contains an area of 2.52 acres. The combined project site encompasses an area of 9.848 acres. The project site is bordered by residential development to the north and south, Kenolio Road and residential development to the east, and South Kihei Road to the west.

The development plan includes 19 buildings which will contain four, six, eight or ten apartment units in each building, for a total of 112 units. Amenities include a community pool and recreation building, tennis court, and public and private walking paths. Associated improvements includes grading, paved parking areas, concrete walkways, utility connections, and landscaping. Offsite improvements include parking and sidewalk improvements and landscaping along South Kihei Road.

III. EXISTING TOPOGRAPHY AND SOIL CONDITIONS

The project site is covered with various trees, grasses and weeds. There is an existing Quonset Hut and 2 small sheds location on the mauka portion of the project site. The elevations on the site ranges from 18 feet at Kenolio Road to 4 feet at South Kihei Road, averaging about 1.6%.

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 soils within the project site are classified as Dune land (DL) and Waiakoa extremely stony silty clay loam WID2).

Dune land consists of hills and ridges of sand-sized particles drifted and piled by wind. The hills and ridges are actively shifting or are so recently fixed or stabilized that no soil horizons have been developed. Waiakoa extremely stony

silty clay loam is characterized as having medium runoff and a severe erosion hazard.

IV. EXISTING DRAINAGE CONDITIONS

There are no existing drainage systems in the immediate vicinity of the project site. Presently, onsite runoff sheet flows across the project site in an east to west direction. As the runoff sheet flows toward South Kihei Road, it ponds in the low lying areas within the project site, mauka of South Kihei Road.

There is an existing 6' x 4' concrete box culvert which crosses South Kihei Road and outlets onto the shoreline. Said box culvert is located approximately 500 feet south of the project site, at the Maui Isana Development. According to the Drainage Master Plan for Kihei, Maui, Hawaii, dated August 1977, prepared by Norman Saito Engineering Consultants, Inc., the capacity of the 6' x 4' concrete box culvert is 200 cfs.

According to the Drainage and Erosion Control Report for Waiakoa Villages (now known as Southpointe), revised November 1990, prepared by Norman Saito Engineering Consultants, Inc., the existing flow for a 50-year storm is 187.3 cfs at the outlet of the 6' x 4' concrete box culvert.

It is estimated that the existing 50-year storm runoff from the project site is 7.0 cfs.

V. FLOOD AND TSUNAMI ZONE

According to Panel Number 150003 0265 C of the Flood Insurance Rate Map, September 6, 1989, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zones V18, AO (depth 1 foot), and C. Flood Zone V18 is defined as areas of 100-year coastal flood with velocity (wave action) and flood hazard factors determined. Flood Zone AO is defined as areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined. Flood Zone C represents areas of minimal flooding.

All buildings will be will be constructed with the finish floor elevations at or above the base flood elevations outlined in the flood insurance rate maps by FEMA.

VI. PROPOSED DRAINAGE PLAN

After the development of the proposed project, it is estimated that the 50 year-1 hour storm runoff will be 19.0 cfs, a net increase of 12.0 cfs.

Onsite runoff will be intercepted by grated catch basins located within the paved parking and landscape areas. The runoff will be conveyed to onsite detention basins, which will be incorporated into the landscape planting scheme. Runoff from the mauka onsite detention basins will be interconnected to the makai onsite detention basins by overflow pipes. The connection of the detention basins, along

with the proposed landscaping will provide a means of filtering sediment and other contaminations from the runoff. Said basins will be maintained by the Association of Apartment Owners as required.

Overflow from the detention basin located at the southwest corner of the property will be limited to the runoff amount of the existing runoff volume for a 50 year-1hour storm. The overflow will be conveyed to an underground perforated pipe detention system which will further allow any sediment and other contaminants to settle before the excess runoff volume is conveyed by an underground culvert system to the existing 6' x 4' concrete box culvert.

The drainage design criteria shall be to minimize any alterations to the natural pattern of the existing onsite surface runoff.

VII. HYDROLOGIC CALCULATIONS

The hydrologic calculations are based on the "Drainage Master Plan for 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 (in/hr)

A = drainage area (Acres)

See Appendix A for Hydrologic Calculations

VIII. SOIL EROSION CONTROL PLAN

A. General:

Based on the Hawaii Environmental Simulation Laboratory (HESL) equations to estimate soil loss during the construction period, and complemented by the following erosion control plan, the soil loss during the construction period is well within the tolerable limits (See Appendix B).

Based on the County Erosion Control Standards and Guidelines, the allowable erosion rate is 5,000 tons/acre/year for a 1-year grading period and the maximum tolerable severity rating number (H) is 50,000.

B. Erosion Control Plan:

The following measures will be taken to control erosion during the site development period (estimated 1 year).

1. Minimize time of construction.

2. Retain existing ground cover until latest date to complete construction.
3. Early construction of drainage control features.
4. Use temporary area sprinklers in non-active construction areas when ground cover is removed.
5. Station water truck on site during construction period to provide for immediate sprinkling, as needed, in active construction zones (weekends and holidays included).
6. Use temporary berms and cut-off ditches, where needed, for control of erosion.
7. Graded areas shall be thoroughly watered after construction activity has ceased for the day and on weekends.
8. All cut and fill slopes shall be sodded or planted immediately after grading work has been completed.

The development project is provided with adequate facilities for drainage control and storm water disposal. This, together with ultimate ground cover, shall preclude any appreciable onsite erosion.

IX. CONCLUSION

The proposed development is expected to generate a 50-year storm runoff volume of 19.0 cfs, with an increase of 12.0 cfs. The existing drainage pattern will be maintained.

The onsite runoff will be collected by catch basins and conveyed to onsite detention basin, which will be sized to accommodate the increase in runoff due the development of the project site. This is in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui.

Based on our calculations, the sedimentation hazard to coastal waters and downstream properties is minimal (see Exhibit B). The soil loss per unit area and severity rating computed for the proposed development are well within the tolerable limits.

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

X. 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, September, 1989.

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

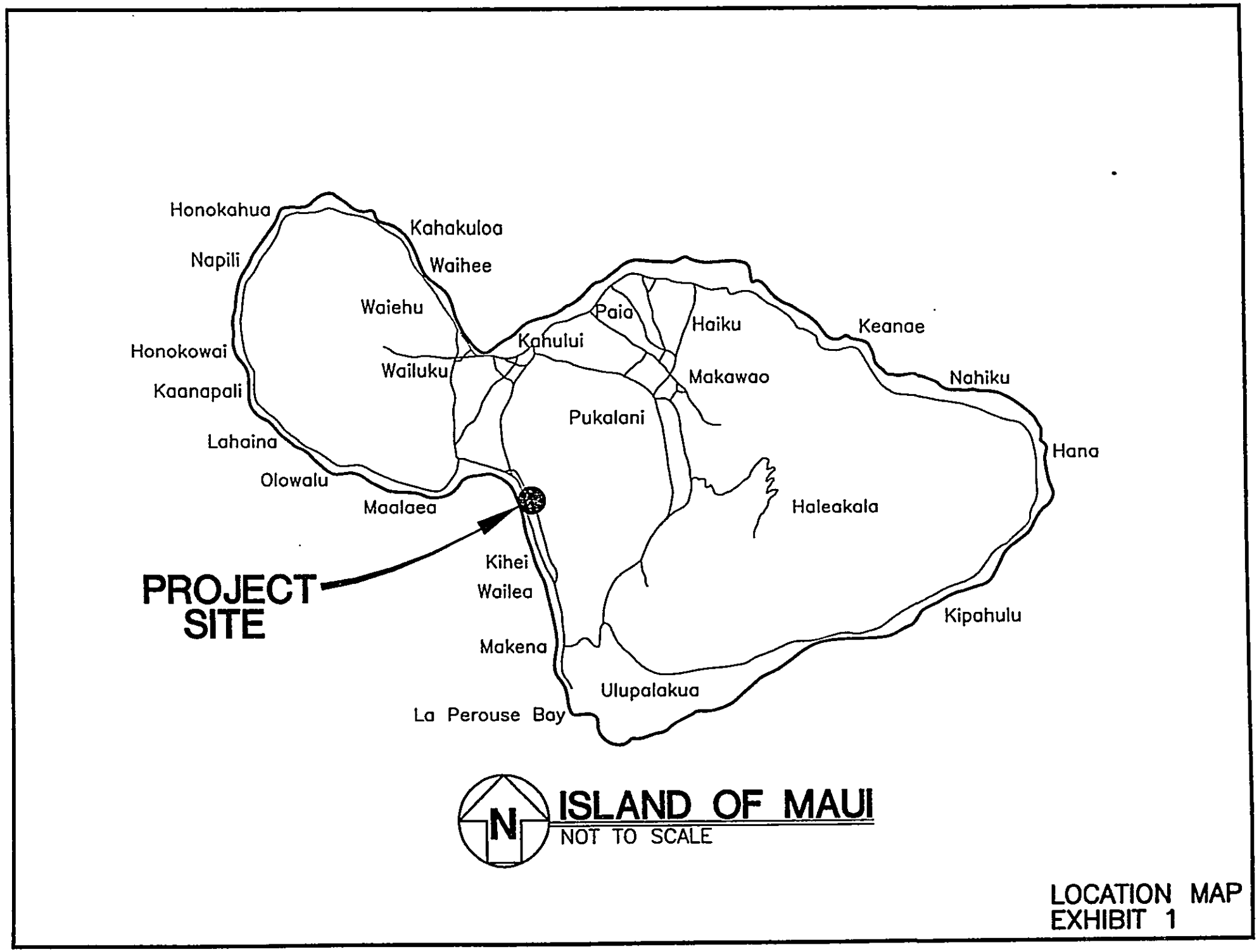
1 **Location Map**

2 **Vicinity Map**

3 **Soil Survey Map**

4 **Flood Insurance Rate Map**

5 **Preliminary Grading Plan**



LOCATION MAP
EXHIBIT 1

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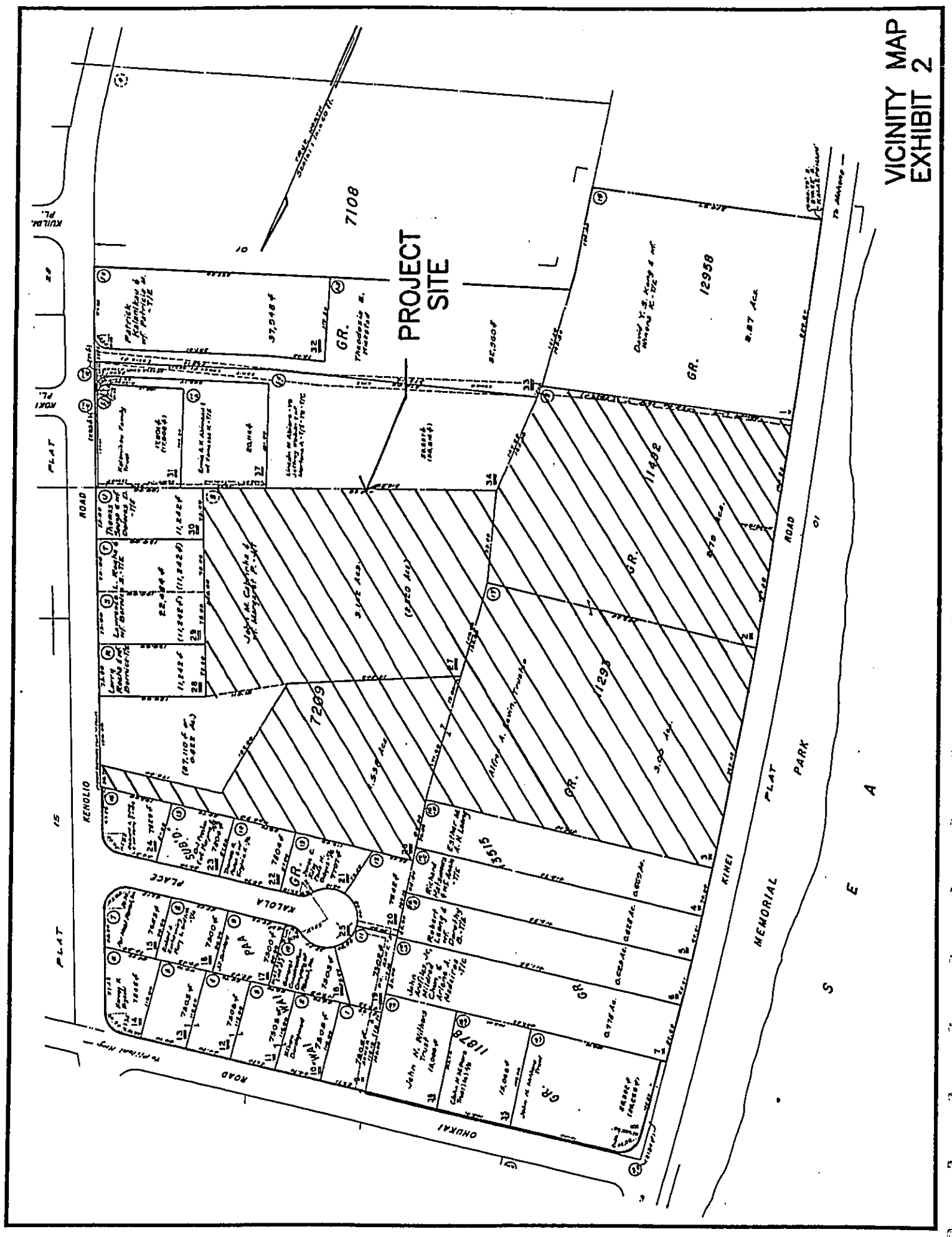

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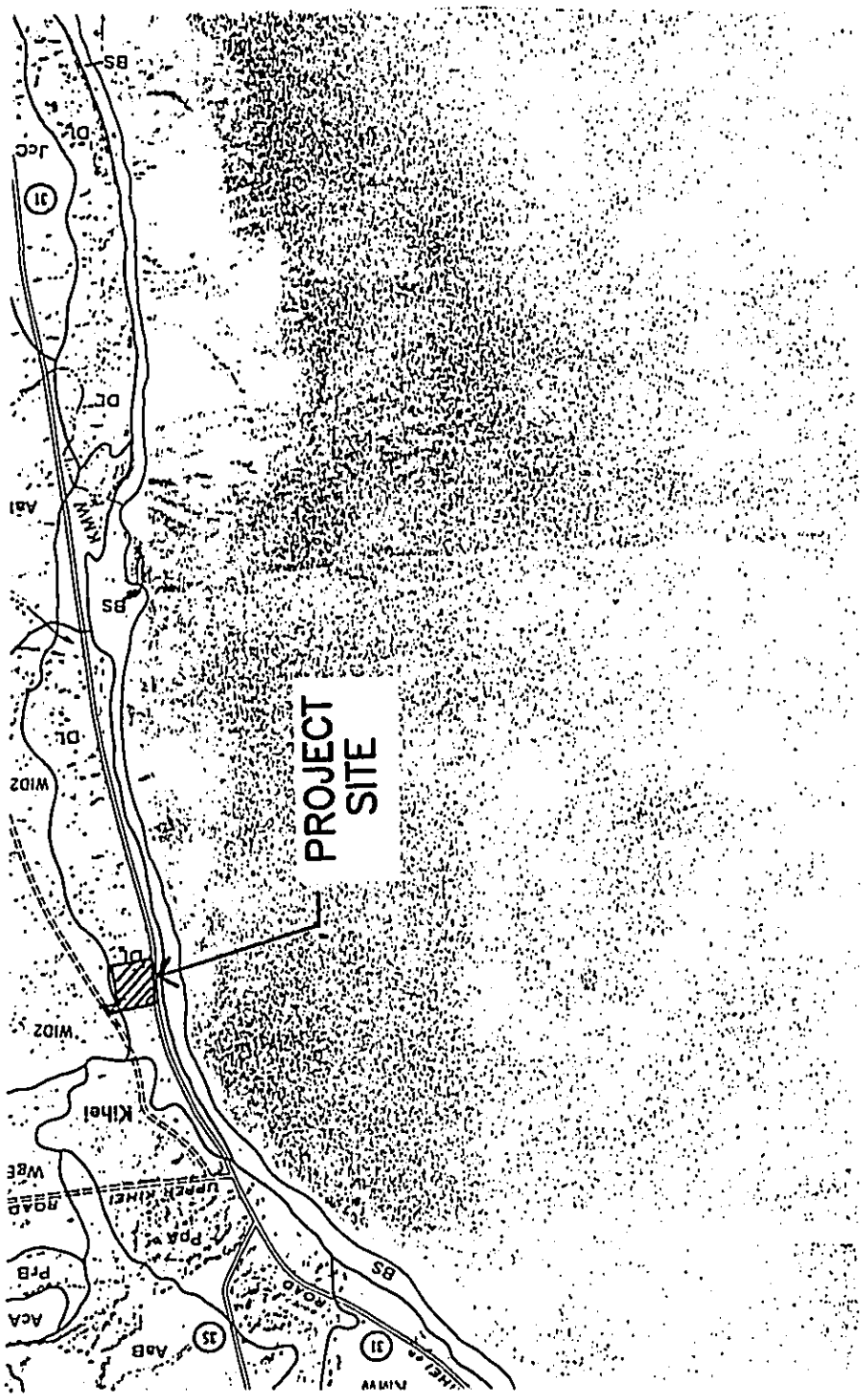
SOIL SURVEY MAP
EXHIBIT 3



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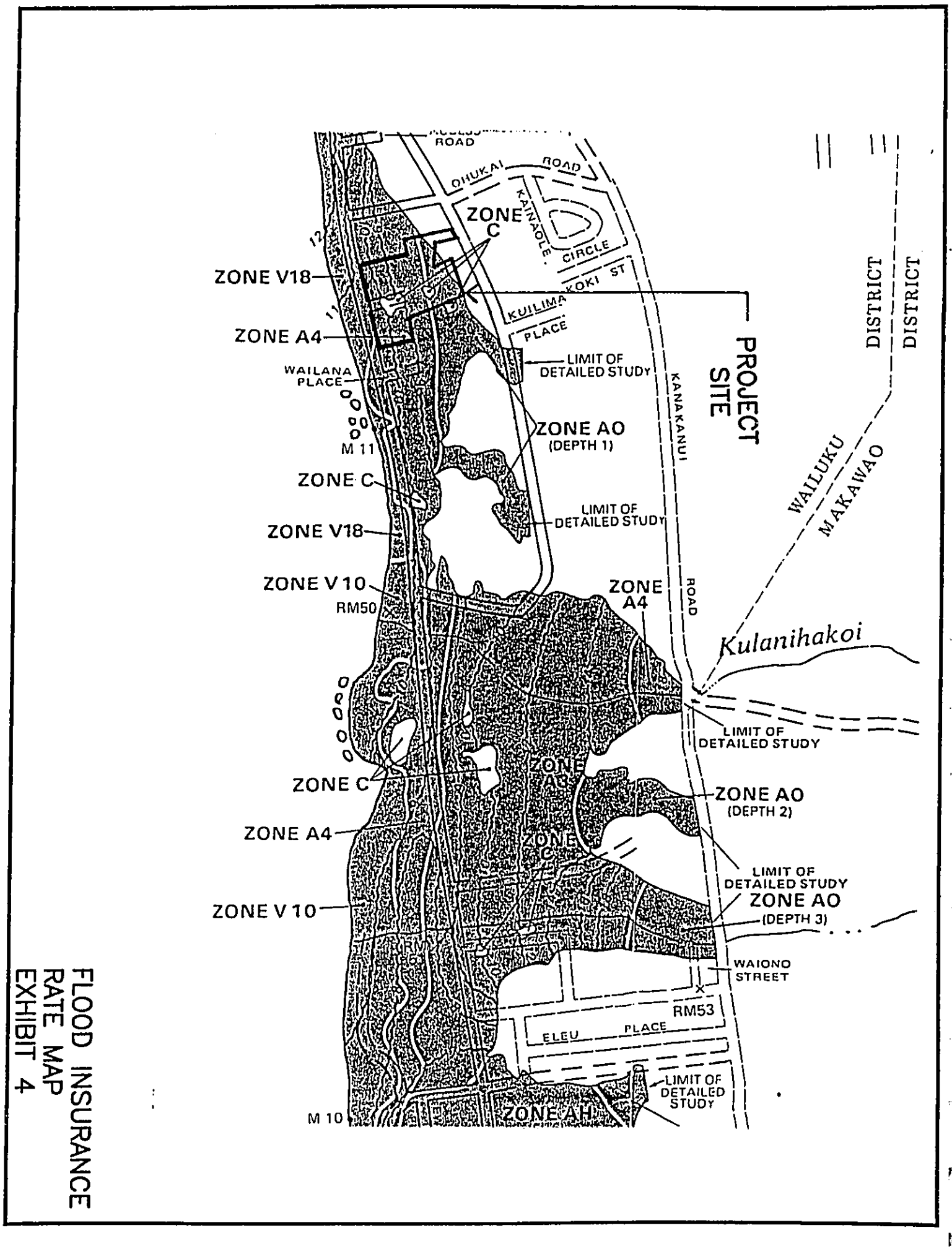

FLOOD INSURANCE RATE MAP
EXHIBIT 4

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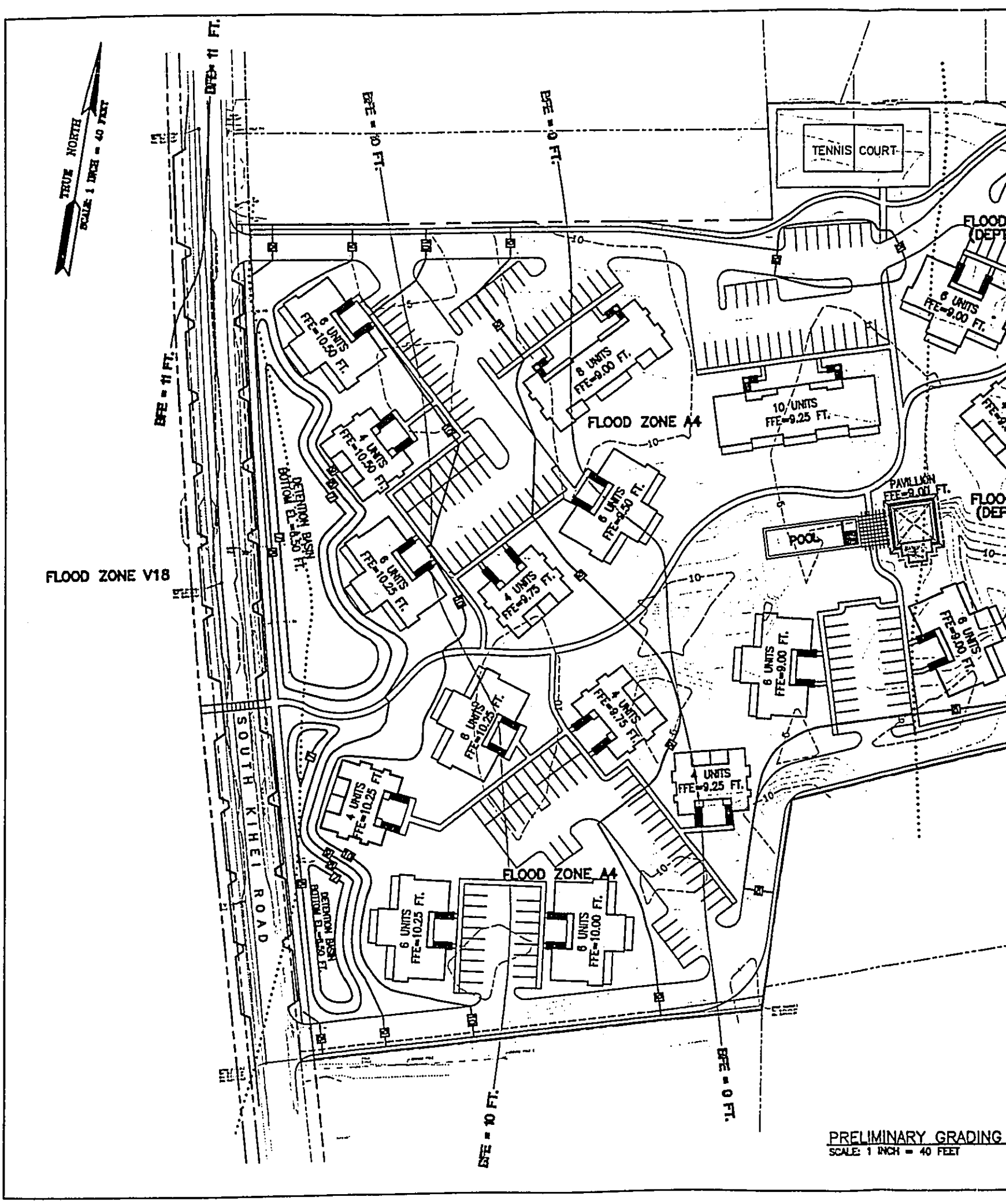

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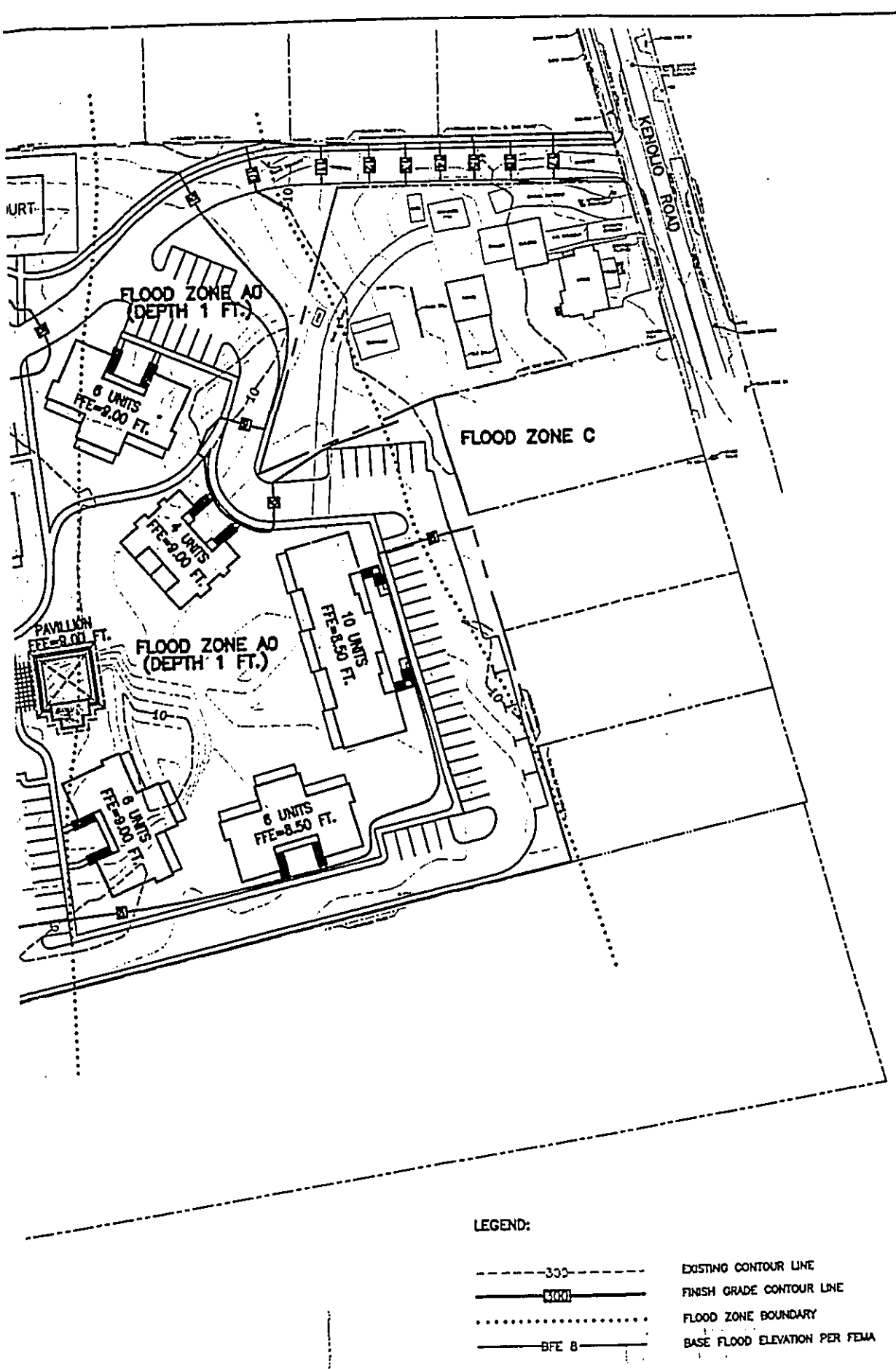

MINARY GRADING PLAN
INCH = 40 FEET

OTOMO
ENGINEERING, INC.
CONSULTING CIVIL ENGINEERS
[illegible]
PHONE: (808) 242-0032
FAX: (808) 242-0078

STACY A. OTOMO
LICENSED PROFESSIONAL ENGINEER
No. 8119-C
HAWAII, U.S.A.

[illegible]

SIGNATURE DATE

[illegible]

KAI MAKANI CONDOMINIUM
TMK: (2)3-9-041: 002, 003, 026 & 027
KIHEI, MAUI, HAWAII
PRELIMINARY GRADING PLAN

REVISION	DATE	NOTE

DESIGNED BY:	S.A.O.
DRAWN BY:	S.A.O.
PROJECT NO.:	2001-36
DRAWING NAME:	GRADING
DATE:	8-25-02

SHEET NO.
C-1
OF SHEETS

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 storm.

A. Determine the Runoff Coefficient (C):

EXISTING CONDITIONS:

Infiltration (Medium)	= 0.07
Relief (Flat)	= 0.00
Vegetal Cover (Good)	= 0.03
Development Type (Open)	= 0.15
	C = 0.25

PAVEMENT AREAS:

Infiltration (Negligible)	= 0.20
Relief (Flat)	= 0.00
Vegetal Cover (None)	= 0.07
Development Type (Pavement)	= 0.55
	C = 0.82

ROOF AREAS:

Infiltration (Negligible)	= 0.20
Relief (Steep)	= 0.08
Vegetal Cover (None)	= 0.07
Development Type (Roof)	= 0.55
	C = 0.90

LANDSCAPED AREAS:

Infiltration (Medium)	= 0.07
Relief (Flat)	= 0.00
Vegetal Cover (High)	= 0.00
Development Type (Landscape)	= 0.15
	C = 0.22

EXISTING CONDITION:

Undeveloped Area = 9.848 Acres

C = 0.25

DEVELOPED CONDITIONS:

Pavement Areas = 3.29 Acres

Roof Areas = 2.03 Acres

Landscaped Areas = 4.53 Acres

WEIGHTED C = 0.56

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

i_{50} = 2.1 inches

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

Existing Condition:

T_c = 30 minutes

I = 2.85 inches/hour

Developed Condition:

T_c = 20 minutes

I = 3.45 inches/hour

C. Drainage Area (A) = 9.848 Acres

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

Q = CIA

Existing Conditions:

Q = (0.25)(2.85)(9.848)

= 7.0 cfs

Developed Conditions:

Q = (0.56)(3.45)(9.848)

= 19.0 cfs

The increase in runoff due to the proposed development is 19.0 - 7.0 = 12.0 cfs.

APPENDIX B

UNIVERSAL SOIL LOSS CALCULATIONS

Universal Soil Loss Calculations

A. HESL Soil Loss Calculations:

1. Erosion rate, as set forth by the County of Maui Ordinance:

$$E = R \times K \times LS \times C \times P$$

Where:

E = Soil Loss in tons/acre/year

R = Rainfall Factor = 150 tons/acre/year

K = Soil Erodibility Factor = 0.10 (Dune land & Waiakoa)

L = Slope Length = 880 ft.

S = Slope Gradient = 0.016

LS = Slope Length Factor = 0.32

C = Cover Factor, Use Bare Soil = 1.0

P = Control Factor, Construction Site = 1.0

$E = 150 \times 0.10 \times 0.32 \times 1.0 \times 1.0$

$= 4.8$ tons/acre/year

2. Maximum Allowable Soil Loss:

$Emax = Hmax / (2 F T + 3 D) A$

Coastal Water Hazard (D) = Class A = 2

Downstream Hazard (F) = 2

Duration of Site Work = 12 months

Maximum Allowable Construction Area x Erosion Rate
= 5,000 tons/acre/year

B. Severity Rating Number:

1. The degree of hazard from potential damage by erosion and sediment, known as "Severity Rating Number" will be determined for each grading site as follows:

$$H = (2\,F\,T + 3\,D)\,A\,E$$

Where:

H = Severity Rating Number

F = Unit Downslope/Downstream factor = 2

D = Unit Coastal Water Hazard = 2

T = Time of Distribution (years) = 1.0

A = Area of Disturbance (acres) = 9.85

E = Erosion Rate in tons/acre/year

$$H = ((2 \times 2 \times 1.0) + (3 \times 2)) \times 9.85 \times 4.8 = 473$$

The maximum allowable severity rating number established is 50,000, and is greater than 473 which is computed for the project.

Appendix – G
Traffic Impact Assessment Report

TRAFFIC IMPACT ANALYSIS REPORT FOR

KAI MAKANI

A RESIDENTIAL DEVELOPMENT

IN KIHEI, MAUI, HAWAII

FINAL REPORT

Prepared For

AHEAHE MAKANI, LLC

Phillip Rowell and Associates
47-273 'D' Hui Iwa Street
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June 20, 2002

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1. INTRODUCTION

Phillip Rowell and Associates have been retained to perform a traffic impact analysis for a proposed residential development in Kihei, Maui, Hawaii. The purpose of this study is to identify the traffic impacts of the proposed project and will be used for the Special Management Area Use Permit application. This introductory chapter discusses the location of the project, the proposed development, and the study methodology.

Project Location and Description

The general location in the Kihei area of Maui is shown in Figure 1. The following is a summary of the project:

1. The proposed project is located between South Kihei Road and Kenolio Road south of Ohukai Road in the Kihei area of Maui. The project has no frontage along Ohukai Road.

2. The project will be 116 multi-family residential units.

3. There will be two driveways for the project. The first driveway will be along the east side of South Kihei Road approximately 300 feet south of Ohukai Road. A second driveway will be along the west side of Kenolio Road approximately 225 feet south of Ohukai Road. All traffic movements will be allowed at both driveways. A schematic site plan indicating the approximate locations of the project driveways is shown in Figure 2.

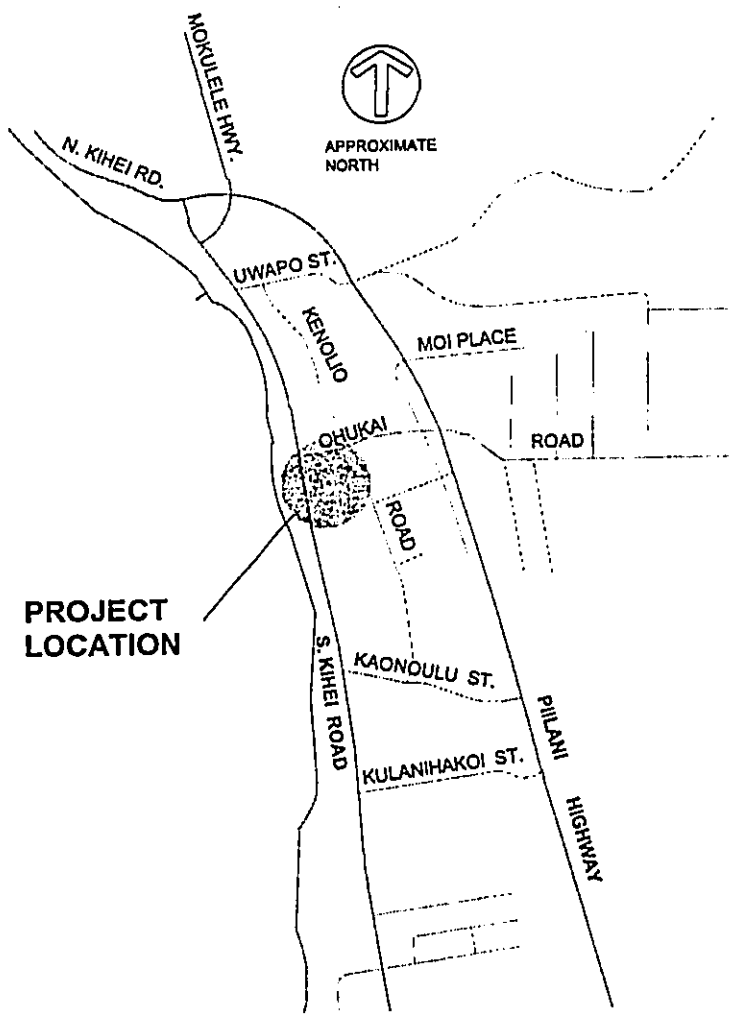

Figure 1

Project Location Map

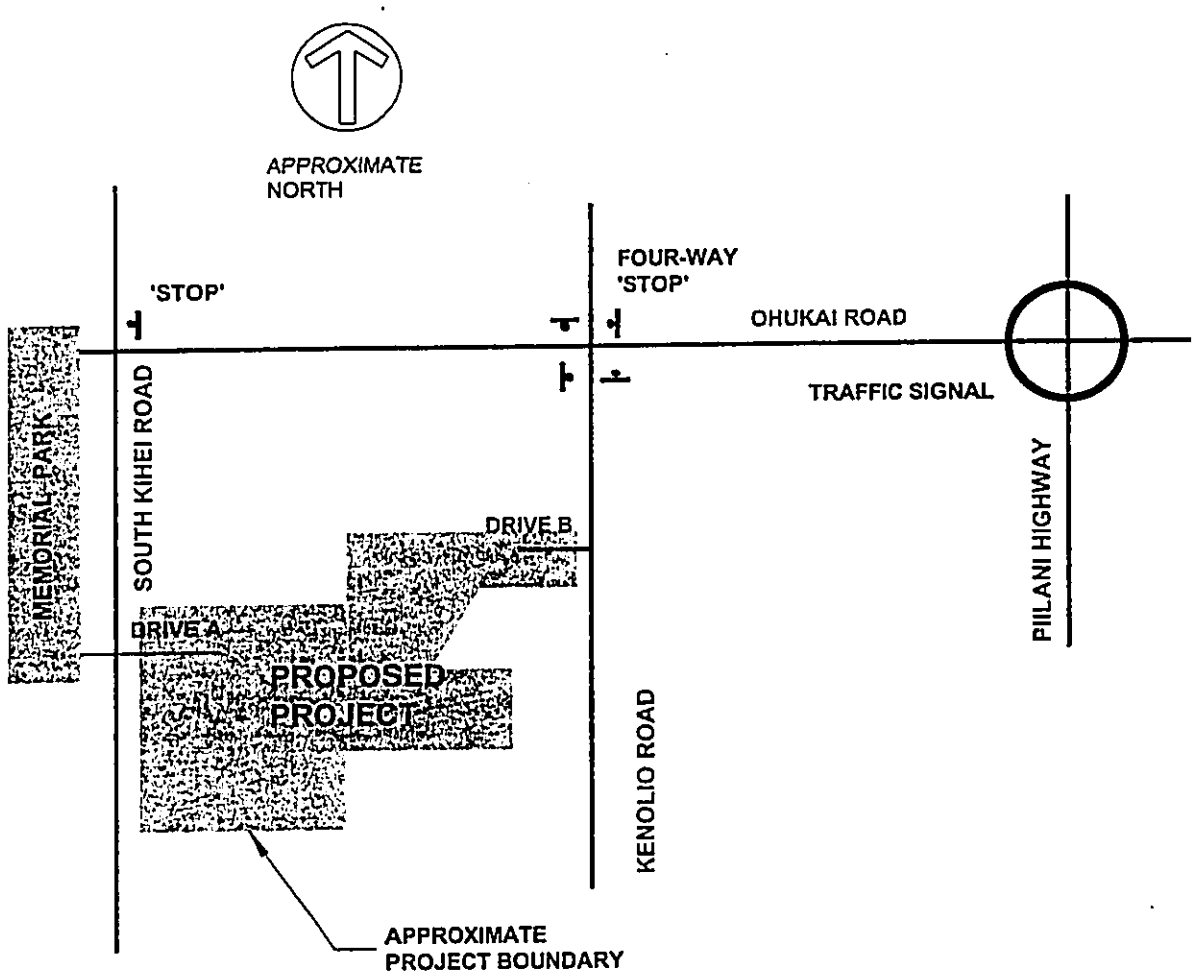

Figure 2

Schematic Site Plan

Study Methodology and Order of Presentation

1. *Analysis of Existing Traffic Conditions*

Existing traffic volumes at the study intersections were determined from traffic counts performed during April and May, 2001. The counts had to be scheduled around the teacher's strike to ensure that the counts were not distorted by the strike. Intersection configurations and traffic control information were also collected in the field at the time of the traffic counts. Other data collected included speed limits and right-of-way controls.

Using the data collected, existing traffic operating conditions in the vicinity of the project were determined. The methodology for signalized and unsignalized intersections described in the 2000 *Highway Capacity Manual* (HCM) [1] was used to determine the level-of-service (LOS) at the study intersections.

Existing traffic conditions, the LOS concept and the results of the LOS analysis for existing conditions are presented in Chapter 2.

2. *Determination of Cumulative Traffic Projections*

The year 2005 was used as the design year. This does not necessarily represent the project completion date. It is a future date used to estimate background traffic conditions. Cumulative traffic conditions are defined as future traffic conditions without the proposed project. A description of the process used to estimate 2005 cumulative traffic volumes and the resulting cumulative traffic projections is presented in Chapter 3.

3. *Analysis of Project-Related Traffic Impacts*

The next step in the traffic analysis was to estimate the peak-hour traffic that would be generated by the proposed project. This was done using standard trip generation procedures outlined in *Trip Generation Handbook*[2]. The procedure is described in Chapter 4.

These trips were distributed based on the available approach and departure routes. The project-related traffic was then superimposed on 2005 cumulative traffic volumes at the study intersections. The HCM methodology was used again to conduct a LOS analysis for cumulative plus project conditions. The results of this analysis were compared to 2005 cumulative conditions to determine the incremental impacts of this project. The analysis of the project-related impacts and the conclusions of the analyses are presented in Chapter 5.

---

[1] *Highway Capacity Manual*, Institute of Transportation Engineers, Washington, D.C., 1997

[2] *Trip Generation Handbook*, Institute of Transportation Engineers, Washington, D.C., October 1998

2. ANALYSIS OF EXISTING CONDITIONS

This chapter presents a discussion of existing traffic conditions on the roadways adjacent to the proposed project. The level-of-service (LOS) concept and the results of the LOS analysis for existing conditions are also presented. The purpose of this analysis is to establish the base conditions for the determination of the impacts of the project which are described in a subsequent chapter.

Description of Existing Streets and Intersection Controls

The following is a summary of the major roadways in the study area:

Piilani Highway

Piilani Highway is a major State highway connecting Kihei and Wailea. In the vicinity of the proposed project, the highway is a two-lane, two-way facility with separate left turn lanes. The posted speed limit is 45 miles per hour (mph). The Average Daily Traffic (ADT) along Piilani Highway adjacent to Ohukai Road is approximately 27,000 vehicles per day (vpd).

South Kihei Road

South Kihei Road is a two-lane, two-way, north-south County road along the western boundary of the project connecting Kihei with Wailea and Makena. The posted speed limit is 30 mph. There are no separate turn lanes along South Kihei Road adjacent to the project. Based on the traffic counts performed for this study, the typical weekday traffic along the study section of South Kihei Road is between 17,000 and 20,000 vpd.

Ohukai Road

Ohukai Road is a two-lane, two-way collector street connecting South Kihei Road and Piilani Highway. Development along both sides is residential. The posted speed limit is 20 mph. The intersection of South Kihei Road at Ohukai Road is unsignalized. The intersection of Ohukai Road at Piilani Highway is signalized.

Kenolio Road

Kenolio Road is a two-lane, two-way collector. Kenolio Road terminates at Uwapo Road on the north and Kaonoulu Road to the south. Along this section, Kenolio Road is the North-South Collector discussed in the *Maui Long Range Transportation Plan*. The posted speed limit is 20 mph. The intersection of Kenolio Road at Ohukai Road is a four-way stop sign-controlled intersection.

Existing Peak Hour Traffic Volumes

The AM and PM peak hour traffic volumes at the study intersections are also shown in Figure 3. These counts were performed during April and early May, 2001. The traffic volumes include large trucks, buses and motorcycles. They do not include mopeds or bicycles.

The weekday peak hourly traffic volumes at the intersection of Ohukai Road at South Kihei Road counted in April and May 2001 were compared with traffic counts performed for the Wailea 670 Development[3] to insure that the traffic counts represented weekday peak hour conditions. The traffic counts for Wailea 670 were performed during December 2000. December is recognized as one of the peak traffic periods of the year.

This comparison is summarized in Table 1. Higher counts are shown in bold. The 2001 counts for the intersection of Ohukai Road at South Kihei Road were approximately equal to the December 2000 counts except for the southbound approach during the morning peak hour and the northbound approach during the afternoon peak hour. In both cases, the 2001 counts were higher by 100 vehicles per hour or more. Therefore, the 2001 counts appear to be valid.

At the intersection of Ohukai Road at Piilani Highway, the 2001 counts were higher along the eastbound and westbound approaches during both peak periods. During the morning peak hour, the 2001 count for the northbound approach was lower and the southbound approach was equal. For the total intersection, the 2001 counts were 30 vehicles per hour, or 1.3%, less than the December 2000 counts. During the afternoon peak hour, the December 2000 counts were higher for the northbound and southbound approaches. For the total intersection, the 2001 counts were higher by 3.8%. Since the total approach volumes are comparable, the 2001 counts were considered valid and therefore used to assess existing traffic conditions.

[3] Parsons Brinckerhoff Quade & Douglas, *Traffic Study for Wailea 670 Development*, May 2001

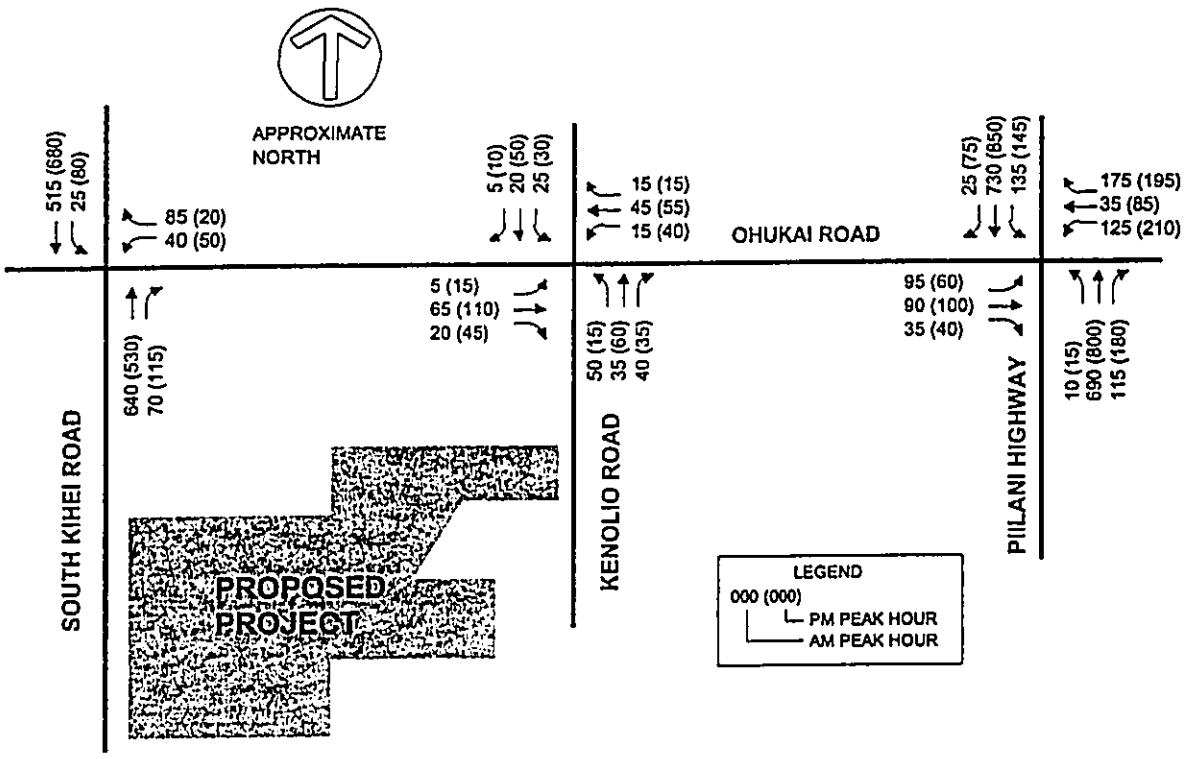

Figure 3

Existing Peak Hour Traffic Volumes

Table 1 Verification of Traffic Counts

	Ohukai Road at South Kihei Road				Ohukai Road at Piilani Highway			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Approach	Dec. 2000	March 2001	Dec. 2000	March 2001	Dec. 2000	March 2001	Dec. 2000	March 2001
North	360	540	765	760	890	890	1160	1070
East	125	125	65	70	290	335	310	490
South	730	710	545	645	935	815	1075	995
West	0	0	0	0	170	220	115	200
Total	1215	1375	1375	1475	2285	2260	2660	2755

Level-of-Service Concept

Signalized Intersections

The operations method described in the *2000 Highway Capacity Manual* (HCM) was used to analyze the operating efficiency of the signalized intersections adjacent to the study site. This method involves the calculation of a volume-to-capacity (V/C) ratio and average vehicle delay, which is related to a level-of-service.

"Level-of-Service" is a term which denotes any of an infinite number of combinations of traffic operating conditions that may occur on a given lane or roadway when it is subjected to various traffic volumes. Level-of-service (LOS) is a qualitative measure of the effect of a number of factors which include space, speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

There are six levels-of-service, A through F, which relate to the driving conditions from best to worst, respectively. The characteristics of traffic operations for each level-of-service are summarized in Table 2. In general, LOS A represents free-flow conditions with no congestion. LOS F, on the other hand, represents severe congestion with stop-and-go conditions. *Level-of-Service D is typically considered acceptable for peak hour conditions in urban areas.*

Corresponding to each level-of-service shown in the table is a volume/capacity ratio. This is the ratio of either existing or projected traffic volumes to the capacity of the intersection. Capacity is defined as the maximum number of vehicles that can be accommodated by the roadway during a specified period of time. The capacity of a particular roadway is dependent upon its physical characteristics such as the number of lanes, the operational characteristics of the roadway (one-way, two-way, turn prohibitions, bus stops, etc.), the type of traffic using the roadway (trucks, buses, etc.) and turning movements.

Table 2 Level-of-Service Definitions for Signalized Intersections[1]

Level of Service	Interpretation	Volume-to-Capacity Ratio[2]	Stopped Delay (Seconds)
A, B	Uncongested operations; all vehicles clear in a single cycle.	0.000-0.700	<20.0
C	Light congestion; occasional backups on critical approaches	0.701-0.800	20.1-35.0
D	Congestion on critical approaches but *intersection functional. Vehicles must wait* through more than one cycle during short periods. No long standing lines formed.	0.801-0.900	35.1-55.0
E	Severe congestion with some standing lines on critical approaches. Blockage of intersection may occur if signal does not provide protected turning movements.	0.901-1.000	55.1-80.0
F	Total breakdown with stop-and-go operation	>1.001	>80.0

Notes:
(1) Source: *Highway Capacity Manual*, 2000.
(2) This is the ratio of the calculated critical volume to Level-of-Service E Capacity.

Unsignalized Intersections

Like signalized intersections, the operating conditions of intersections controlled by stop signs can be classified by a level-of-service from A to F. However, the method for determining level-of-service for unsignalized intersections is based on the use of gaps in traffic on the major street by vehicles crossing or turning through that stream. Specifically, the capacity of the controlled legs of an intersection is based on two factors: 1) the distribution of gaps in the major street traffic stream, and 2) driver judgement in selecting gaps through which to execute a desired maneuver. The criteria for level-of-service at an unsignalized intersection is therefore based on delay of each turning movement. Table 3 summarizes the definitions for level-of-service and the corresponding delay.

Table 3 Level-of-Service Definitions for Unsignalized Intersections[1]

Level-of-Service	Expected Delay to Minor Street Traffic	Delay (Seconds)
A	Little or no delay	<10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	See note (2) below	>50.1

Notes:
(1) Source: *Highway Capacity Manual*, 2000.
(2) When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement of the intersection.

Level-of-Service Analysis of Existing Conditions

The results of the Level-of-Service analysis for the study intersections are shown in Table 4. Volume-to-capacity ratios are not calculated for unsignalized intersections and therefore are not shown for the intersections of Ohukai Road at South Kihei Road and Ohukai Road at Kenolio Road.

The conclusions of this analysis are:

1. At the intersection of Ohukai Road at South Kihei Road, the left turns from Ohukai Road operate at level-of-service E and F during the morning and afternoon peak hours, respectively. This is a typical condition for left turns onto South Kihei Road in the area and is consistent with observations during the traffic surveys.

2. All movements at the intersection of Ohukai Road at Kenolio Road operate at level-of-service A during both peak periods.

3. Overall, the intersection of Ohukai Road at Piilani Highway operates at level-of-service D during the morning peak hour. However, the westbound left and through movements operate at level-of-service E based on delay, but level-of-service D based on the volume-to-capacity ratio. During the afternoon peak hour, the westbound left and through movements operate at level-of-service F, with long delays and high volume-to-capacity ratios. The northbound through and the southbound through movement also operate over or near capacity. The overall intersection level-of-service is E during the afternoon peak period.

Table 4 Existing Levels-of-Service

Intersection and Movement	AM Peak Hour V/C [1]	AM Peak Hour Average Vehicle Delay [2]	AM Peak Hour LOS [3]	PM Peak Hour V/C [1]	PM Peak Hour Average Vehicle Delay [2]	PM Peak Hour LOS [3]
Ohukai Road at South Kihei Road						
Southbound Left & Thru	NOT CALCULATED	9.5	A	NOT CALCULATED	9.5	A
Westbound Left & Right		33.5	D		65.6	F
Ohukai Road at Kenolio Road		8.14	A		8.94	A
Eastbound	NOT CALCULATED	8.08	A	NOT CALCULATED	9.21	A
Westbound		8.02	A		8.82	A
Northbound		8.32	A		8.75	A
Southbound		7.98	A		8.80	A
Ohukai Road at Piilani Highway	*0.80*	*37.3*	*D*	*1.03*	*65.9*	*E*
Eastbound Left & Thru	0.72	51.9	D	0.68	51.6	D
Eastbound Right	0.05	30.8	C	0.02	31.2	C
Westbound Left & Thru	0.85	72.3	E	1.29	201.9	F
Westbound Right	0.14	32.0	C	0.41	37.7	D
Northbound Left	0.08	51.7	D	0.13	56.7	E
Northbound Thru	0.87	37.8	D	1.01	64.4	E
Northbound Right	0.10	16.5	B	0.25	19.7	B
Southbound Left	0.53	52.1	D	0.60	59.3	E
Southbound Thru	0.79	25.4	C	0.92	39.3	D
Southbound Right	0.02	11.0	B	0.00	11.8	B

NOTES:
(1) V/C denotes volume-to-capacity ratio.
(2) Delay is in seconds per vehicle.
(3) LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. Level-of-Service is based on delay.

3. PROJECTED CUMULATIVE TRAFFIC CONDITIONS

The purpose of this chapter is to discuss the assumptions and data used to estimate 2005 cumulative traffic conditions. Cumulative traffic conditions are defined as future traffic volumes without the proposed project.

Future traffic growth consists of three components. The first is ambient background growth that is a result of regional growth and cannot be attributed to a specific project. The second component is estimated traffic that will be generated by other development projects in the vicinity of the proposed project. The third and final component are changes in traffic circulation as a result of roadway improvement projects.

Future Background Traffic

Data provided in the *Kihei Traffic Master Plan*[4] was used to estimate the future background volumes along the roadway network within the study area. The report for this plan provided 2005 traffic projections for the Piilani Highway, South Kihei Road and Ohukai Road approaches to these major roadways. These traffic projections were used as the base for estimating 2005 cumulative traffic volumes.

Related Projects

The second component in estimating background traffic volumes is traffic resulting from other proposed projects in the vicinity. Related projects are defined as those projects that are under construction or have been approved for construction and would significantly impact traffic in the study area. Related projects may be development projects or roadway improvements.

[4] Kaku Associates, October 1996

A review of the data used to develop the traffic projections in the *Kihei Traffic Master Plan* concluded that a number of projects have been proposed in the vicinity of the study project since the Kihei Traffic Master Plan was completed. Since traffic associated with these projects is most likely not included in the traffic forecast of the Master Plan, the peak hour trips that they would generate were estimated and added to the 2005 background traffic projections from the *Kihei Traffic Master Plan.*

The projects that were identified as related projects and the estimated number of peak hour trips generated by each are summarized in Table 5. The locations of these projects are shown in Figure 5.

Table 5 Summary of Related Projects

		AM Peak Hour			PM Peak Hour		
Related Project	Description	Total	In	Out	Total	In	Out
Maui Nui Park	Theme Park	16	16	0	334	190	144
Kenolio Place	12 Single-Family Units	11	2	9	12	8	4
Villas at Kenolio	140 Single-Family Units	108	27	81	143	92	51
Alii Village	30 Single-Family Units	23	6	17	31	20	11
Waipuilani Estates	96 Single-Family Units	74	19	55	98	63	35
Expansion of Parking at Memorial Park	28 Off-Street Spaces & 36 On-Street Spaces	100	58	42	100	47	53
Totals		**332**	**128**	**204**	**718**	**420**	**298**

Roadway Improvement Projects

Modification of Piilani Highway so that the shoulders may be used during the morning and afternoon peak hours are under design and an environmental assessment was released recently. This project will have a positive impact on the intersection of Piilani Highway at Ohukai Road. This project is currently scheduled to start in the Summer of 2001. Since this project is imminent, it was assumed that it would be completed and will be operational before the 2005 design year for this project.

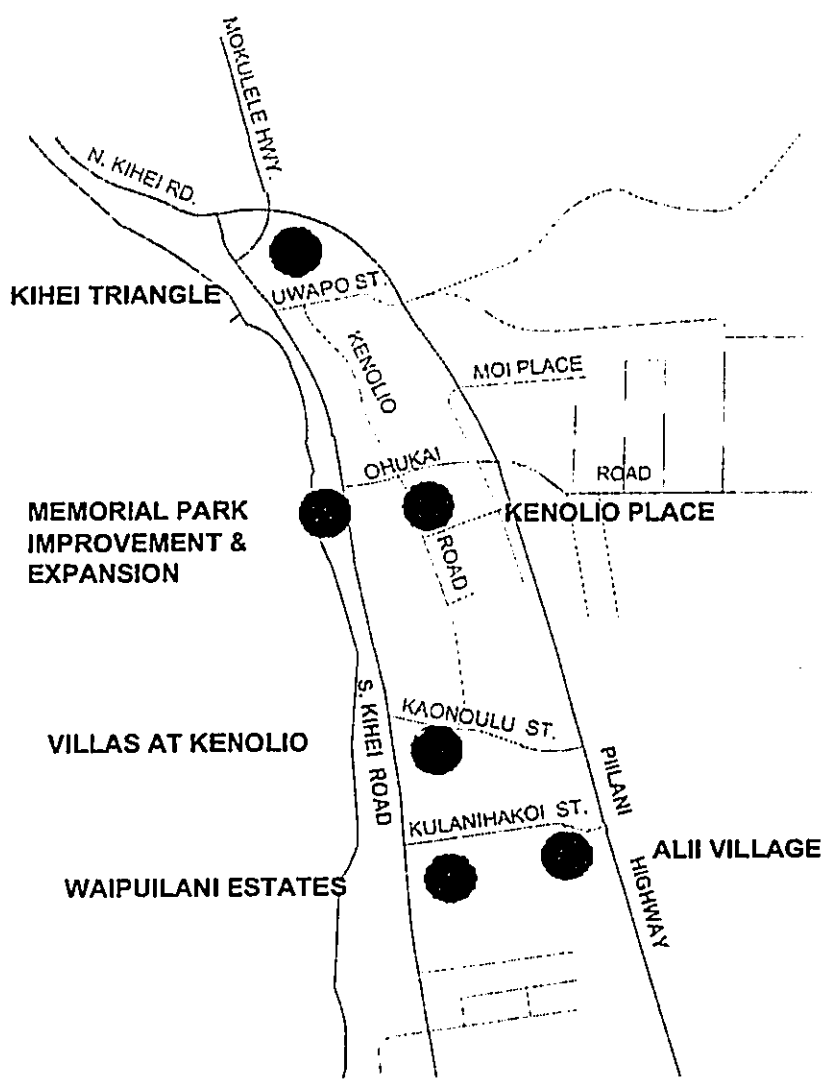

Figure 4

Locations of Related Projects

2005 Cumulative Traffic Projections

2005 cumulative traffic projections were calculated by superimposing traffic generated by related projects onto the 2005 background traffic projections provided in the *Kihei Master Traffic Plan*. The traffic projections assumed that Piilani Highway would be improved to allow use of the shoulders during peak hours.

The resulting 2005 cumulative peak hour traffic volumes are shown in Figures 5 and 6.

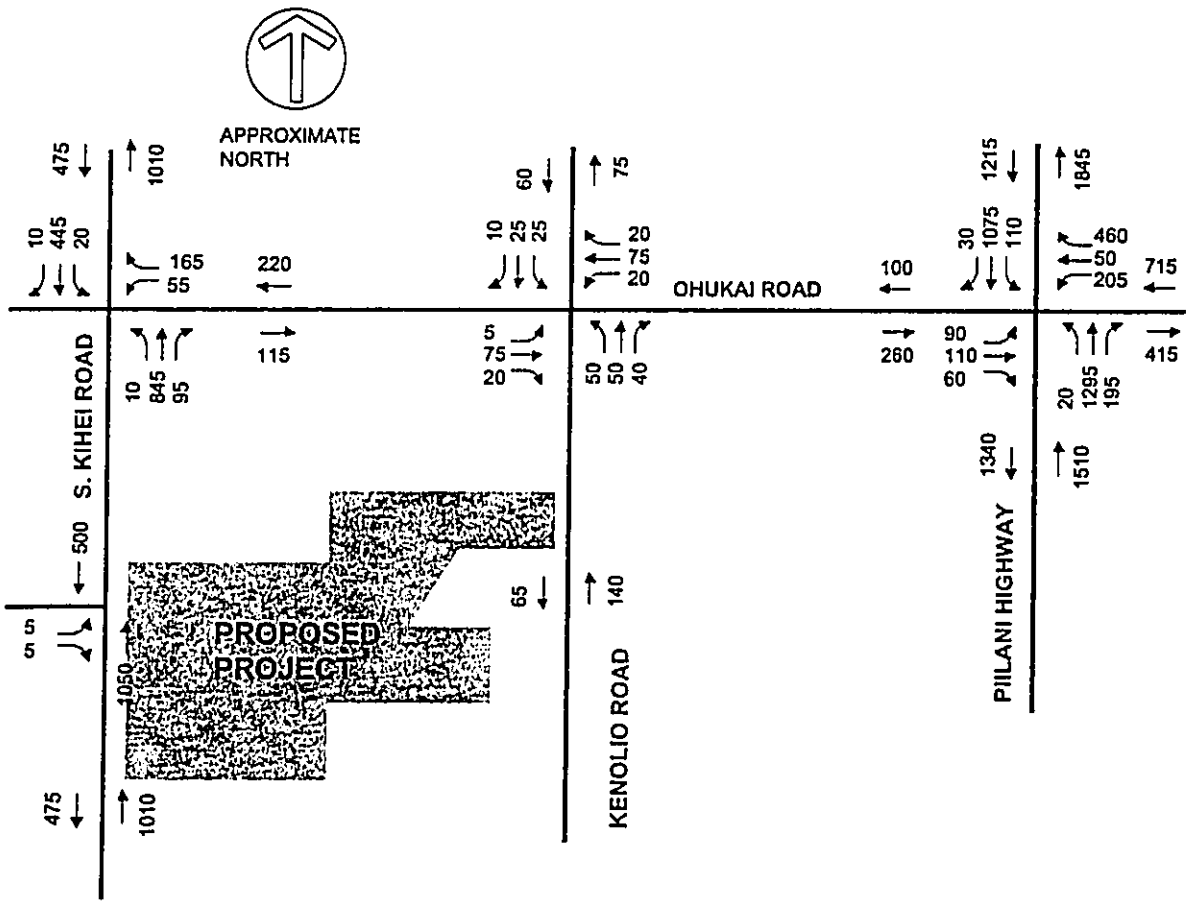

Figure 5

2005 Cumulative AM Peak Hour Traffic Volumes

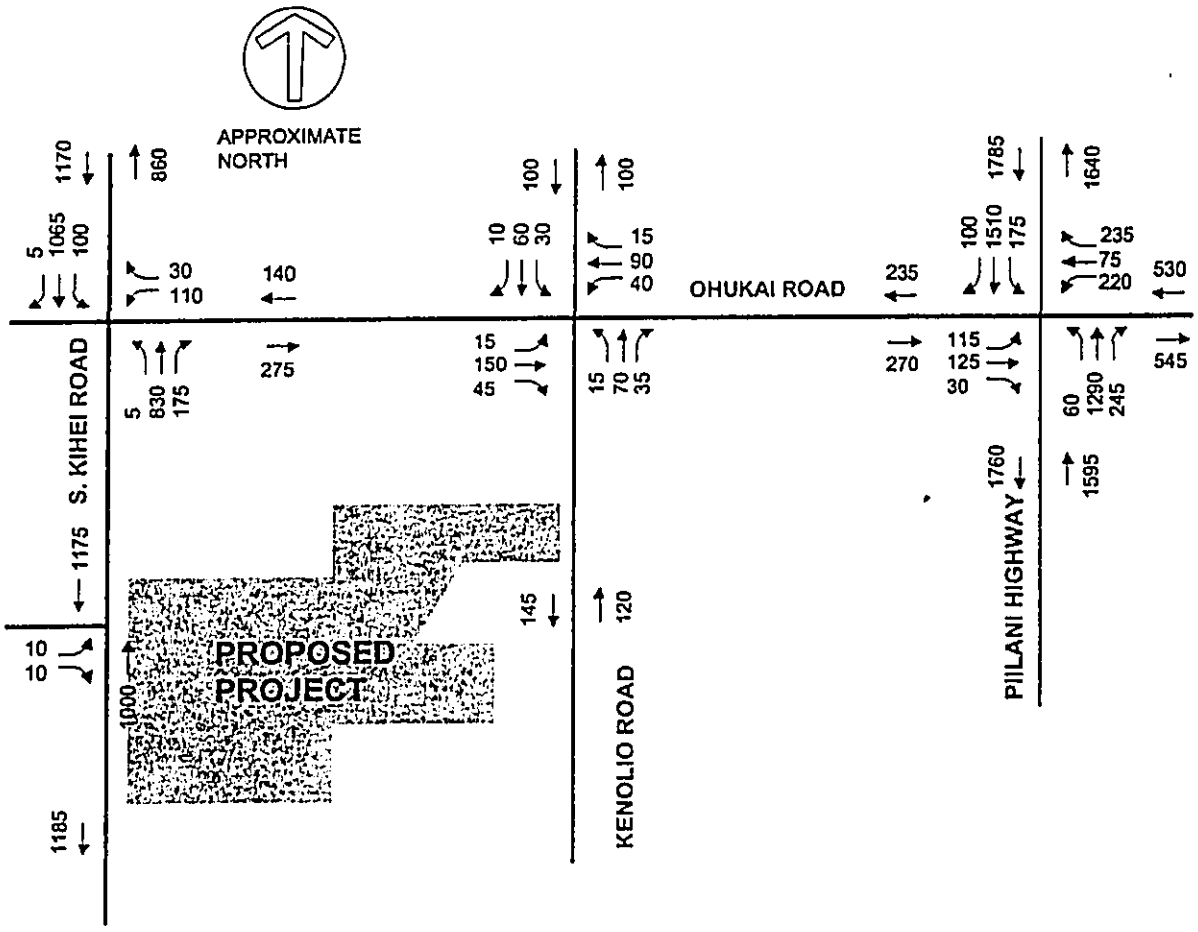

Figure 6

2005 Cumulative PM Peak Hour Traffic Volumes

4. PROJECT-RELATED TRAFFIC CONDITIONS

This chapter discusses the methodology used to identify the traffic-related impacts of the proposed project. Generally, the process involves the determination of weekday peak-hour trips that would be generated by the proposed project; distribution and assignment of these trips on the approach and departure routes; and finally, determination of the Levels-of-Service at affected intersections and driveways subsequent to implementation of the project. This chapter presents the generation, distribution and assignment of project generated traffic and the cumulative plus project traffic projections. The results of the Level-of-Service analysis of cumulative plus project conditions are presented in the following chapter.

Project Trip Generation

Future traffic volumes generated by a project are typically estimated using the procedures described in the *Trip Generation Handbook*[5]. This method uses trip generation rates to estimate the number of trips that a proposed project will generate during the morning and afternoon peak hours.

The proposed project will consist of 116 multi-family housing units. This land use category corresponds to "low-rise residential condominiums/townhouses." Trip generation rates for this land use category were used to estimate the number of trips generated by the project. "

The trip rates and the estimated number of AM and PM peak hour trips that the proposed development will generate are shown in Table 6. The trips shown are the peak hourly trips generated by the project, which typically coincide with the peak hour of the adjacent street.

[5] Institute of Transportation Engineers, *Trip Generation Handbook*, Washington, D.C., 1998, p. 7-12

Table 6 Trip Generation Summary of Proposed Project

Time Period	Direction	Rate or Factor	Units	New Peak Hour Trips
AM Peak Hour	Total Trips per Unit	0.51	116	59
	% Inbound	17%		10
	% Outbound	83%		49
PM Peak Hour	*Total Trips per Unit*	*0.54*	*116*	*63*
	% Inbound	52%		33
	% Outbound	48%		30

The proposed project will generate 59 trips during the morning peak hour and 63 trips during the afternoon peak hour. 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.[5] 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.[6]

Trip Distribution and Assignments

The project-related trips were distributed and assigned along the anticipated approach routes to the project site. The project related trip assignments are shown in Figure 7.

2005 Cumulative Plus Project Projections

Cumulative plus project traffic conditions are defined as future background traffic conditions plus project related traffic. The incremental difference between cumulative and cumulative plus project is the traffic impact of the project under study.

2005 cumulative plus project traffic volumes with the project were estimated by superimposing the peak hourly traffic generated by the proposed project on the 2005 cumulative peak hour traffic volumes presented in Chapter 3. The traffic projections for 2005 cumulative plus project conditions are shown on Figures 8 and 9.

The background traffic growth rates obtained from the *Kihei Master Traffic Plan* and used to estimate background traffic growth in the previous chapter include development of housing in the vicinity of the proposed project. However, this data is not site specific and therefore cannot be used to estimate future traffic generated by specific projects. This means that traffic generated by the proposed project is probably double counted along the major arterials such as Pillani Highway and South Kihei Road.

The traffic projection worksheets are presented as Appendix A.

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

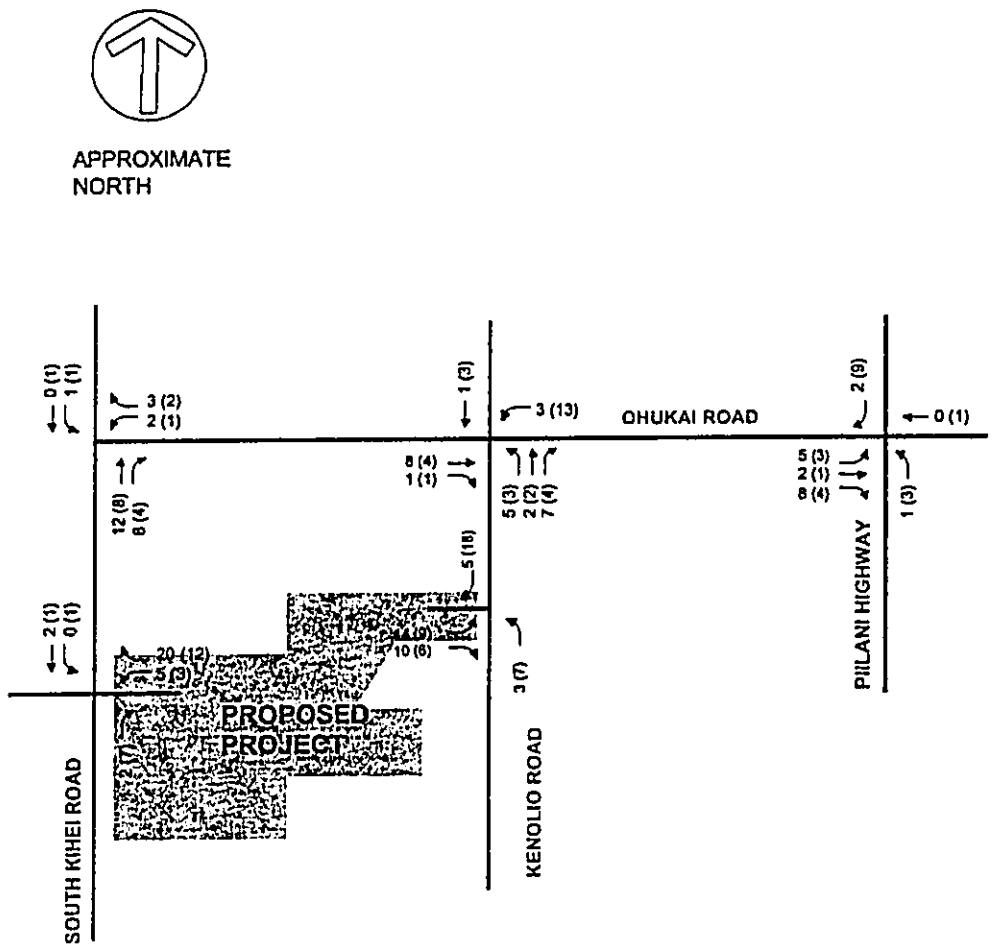


Figure 7

Project Trip Assignments

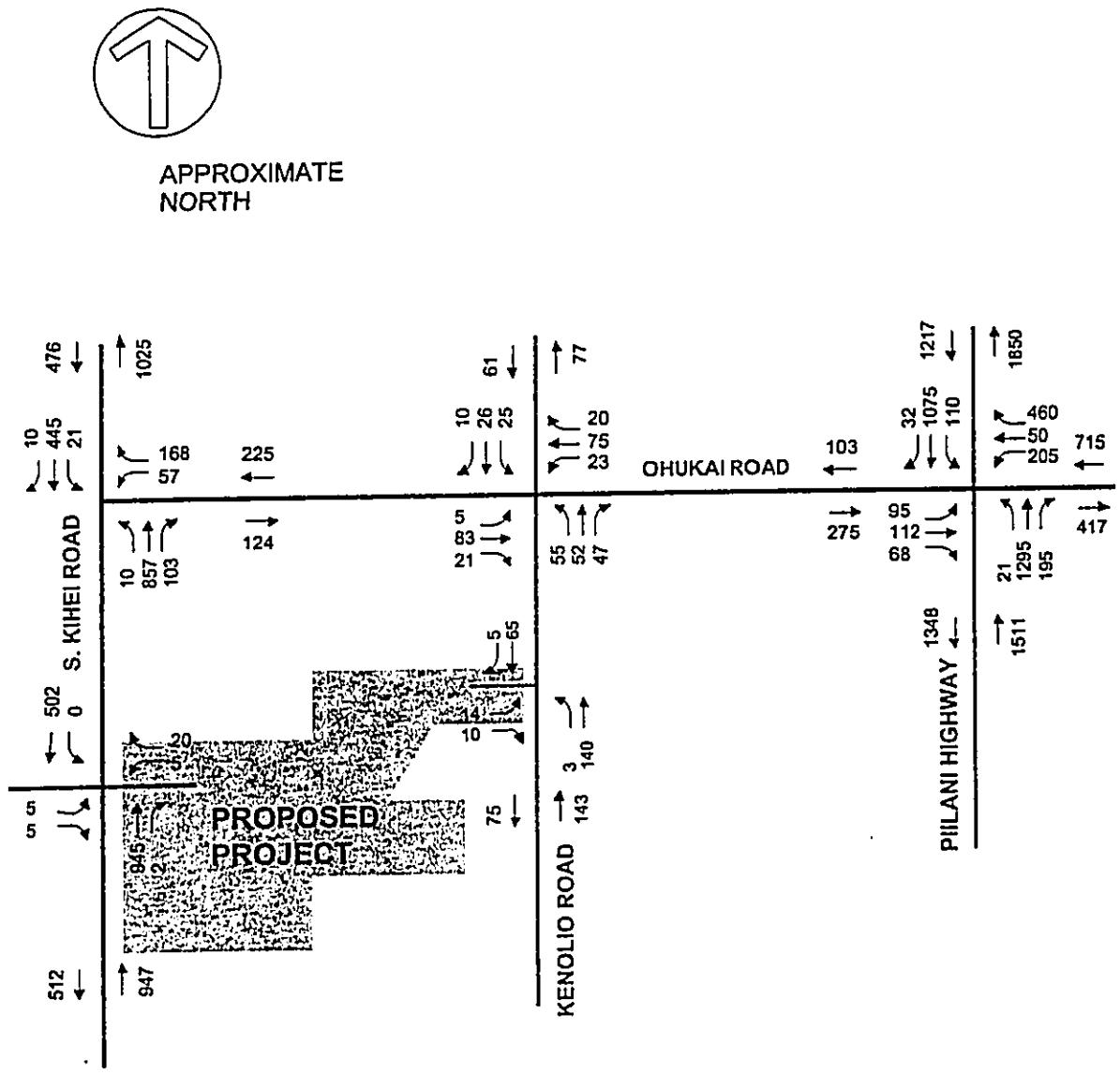


Figure 8

2005 Cumulative Plus Project AM Peak Hour Traffic Volumes

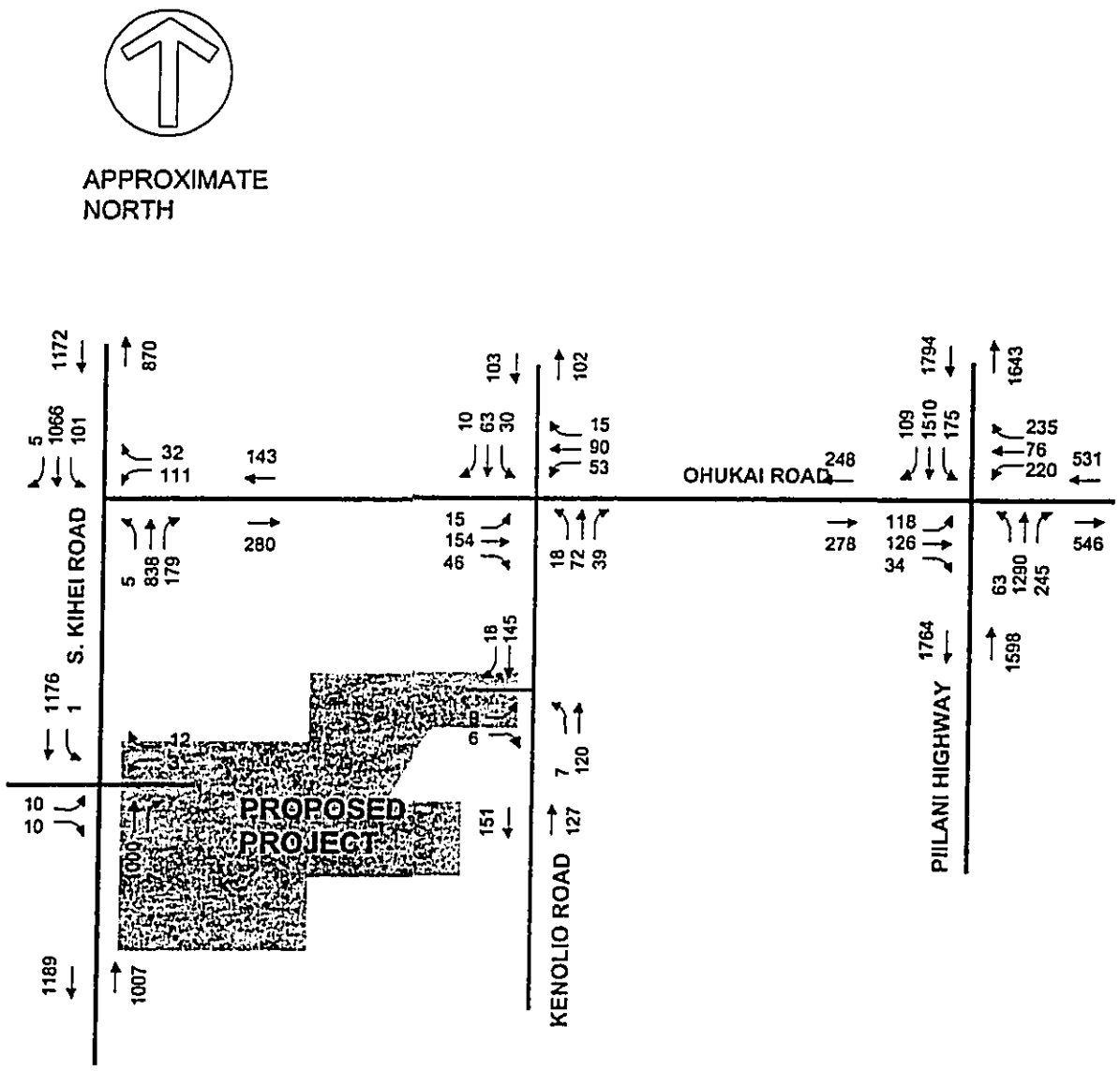


Figure 9

2005 Cumulative Plus Project PM Peak Hour Traffic Volumes

5. TRAFFIC ANALYSIS AND CONCLUSIONS

The purpose of this chapter is to discuss the results of the traffic impact analysis, which identifies the project-related impacts. In addition, any mitigation measures necessary and feasible are identified and other access, egress and circulation issues are discussed.

Definition of Significant Impacts

Since there are no local criteria defining a significant traffic impact, criteria set by Los Angeles Department of Transportation were used for this study to determine if this project has a significant traffic impact. The criteria shown in Table 7 are used to define a significant impact for a signalized intersection:

Table 7 Definition of a Significant Traffic Impact[1]

Final V/C Ratio	Project Related Increase in V/C
0.700-0.800	equal to or greater than 0.040
0.800 - 0.900	equal to or greater than 0.020
> 0.900	equal to or greater than 0.010

NOTES:
(1) Los Angeles Department of Transportation, *Traffic Study Policies and Procedures*, 1993, page 10

There are no similar criteria for unsignalized intersections. The *Traffic Study Policies and Procedures* suggest that (1) unsignalized intersections be analyzed assuming signalized conditions so that intersections are evaluated using comparable criteria and (2) the volume-to-capacity ratio for the overall intersection, rather than each traffic movement, be used to evaluate the intersection.

In calculating the volume-to-capacity ratio for the overall intersection, deficient traffic movements may be overlooked because poor and good Levels-of-Service may balance, resulting in an acceptable Level-of-Service. Therefore, the criteria shown in Table 7 are used to assess the impact for each traffic movement as well as the overall intersection.

Lastly, it should be noted that the criteria shown in Table 7 were developed before the latest revision to the *Highway Capacity Manual*, which now defines level-of-service based on delay rather than volume-to-capacity ratio. We have determined that the *Traffic Policies and Procedures* are currently being revised.

Project Related Traffic Impacts

The traffic impact of the proposed project was assessed by analyzing the changes in traffic volumes and volume-to-capacity ratios. The change in traffic volumes along the roadway links serving the project is summarized in Table 8.

Table 8 Traffic Volume Changes Along Study Streets

Roadway	Location and Direction		AM Peak Hour Without Project	AM Peak Hour With Project	AM Peak Hour Change	AM Peak Hour Percent Change	PM Peak Hour Without Project	PM Peak Hour With Project	PM Peak Hour Change	PM Peak Hour Percent Change
Piilani Highway	North of Ohukai Rd.	NB	1845	1850	5	0.27%	1640	1643	3	0.18%
		SB	1215	1217	2	0.16%	1785	1794	9	0.50%
	South of Ohukai Rd.	NB	1510	1511	1	0.07%	1595	1598	3	0.19%
		SB	1340	1348	8	0.60%	1760	1764	4	0.23%
South Kihei Road	North of Ohukai Rd.	NB	1010	1025	15	1.49%	860	870	10	1.16%
		SB	475	476	1	0.21%	1170	1172	2	0.17%
	South of Drive A	NB	945	947	2	0.21%	1000	1007	7	0.70%
		SB	505	512	7	1.39%	1185	1189	4	0.34%
Ohukai Road	East of South Kihei Road	EB	115	124	9	7.83%	275	280	5	1.82%
		WB	220	225	5	2.27%	140	143	3	2.14%
	West of Piilani Hwy	EB	260	275	15	5.77%	270	278	8	2.96%
		WB	100	103	3	3.00%	235	248	13	5.53%

As shown, the change in volumes along Piilani Highway is greatest along the southbound approach to Ohukai Road where the afternoon traffic increases 9 vehicles per hour, or 0.50%, during the afternoon peak hour. Southbound traffic south of Ohukai Road increases 8 vehicles per hour, or 0.60%.

Along South Kihei Road, northbound traffic away from Ohukai Road increases 15 vehicle per hour, or 1.49%. The traffic volume is estimated to increase 1.21% during the morning peak hour and 1.19% during the afternoon peak hour.

The traffic increase along Ohukai Road is higher because the background traffic volumes without the project are much lower than along South Kihei Road or Piilani Highway.

The roadway conditions used for the Level-of-Service analysis is summarized as follows:

1. The intersections of Ohukai Road at South Kihei Road and Ohukai Road at Kenolio Road are unsignalized and the approach lane configurations are unchanged.

2. Piilani Highway is a four-lane, two-way highway with a separate left turn lane for both approaches at Ohukai Road. This intersection is signalized.

3. The project driveway along South Kihei Road has separate left and right turn lanes. There is no separate left turn lane from South Kihei Road into the project.

4. The project entrance driveway along Kenolio Road is one lane in and one lane out. There is no separate left turn lane into the project.

The results of the Level-of-Service analysis are discussed separately for each of the study intersections.

Ohukai Road at South Kihei Road

The results of the Level-of-Service for the intersection of Ohukai Road at South Kihei Road are summarized in Table 9.

Table 9 Level-of-Service Analysis for 2005 Peak Hour Conditions - Ohukai Road at South Kihei Road

Intersection and Movement	Cumulative		Cumulative Plus Project	
	Average Vehicle Delay [2]	LOS [3]	Average Vehicle Delay [2]	LOS
AM PEAK HOUR				
Northbound Left, Thru & Right	8.4	A	8.4	A
Southbound Left, Thru & Right	10.5	B	10.6	B
Westbound Left & Right	19.5	C	20.2	C
PM PEAK HOUR				
Northbound Left, Thru & Right	11.2	B	11.2	B
Southbound Left, Thru & Right	11.8	B	11.9	B
Westbound Left & Right	108.9	F	115.2	F

NOTES:
(1) V/C denotes volume-to-capacity ratio.
(2) Delay is in seconds per vehicle.
(3) LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*.

There is no change in the Level-of-Service of any traffic movement as a result of project generated traffic. The left turns from Ohukai Road to southbound South Kihei Road will operate at Level-of-Service F during both peak periods, without and with the project. This is consistent with most left turns onto South Kihei Road because of the heavy north-south traffic along the roadway.

An analysis of this intersection was performed to determine if installation of separate left turn lanes along South Kihei Road would improve the Level-of-Service. With separate left turn lanes, only the vehicles turning left from South Kihei Road would be delayed. Without separate left turn lanes, all vehicles along South Kihei Road would be delayed because they would have to wait behind vehicles waiting to turn left. The calculation of the total delays to traffic along South Kihei Road without and with separate left turn lanes is tabulated in Table 10.

Table 10 Delay Analysis for Separate Left Turn Lanes Along South Kihei Road at Ohukai Road

Condition	Approach & Movement	AM Peak Hour Delay per Vehicle	AM Peak Hour Vehicles per Hour	AM Peak Hour Total Delay	PM Peak Hour Delay per Vehicle	PM Peak Hour Vehicles per Hour	PM Peak Hour Total Delay
Without Separate Left Turn Lanes	NB Left, Thru & Right	8.4	970	8148.0	11.2	1022	11446.4
	NB Left, Thru & Right	10.6	476	5045.6	11.9	1172	13946.8
	Total Delay (Seconds)			13193.6			25393.2
	Total Delay (Hours)			3.7			7.05
With Separate Left Turn Lanes	NB Left	8.4	10	84.0	11.2	5	56
	NB Left	10.6	21	222.6	11.9	101	1201.9
	Total Delay (Seconds)			306.6			1257.9
	Total Delay (Hours)			0.1			0.35
Hours of Reduced Delay				**3.6**			**6.7**

As shown, the total delay to traffic along South Kihei Road will be reduced 3.6 hours during the morning and 6.7 hours during the afternoon peak hour. The conclusion of this analysis is that installation of separate left turn lanes would significantly reduce delay to northbound and southbound through traffic along South Kihei Road at Ohukai Road.

In addition to the reduced delay to traffic along South Kihei Road, the intersection must be improved to accommodate the new driveway into Memorial Park. Therefore, it is recommended that separate northbound and southbound left turn lanes be installed at this intersection.

A signal warrant analysis was performed for this intersection and the results are presented in a later section of this chapter.

Ohukai Road at Kenolio Road

The result of the Level-of-Service analysis for the intersection of Ohukai Road at Kenolio Road is summarized in Table 11. All movements will operate at Level-of-Service B or better during both peak periods, without and with the proposed project. Since all traffic movements will operate at level-of-service B or better, no mitigation measures are recommended.

Table 11 Level-of-Service Analysis for 2005 Peak Hour Conditions - Ohukai Road at Kenolio Road

Intersection and Movement	Cumulative		Cumulative Plus Project	
	Average Vehicle Delay [2]	LOS [3]	Average Vehicle Delay [2]	LOS [3]
AM PEAK HOUR				
Eastbound Left, Thru & Right	8.41	A	8.59	A
Westbound Left, Thru & Right	8.58	A	8.73	A
Northbound Left, Thru & Right	8.78	A	9.01	A
Southbound Left, Thru & Right	8.24	A	8.34	A
PM PEAK HOUR				
Eastbound Left, Thru & Right	10.26	B	10.55	B
Westbound Left, Thru & Right	9.60	A	9.99	A
Northbound Left, Thru & Right	9.37	A	9.64	A
Southbound Left, Thru & Right	9.37	A	9.58	A

NOTES:
(1) Delay is in seconds per vehicle.
(2) LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual.*

Ohukai Road at Piilani Highway

The results of the level-of-service analysis for the intersection of Ohukai Road at Piilani Highway is summarized in Table 12.

Table 12 Level-of-Service Analysis for 2005 Peak Hour Conditions - Ohukai Road at Piilani Highway

Intersection and Movement	Cumulative V/C	Cumulative Average Vehicle Delay [2]	Cumulative LOS [3]	Cumulative Plus Project V/C	Cumulative Plus Project Average Vehicle Delay [2]	Cumulative Plus Project LOS [3]	V/C Change
AM PEAK HOUR							
	0.880	37.1	D	0.880	37.4	D	0.000
Eastbound Left & Thru	0.549	34.1	C	0.582	35.4	D	0.033
Eastbound Right	0.084	23.9	C	0.098	24.1	C	0.014
Westbound Left & Thru	0.870	59.1	E	0.888	62.3	E	0.018
Westbound Right	0.635	35.2	D	0.635	35.2	D	0.000
Northbound Left	0.407	77.8	E	0.424	79.1	E	0.017
Northbound Thru	0.944	45.1	D	0.944	45.1	D	0.000
Northbound Right	0.237	21.8	C	0.237	21.8	C	0.000
Southbound Left	0.629	65.8	E	0.629	65.8	E	0.000
Southbound Thru	0.663	22.9	C	0.663	22.9	C	0.000
Southbound Right	0.028	13.9	B	0.030	14.0	B	0.002
PM PEAK HOUR							
	1.010	64.4	E	1.010	65.6	E	0.000
Eastbound Left & Thru	0.788	50.2	D	0.804	51.7	D	0.016
Eastbound Right	0.000	23.6	C	0.008	23.6	C	0.008
Westbound Left & Thru	1.081	112.4	F	1.084	113.4	F	0.003
Westbound Right	0.391	29.7	C	0.398	29.8	C	0.007
Northbound Left	0.504	68.7	E	0.525	70.1	E	0.021
Northbound Thru	1.045	74.4	E	1.049	76.1	E	0.004
Northbound Right	0.425	29.5	C	0.426	29.8	C	0.001
Southbound Left	0.718	65.3	E	0.720	65.8	E	0.002
Southbound Thru	1.018	59.3	E	1.022	60.7	E	0.004
Southbound Right	0.031	17.4	B	0.031	17.6	B	0.000

NOTES:
(1) Delay is in seconds per vehicle.
(2) LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*.

1. During the morning peak hour, the overall intersection volume-to-capacity ratio is 0.880 without and with the proposed project, which means that the traffic impacts of the project are insignificant.

2. During the morning peak hour, the final volume-to-capacity ratio for the westbound left and through movement is 0.888. The volume-to-capacity ratio increases from 0.870 to 0.888 for a change of 0.018. The change required to be significant is 0.020. The project's traffic impact on this movement is therefore insignificant.

3. Also during the morning peak hour, the volume-to-capacity ratio of the northbound through is 0.944 without and with the project. The project adds no traffic to this movement. Therefore, the impact on this movement is also significant.

4. During the afternoon peak hour, there is no change in the volume-to-capacity ratio of the overall intersection.

5. The volume-to-capacity ratio of the eastbound left and through movement increases from 0.788 to 0.804, for a change of 0.016. The change required for significance is 0.020. Therefore, the impact on this movement is insignificant.

6. The volume-to-capacity ratio of the westbound left and through increases from 1.081 to 1.084. The change required to be significant is 0.010, but the change is 0.003. Therefore, the impact is *insignificant*.

7. The volume-to-capacity ratio of the northbound through movement increases from 1.045 to 1.049. The required change for significance is 0.010. The calculated change is 0.004.

8. The volume-to-capacity ratio of the southbound left turn increases from 0.718 to 0.720. The change required to be significance is 0.040. The calculated change is 0.004.

9. The volume-to-capacity ratio for the southbound through increases from 1.018 to 1.022. The change is 0.004 but the change required for significance is 0.010.

Driveways

The results of the level-of-service analysis for the project driveways are summarized in Table 13.

Table 13 Level-of-Service Analysis for 2005 Peak Hour Conditions - Drives A and B

Intersection and Movement	AM Peak Hour		PM Peak Hour	
	Control Delay [2]	LOS [3]	Control Delay [2]	LOS [3]
South Kihei Road at Drive A				
Southbound Left & Thru	9.9	A	10.2	B
Westbound Left & Right	22.5	C	43.2	E
Eastbound Left & Right	27.1	D	101.4	F
Kenolio Road at Drive B				
Northbound Left & Thru	7.3	A	7.5	A
Eastbound Left & Right	9.3	A	9.8	A

NOTES:
(1) V/C denotes volume-to-capacity ratio.
(2) Delay is in seconds per vehicle.
(3) LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*.

Left turns from Drive A onto South Kihei Road will operate at Level-of-Service F during the afternoon peak hour. Because of the long delay, it is recommended that left turns from this driveway be prohibited.

All traffic movements at the intersection of Drive B and Kenolio Road will operate at level-of-service A during both peak hours.

Traffic Signal Warrant Analysis

A traffic signal warrant analysis was performed for the intersection of Ohukai Road at South Kihei Road to determine if a traffic signal is warranted for cumulative or cumulative plus project conditions. The traffic signal warrant analysis was performed using the warrants and procedures described in the *Manual of Uniform Traffic Control Devices* (MUTCD) published by the U.S. Department of Transportation, Federal Highway Administration and Caltrans[7].

If traffic conditions satisfy any of the warrants, then a traffic signal should be considered. The MUTCD and traffic manual clearly state that satisfaction of a warrant is not necessarily justification for a traffic signal. Conversely, a signal may be warranted even though no warrants may be satisfied. Other considerations may require signals to address safety and geometric issues. Delay, congestion, confusion or other evidence of the need of right-of-way assignment must also be shown.

The assumptions used in the analysis are:

1. The study area is zoned urban.

2. The analysis was performed for existing, cumulative and cumulative plus project conditions.

3. The existing lane configuration was used, all approaches are one-lane. Separate left turn lanes were not considered.

There are eleven warrants described in the MUTCD. These warrants and the results of the warrant analysis are shown in Table 14. The conclusion of the traffic signal warrant analysis is that Warrants 10 and 11, Peak Hour Delay and Peak Hour Volume warrants, respectively, are satisfied for both 2005 cumulative conditions without and with the project. Warrant 10 is also satisfied for the afternoon peak hour. Warrant 11 is satisfied for both AM and PM Peak Hour

The critical volume in the Peak Hour Volume warrant is approach volumes along Ohukai Road. This volume increases by only five (5) vehicles, or 2.27%, during the morning peak hour and three (3) vehicles, or 2.14%, during the afternoon peak hour.(See Figure 8, page 23.) There is no change in the results of the signal warrant analysis due to adding project generated traffic.

[7] Caltrans, Traffic Manual, pages 9-1 through 9-13.

Table 14 Traffic Signal Warrant Analysis

No.	Warrant	Existing Conditions AM	Existing Conditions PM	Cumulative Conditions AM	Cumulative Conditions PM	Cumulative Plus Project Conditions AM	Cumulative Plus Project Conditions PM	Comment
1	Minimum Vehicular Volume							(1)
2	Interruption of Continuous Traffic							(1)
3	Minimum Pedestrian Volume							(1)
4	School Crossing							(2)
5	Progressive Movement							(1)
6	Accident Experience							(3)
7	Systems Warrant							(1)
8	Combination of Warrants							(1)
9	Four Hour Volume							(1)
10	Peak Hour Delay	NO	NO	NO	YES	NO	YES	(4)
11	Peak Hour Volume	YES	NO	YES	YES	YES	YES	(5)

Notes:
(1) Insufficient data available.
(2) There are no schools in the immediate vicinity. Therefore, this warrant is not applicable.
(3) Historical accident data is not available.
(4) Warrant is satisfied for cumulative and cumulative plus project conditions, PM Peak Hour.
(5) Warrant is satisfied for cumulative and cumulative plus project conditions, AM and PM peak Hours.

Even though the peak hour delay and volume warrants are satisfied, installation of a traffic signal at this intersection is not recommended for the following reasons.

1. The delay warrant is satisfied as a result of delays to left turning vehicles. Drivers that make this left turn have accepted the delay since there are alternative routes to areas south of Ohukai Road, such as Kenolio Road and Piilani Highway.

2. The delays do not seem to be excessive. The minimum delay for traffic approaching along the minor street is four hours for a one-lane approach and five hours for a two-lane approach. The calculated delay is 4.6 hours. If the intersection were modified to provide separate left and right turn lanes, the longer delay of five hours would apply. However, the remaining criteria relative to the total approach volumes would still be met.

3. If traffic signals are installed, this would be the only signalized intersection along South Kihei Road between Mokulele Highway and Piikea Street. As a result, traffic would be attracted from other east-west roadways connecting South Kihei Road and Piilani Highway because left turns onto southbound South Kihei Road would be easier.

Traffic Calming

1. Ohukai Road between South Kihei Road and Piilani Highway has residential development along both sides except for a short portion. As traffic increases along Piilani Highway, traffic along Ohukai can be expected to increase. This will probably result in a request for some form of traffic calming along Ohukai Road sometime in the future. Speed humps and additional four-way STOP signs should be considered. However, these measures are recommended because the County has an established procedure for responding to request for traffic calming from residents. It would be inappropriate to recommend traffic calming measures for a community prior to receiving such a request because the residents may not want these controls installed on their streets.

2. The internal street network of the proposed project consists of curvilinear roadways. This alignment should discourage use of the project's streets by through traffic and enhance pedestrian safety within the project. Therefore, no traffic calming measures for the internal streets have been recommended.

6. SUMMARY AND RECOMMENDATIONS

1. The proposed project is located between South Kihei Road and Kenolio Road south of Ohukai Road in the Kihei area of Maui. The project will be 116 multi-family residential units.

2. There will be two driveways for the project. The first driveway will be along the east side of South Kihei Road approximately 300 feet south of Ohukai Road. A second driveway will be along the west side of Kenolio Road approximately 225 feet south of Ohukai Road. All traffic movements will be allowed at both driveways.

3. The proposed project will generate 10 inbound and 49 outbound trips during the morning peak hour, for a total of 59 trips. During the afternoon peak hour, the project will generate 63 trips, 33 inbound and 30 outbound.

4. At the intersection of South Kihei Road at Ohukai Road, there is no change in the Level-of-Service of any traffic movement as a result of project generated traffic. The left turns from Ohukai Road to southbound South Kihei Road will operate at Level-of-Service F during both peak periods, without and with the project. This is consistent with most left turns into South Kihei Road because of the heavy north-south traffic along the roadway.

5. An analysis of this intersection was performed to determine if installation of separate left turn lanes along South Kihei Road would improve the Level-of-Service. This analysis concluded that the total delay to traffic along South Kihei Road will be reduced 3.6 hours during the morning and 6.7 hours during the afternoon with the installation of separate left turn lanes. Thus, installation of separate left turn lanes would significantly reduce delay to northbound and southbound through traffic along South Kihei Road at Ohukai Road. In addition to the reduced delay to traffic along South Kihei Road, the intersection must be improved to accommodate the new driveway into Memorial Park.

Therefore, it is recommended that separate northbound and southbound left turn lanes be installed at this intersection.

6. At the intersection of Ohukai Road at Kenolio Road, all movements will operate at Level-of-Service B or better during both peak periods, without and with the proposed project. No mitigation is recommended.

7. At the intersection of Ohukai Road at Piilani Highway, several movements are expected to operate at Level-of-Service E or F as a result of background conditions without the project. Based on established criteria for defining a significant traffic impact, traffic generated by the proposed project will not have a significant impact on any traffic movement at this location. Therefore, no mitigation is recommended.

8. The proposed driveway along South Kihei Road is expected to operate at level-of-service F during the afternoon peak hour. It is recommended that left turns from the driveway be prohibited.

9. The conclusion of a traffic signal warrant analysis for the intersection of South Kihei Road at Ohukai Road, is that Warrant 10, Peak Hour Delay and Warrant 11, the Peak Hour Volume, is satisfied for future conditions without and with the project. However, installation of a traffic signal is not recommended for the following reasons:

   a. The delay warrant is satisfied as a result of delays to left turning vehicles. Drivers that make this left turn have accepted the delay since there are alternative routes for traffic to reach areas south of Ohukai Road, such as Kenolio Road and Piilani Highway.

   b. The delays do not seem to be excessive. The minimum delay for traffic approaching along the minor street is four hours for a one-lane approach and five hours for a two-lane approach. The calculated delay is 4.6 hours. If the intersection were modified to provide separate left and right turn lanes, the longer delay of five hours would apply. However, the remaining criteria relative to the total approach volumes would still be met.

   c. If traffic signals are installed, this would be the only signalized intersection along South Kihei Road between Mokulele Highway and Piikea Street. As a result, traffic would be attracted from other east-west roadways connecting South Kihei Road and Piilani Highway because left turns onto southbound South Kihei Road would be easier.

10. In summary, the following mitigation measures are recommended:

   a. The intersection of South Kihei Road at Ohukai Road should be improved to provide northbound and southbound separate left turn lanes.

   b. The approach of Ohukai Road to South Kihei Road should be improved to provide separate left and right turn lanes.

   c. Left turns from the project's driveway along South Kihei Road should be prohibited. The allowed movements would be right in, right out and left in.

APPENDIX A

TRAFFIC PROJECTION WORKSHEETS

Table A-1
TRAFFIC PROJECTION WORKSHEET
Ohukai Road at South Kihei Road

		Existing		Cumulative		Project Trips		Cumulative Plus Project	
Approach	Mvt	AM	PM	AM	PM	AM	PM	AM	PM
North	Rt	0	0	10	5			10	5
	Th	515	680	445	1065	0	1	445	1066
	Lt	25	80	20	100	1	1	21	101
East	Rt	85	20	165	30	5	2	170	32
	Th	0	0	0	0			0	0
	Lt	40	50	55	110	2	1	57	111
South	Rt	70	115	95	175	8	4	103	179
	Th	640	530	845	830	12	8	857	838
	Lt	0	0	10	5			10	5
West	Rt	0	0	0	0			0	0
	Th	0	0	0	0			0	0
	Lt	0	0	0	0			0	0
Total		1375	1475	1645	2320	28	17	1673	2337

Approach Totals

From North	540	760	475	1170	1	2	476	1172
From East	125	70	220	140	7	3	227	143
From South	710	645	950	1010	20	12	970	1022
From West	0	0	0	0	0	0	0	0
Totals	1375	1475	1645	2320	28	17	1673	2337

Departure Totals

To North	725	550	1010	860	17	10	1027	870
To East	95	195	115	275	9	5	124	280
To South	555	730	500	1175	2	2	502	1177
To West	0	0	20	10	0	0	20	10
Totals	1375	1475	1645	2320	28	17	1673	2337

Table A-2
TRAFFIC PROJECTION WORKSHEET
Ohukai Road at Kenolio Road

		Existing		Cumulative		Project Trips		Cumulative Plus Project	
Approach	Mvt	AM	PM	AM	PM	AM	PM	AM	PM
North	Rt	5	10	10	10			10	10
	Th	20	50	25	60	1	3	26	63
	Lt	25	30	25	30			25	30
East	Rt	15	15	20	15			20	15
	Th	45	55	75	90			75	90
	Lt	15	40	20	40	3	13	23	53
South	Rt	40	35	40	35	7	4	47	39
	Th	35	60	50	70	2	2	52	72
	Lt	50	15	50	15	4	3	54	18
West	Rt	20	45	20	45	1	1	21	46
	Th	65	110	75	150	6	4	81	154
	Lt	5	15	5	15			5	15
Total		340	480	415	575	24	30	439	605

Approach Totals

From North	50	90	60	100	1	3	61	103
From East	75	110	115	145	3	13	118	158
From South	125	110	140	120	13	9	153	129
From West	90	170	100	210	7	5	107	215
Totals	340	480	415	575	24	30	439	605

Departure Totals

To North	55	90	75	100	2	2	77	102
To East	130	175	140	215	13	8	153	223
To South	55	135	65	145	5	17	70	162
To West	100	80	135	115	4	3	139	118
Totals	340	480	415	575	24	30	439	605

Table A-3
TRAFFIC PROJECTION WORKSHEET
Ohukai Road at Pillani Highway

		Existing		Cumulative		Project Trips		Cumulative Plus Project	
Approach	Mvt	AM	PM	AM	PM	AM	PM	AM	PM
North	Rt	25	75	30	100	2	9	32	109
	Th	730	850	1075	1510			1075	1510
	Lt	135	145	110	175			110	175
East	Rt	175	195	460	235			460	235
	Th	35	85	50	75	0	1	50	76
	Lt	125	210	205	220			205	220
South	Rt	115	180	195	245			195	245
	Th	690	800	1295	1290			1295	1290
	Lt	10	15	20	60	1	3	21	63
West	Rt	35	40	60	30	8	4	68	34
	Th	90	100	110	125	2	1	112	126
	Lt	95	60	90	115	5	3	95	118
Total		2260	2755	3700	4180	18	21	3718	4201

Approach Totals

From North	890	1070	1215	1785	2	9	1217	1794
From East	335	490	715	530	0	1	715	531
From South	815	995	1510	1595	1	3	1511	1598
From West	220	200	260	270	15	8	275	278
Totals	2260	2755	3700	4180	18	21	3718	4201

Departure Totals

To North	960	1055	1845	1640	5	3	1850	1643
To East	340	425	415	545	2	1	417	546
To South	890	1100	1340	1760	8	4	1348	1764
To West	70	175	100	235	3	13	103	248
Totals	2260	2755	3700	4180	18	21	3718	4201

Appendix – H
Comment and Response Letters

Comment and Response Letters

1. Mr. Leonard Kimokeo Kapahulehuea
2. State of Hawaii, Office of Environmental Qaulity Control
3. University of Hawaii, Environmental Center
4. Mr. James Beerer
5. State of Hawaii, Department of Accounting and General Services
6. County of Maui, Department of Housing and Human Concerns
7. United State Department of Agriculture, Natural Resources Conservation Services
8. State of Hawaii, Department of Land and Natural Resources
9. State of Hawaii, Maui District Health Office
10. State of Hawaii, Department of Transportation
11. State of Hawaii, Department of Business, Economic Development & Tourism
12. County of Maui, Department of Public Works and Waste Management
13. County of Maui, Department of Water Supply
14. State of Hawaii, Department of Land and Natural Resources
15. County of Maui, Police Department
16. State of Hawaii, Department of Transportation
17. County of Maui, Department of Parks and Recreation
18. County of Maui, Department of Parks and Recreation
19. County of Maui, Department of Parks and Recreation
20. County of Maui, Department of Planning
21. State of Hawaii, Department of Transportation
22. State of Hawaii, Department of Transportation
23. County of Maui, Department of Planning
24. County of Maui, Department of Parks and Recreation

April 4, 2003

Mr. Leonard Kimokeo Kapahulehuea
938 South Kihei Road
Kihei, Maui, Hawaii 96753

Dear Mr. Kapahulehuea,

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated October 16, 2002, regarding the above-referenced project.

We acknowledge your preference to have no encroachment of angled parking, or associated buildings or structures, within Maipoina Oe Lau Beach Park.

Please note that there are currently two park improvement options being proposed:

- Preferred Park Improvement Plan. The plan preferred by the applicant is to develop thirty-nine on-street parallel parking stalls along South Kihei Road, with street trees and associated landscape planting improvements. Improvements within the park include the provision of a 3-car loading zone, a beach access path, picnic tables, and the reestablishment of a grassy lawn between South Kihei Road and the Coastal Dunes to provide for windsurf rigging and passive recreational use.

- Alternative Park Improvement Plan. An alternative park improvement plan proposes the provision of 18 angled parking stalls within the park, a landscaped median separating the park from traffic along South Kihei Road, and 28 on-street parking stalls along South Kihei Road.

The applicant prefers to keep the park free of additional parking, in order to avoid any potential impact to the dune system and to provide additional recreational area for beach users.

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,

Christopher L. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

LEONARD KIMOKEO KAPAHULEHUEA
938 South Kihei Rd.
Kihei, Maui, Hawaii 96753

Chris Hart
Senior Partner
Chris Hart & Partners, Inc.
1955 Main Street, Suit 200
Wailuku, Maui, HI 96793

October 16,2002

Dear Mr. Hart,

This letter is in response to the proposed improvements to Maipoina Oe Iaupa beach front park on South Kihe Road. The preservation and restoration of our beaches, dunes and surrounding environment is critical to the quality of this park and of life on Maui as well as the endangered species that may habitat there.

For these reasons there should be no encroachments of development into the park area makai of the existing pavement on South Kihei Road such as the following:

1. No angled parking or additional paving.
2. No buildings or structures

These concerns stem from the advise of the Sea Grant and will help concur with the direction of the new proposed shoreline setbacks.

Restoration and revitalization of our beaches and dunes in the area of the proposed development is extremely critical in that there is very little beach and dune left. The constant abuse of foot traffic on the dunes and vegetation has contributed to their destruction. The greatest improvement the proposed project could provide the area is to aid in the restoration of the beach and dunes by:

1. Planting and temporally irrigating native vegetation under the direction of the Sea Grant.
2. Restoring the dunes with beach quality sand
3. Limiting the access through the dunes with boundary rails and diagonally laid board walk over the dunes (oriented SW/NE).
4. Providing a modest lawn area between S. Kihei Rd. and the dunes to provide for wind surf rigging and general use.

Thank you for your carefull attention to this matter as it is greatly appreciated.

Sincerely,

Kimokeo Kapahulehuea

CHRIS HART & PARTNERS, INC.

April 2, 2003

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

Dear Ms. Salmonson:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated January 6, 2003, regarding the above-referenced project.

In response to your letter, we offer the following comments:

1. Special Management Area. Pursuant to your letter, a separate map identifying the SMA boundary, in relation to the proposed project, will be incorporated into the Final EA.

2. Permits and Approvals. Please note that the prior SMA Use Permit expired in 1995, and is therefore no longer valid. Per your request, all other required permits and approvals, along with the status of each, will be listed in the Final Environmental Assessment.

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,

Christopher L. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani 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
Email: oeqc@health.state.hi.us

January 6, 2003

John Min
Maui Planning Department
250 South High St.
Wailuku, HI 96793

Attn: Matt Niles

Dear Mr. Min:

Subject: Draft environmental assessment (EA) for **Kai Makani**

Include the following in the final EA:

Special Management Area: What is the SMA boundary in this area? Include this in the final EA, either as a separate map or superimposed on one of the existing maps.

Permits and approvals: The draft EA notes that the previous SMA Use Permit expired in 1995. What is the status of this application? List all other required permits and approvals and give the status of each.

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

Sincerely,

GENEVIEVE SALMONSON
Director

c: Chris Hart

CHRIS HART & PARTNERS, INC.

April 4, 2003

Ms. Jacquelin Miller, Ph.D.
Associate Environmental Coordinator
2500 Dole Street, Krauss Annex 19
Honolulu, Hawaii 96822

Dear Ms. Miller,

RE: Consolidated Draft Environmental Assessment (EA), Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated January 17, 2003, regarding the above-referenced applications. In response to your letter, we offer the following comments:

1. General Comments.

   a. Adequacy of Document in meeting Requirements of Chapter 343. Please note that the subject document has been reviewed by the State of Hawaii's, Office of Environmental Quality Control, and appears to meet all applicable requirements as set forth in Chapter 343, HRS.

   b. Missing Portions and Illegible Figures. The Draft EA is neither "missing portions" nor does it contain "illegible figures", that are required by Chapter 343, HRS. The Final Environmental Assessment will incorporate comment and response letters from agencies and concerned individuals responding to the Draft Environmental Assessment. The Final Environmental Assessment will also be revised to incorporate all relevant additional information.

   c. Flood and Tsunami Hazard. The proposed development will comply with Maui County Code, Chapter 19.63 "Flood Hazard Areas" and all other applicable Federal, State, and County laws that regulate development within flood hazard areas.

2. Project Information. Please note that the project area, including the area identified as TMK No. (2) 3-9-041:038, is shown in figure Nos. 1, 2, 3, and 4, "Regional Location", "Community Plan", "Aerial/Community Plan", and "Zoning". The subject parcel is approximately 2.52-acres and is identified on the above-referenced figures as that portion of the project area zoned R-2 Residential and community planned Single-Family.

   An Archeological Inventory Survey was prepared for TMK Parcel No. 3-9-041:038 (previously identified as a portion of TMK Parcel No. 3-9-041:027) *and is included in Appendix B.*

3. Infrastructure - Water. According to the Department of Water Supply, the sustainable yield of the Iao Aquifer is approximately 20 MGD and the sustainable yield of the Waihee Aquifer is approximately 8 MGD. Rolling annual average ground water withdrawals from the Iao Aquifer as of December 2002, were 16.848 MGD. Rolling annual average groundwater withdrawls for the same period from the Waihee Aquifer were 4.994 MGD.

   The water demand calculation for the project is approximately 62,720 gallons per day.

   According to the Department of Water Supply, water availability will be reviewed at the time of application for meter or meter reservation. As such, this project will not impact the long-term viability of the Central Maui System since meters will not be issued in the event that the Department determines that the sustainable yield of the system has been exceeded.

4. Coastal Water Quality. Your assertion that the document fails to address the long-term effects of the project on near-shore water quality is unjustified.

   As stated on pages 28-30, and Appendix E, of the Draft Environmental Assessment (DEA), the drainage design criteria shall be to minimize any alterations to the natural pattern of existing onsite surface runoff. Based on the calculations contained within the Preliminary Drainage Report, Appendix E of the DEA, the sedimentation hazard to coastal waters and downstream properties is minimal. The soil loss per unit area and severity rating computed for the proposed developments are well within tolerable limits. Therefore, the project should not have an adverse effect on the adjoining or downstream properties.

   Moreover, a National Pollution Discharge Elimination System (NPDES) permit will be required for the project since the site is greater than 5 acres.

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. Project plans call for long-term, as well as short-term measures, which will minimize the potential impacts from runoff from the property. These measures include the following:

Long-term

Additional onsite runoff generated by the project will be directed into sub-surface detention facilities. These facilities will not only keep the post development peak flow volumes at predevelopment rates, but will also serve as sedimentation traps and filters to prevent sediments or pollutants from migrating into coastal waters.

Short-term

Stormwater control structures will be constructed prior to initiation of major site improvements. This will include installation of the permanent stormwater retention/siltation facilities on the site.

Temporary berms to divert runoff to the retention basins will be constructed. Temporary silt screens will be installed along South Kihei Road and within drainage swales along the project limits. Temporary silt screens will also be installed around or within new catch basins and drain inlets. Topsoil stockpiles will be covered or stabilized.

Sediment and debris from construction activities will be properly disposed of. Bare areas will be replanted or covered as soon as grading or construction is completed.

The above-referenced mitigation measures will greatly mitigate the likelihood that construction phase activities, as well as longer-term landscape irrigation activities will introduce sediment as well as nutrients into the ocean.

5. Appendix A – Pre-consultation. All letters received in response to our pre-consultation letters were incorporated into Appendix A.

Thank you for your consideration of our application. Should you have any questions, please contact myself, or Mr. Michael Summers, Project Manager, Chris Hart & Partners at 242-1955.

Sincerely yours,

Christopher L. Hart, ASLA
Landscape Architect - Planner

Enclosure

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering Inc.
Project File

UNIVERSITY OF HAWAI'I
Environmental Center

January 17, 2002

EA: 0297

Mr. Adam Sparks
Aheahe Makani LLC
161 Cresta Vista
San Francisco, CA 94127

Dear Mr. Sparks:

Kai Makani
Planned Development Approval and Special Management Area Permit
Draft Environmental Assessment
Kihei, Maui, Hawaii

Aheahe Makani LLC is requesting a Special Management Area (SMA) permit to develop 112 multifamily residential units on an undeveloped 10.442-acre parcel in Kihei, Maui. The proposed project is situated along South Kihei Road, across from the Mai Poina 'Oe Ia'u Beach Park (Kihei Memorial Beach Park). Improvements are also proposed for Mai Poina 'Oe Ia'u Beach Park in order to satisfy the project's park dedication requirements.

The Kai Makani project will be comprised of 28 3-bedroom models and 84, 2-bedroom models along with supporting infrastructure including paved driveways, water, sewer, and drainage facilities. On-site recreation facilities include the provision of a private recreation cabana and swimming pool, as well as, a public tennis court. A bicycle/pedestrian path linking Kenolio Road and South Kihei Road along the project's northern boundary is also planned. Improvements to Mai Poina 'Oe Ia'u Beach Park include the provision of 37 parallel parking stalls along South Kihei Road, landscape planting and beautification within the park, and a 3-car loading zone. Access to the project will be provided from two driveways located along South Kihei Road and a single driveway along Kenolio Road.

Glenn Shepherd, of the Maui Community College and Kevin Polloi of the Environmental Center participated in the review of this document.

General Comments

The Environmental Center has serious concerns regarding the adequacy of this document in meeting the requirements of Chapter 343. Besides missing portions and illegible figures, the basic fact that the island of Maui is facing possible groundwater shortage is a major factor in, at the least, delaying this project until this matter is resolved.

2500 Dole Street, Krauss Annex 19, Honolulu, Hawaii 96822
Phone: (808) 956-7361

The project is obviously inside the tsunami inundation zone. For public safety, new housing development in tsunami-prone areas should be discouraged. New development are required to have ground floor elevations raised above base flood elevations. This in turn displaces flood waters and exacerbates flooding of older housing built on natural grades.

Since the 1970's Kihei has undergone massive development resulting in increased impermeable surfaces (e.g. rooftops, concrete and asphalt surfaces, etc.). The increase in runoff is a problem that must be addressed.

Specific Comments

This document is insufficient and will continue to be so unless the following issues are addressed:

Project Information – pg. 1

The section mentions that TMK No. (2) 3-9-041:038 is included in the project, however the lot is not identified in the figures. Furthermore, no archaeological studies have been performed on this parcel.

Infrastructure – Water – pg. 27

In addition to failure to mention the current status of water resources upon which the project will rely, the document fails to include projected water consumption of the proposed project. Additionally, there is no mention of utilizing reclaimed water for the project despite the fact that water availability is not guaranteed for the project.

Coastal Water Quality

The document fails to address long-term effects of this project to the near-shore coastal water quality as this project lies in close proximity to the ocean. What assurance is there that activities such as landscape maintenance will not introduce sediment as well as nutrients into the ocean?

Appendix A – Pre-consultation

Besides the Department of Transportation, Planning and Water Supply there are no inclusions of response letters from the other people consulted. These letters should be included.

Thank you for the opportunity to review this draft environmental assessment.

Sincerely,

Jacquelin Miller, Ph.D.
Associate Environmental Coordinator

Cc: OEQC
Chris Hart & Partners, Inc.
Maui Department of Planning
James Moncur
Kevin Polloi

CHRIS HART & PARTNERS, INC.

April 4, 2003

Mr. James Beerer
56 Kalola Place
Kihei, HI 96753

Dear Mr. Beerer,

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated January 18, 2003, regarding the above-referenced applications. In response to your letter, we offer the following comments:

- Dust and dirt control during construction. We appreciate your concerns regarding dust generated during the construction phase of the project. Please note that 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 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 traffic routes, and locating potentially dusty equipment in areas of least impact;
    - Providing adequate water source on-site prior to start-up of construction activities in order to provide regular sprinkling;
    - Landscaping and rapid covering of bare-areas, including slopes, beginning with the initial grading phase;
    - Controlling of dust from shoulders, project entrances, and access roads;
    - Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities;
    - Controlling of dust from debris hauled away from project site; and

- Use of temporary dust screens around the perimeter of the project site.

Combined these measures should mitigate dust related nuisances caused during the construction phase of the project.

- Visibility into house and yard. Please note that the following improvements will be constructed along the common boundary in order to minimize privacy related impacts to neighboring property owners:

  - Construction of 6' high fence;
  - Planting of Bamboo hedge and Areca Palms along common boundary line;
  - Planting of Hawaiian Kou shade trees at 30' feet intervals.

- Light Pollution. Please note that parking lot lighting will be of low intensity and will be shielded to avoid spillover effects on neighboring properties. The public tennis court will have lights available for evening play, but lighting will be focused away from neighboring properties. In addition, as discussed above, landscape planting along the entire northern boundary line will help to mitigate light related impacts to neighboring properties.

- Traffic Noise. Please note that the proposed driveway will be designed in a manner that minimizes traffic speed and noise. Some of the proposed traffic calming measures included in the roadway design include street curvature, on-street parking, and speed bumps. Due to the exclusive appearance of the subject driveway, it is not anticipated that the driveway will function like a collector street between Kenolio Road and South Kihei Road.

- Noise Levels. In the short-term, the proposed project could generate some adverse impacts during the construction phase and in order to minimize construction related impacts on the surrounding parcels, the developer will limit construction activities to normal daylight hours. Also, the contractor will adhere to the State Department of Health's noise regulations for construction equipment. In the longer-term, the proposed residential project should not significantly affect the existing ambient noise levels in the area due to long-term residential nature of the project and a minimal increase in automobile traffic.

- Beach Foot-Path along Northern Perimeter. Please note that the proposed bicycle and pedestrian path will serve a regional need for safe and functional linkages between the area's residential neighborhoods and the

shoreline. The subject bicycle/pedestrian path is strongly supported by the Kihei Community Association.

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,

Christopher L. Hart, ASLA
Landscape Architect - Planner

Enclosure

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering Inc.
Project File

1299

January 18, 2003

Adam Sparks
Aheahe Makani, LLC
825 Van Ness Ave., #301
San Francisco, CA 94109-7837

Dear Mr. Sparks,

'03 JAN 23 A8:23

DEPT OF PLANNING
COUNTY OF MAUI

We are owner/neighbors of the planned Kai Makani development in Kihei, HI. The following are our concerns in regards to the development which we would like to see addressed:

- Dust and dirt control during construction. We feel that the developers should be responsible for power-washing of our exterior, and interior cleaning if necessary. Any damage caused by the construction to our current wall, solar panels, swimming pool and equipment, and air conditioning unit should also be the responsibility of the developers during this time.
- Visibility into our house and yard. We'd like to be assured that tall trees or fences will block all views into our property from Kai Makani grounds and structures.
- Light pollution. We would like to be sure that the parking lot lights do not shine into our yard, and that the proposed tennis court does not have lights.
- Traffic noise. Ideally, we would like the "driveways" into the development to be closed – not a thoroughfare from S. Kihei Road to Kenolio. We'd like to see all possible steps taken to prevent excessive speed and noise.
- We work out of the house and are especially concerned about noise levels related to construction and traffic.
- Access to the beach foot-path along the North perimeter. This borders our property, and we would like a lockable, private gate, accessible only from our side.

We thank you very much for your consideration of these matters. Please feel free to contact us with any questions or concerns.

Sincerely,

James Beerer
Gage Beerer

56 Kalola Place
Kihei, HI 96753
808-875-7478

cc: County of Maui, Dept. of Planning
Chris Hart and Partners

CHRIS HART & PARTNERS, INC.

April 2, 2003

Mr. Randall M. Hashimoto
State Land Surveyor
State of Hawaii
Department of Accounting and General Services
Survey Division
P.O. Box 119
Honolulu, Hawaii 96810

Dear Mr. Hashimoto:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 11, 2003, regarding the above-referenced project. Based upon your letter, we understand that your Division has no objections to the proposed project.

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,

Christopher H. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

LINDA LINGLE
GOVERNOR

RUSS K. SAI
Comptrolle

KATHERINE H. THOM
Deputy Comptrolle

03657

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES
SURVEY DIVISION
P.O. BOX 119
HONOLULU, HAWAII 96810-0119

'03 FEB 13 A11:57

February 11, 2003

MEMORANDUM

TO: Michael W. Foley, Planning Director
Maui County Planning Department

ATTN: Matt Niles, Staff Planner

FROM: Randall M. Hashimoto, State Land Surveyor
DAGS, Survey Division

SUBJECT: I.D.: SM1 2002/0021
TMK: 3-9-001:025, 3-9-41:002, 003, 026, 038, and 027 (por.)
Project Name: Kai Makani
Applicant: Chris Hart and 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.

CHRIS HART & PARTNERS, INC.

April 2, 2003

Ms. Alice L. Lee, Director
County of Maui
Department of Housing and Human Concerns
200 South High Street
Wailuku, Hawaii 96793

Dear Ms. Lee:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 12, 2003, regarding the above-referenced project. We are pleased to address your comments as follows.

1. Planned Development Approval. A Planned Development Approval has been filed with the Department of Planning.

2. Affordable Housing Conditions. The applicant is aware of the requirement to provide affordable housing, pursuant to Ordinance No. 1981, Bill No. 115 (1990).

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

Sincerely yours,

Christopher H. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

ALAN M. ARAK
Mayor
ALICE L. LEE
Director
HERMAN T. ANDRADE
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

February 12, 2003

'03 FEB 18 P2:10

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

TO: MATT NILES, Staff Planner
Department of Planning

FROM: ALICE L. LEE, Director
Department of Housing and Human Concerns

SUBJECT: **PROJECT NAME: KAI MAKANI**
TMK: 3-9-001:025; 3-9-41:002,003, 026, 038 AND 027 (POR.)
I.D. NO. SM1 2002/0021
APPLICANT: CHRIS HART AND PARTNERS

We have reviewed the Special Management Area (SMA) Permit application for the Kai Makani project and would like to offer the following comments:

1. The application form that was included in the application booklet was for a Special Management Area Permit. However, in reviewing the material in the application booklet, it appears that an application form should also have been included for Planned Development Approval.

2. Attached is a copy of Ordinance No. 1981, Bill No. 115 (1990), that is applicable to the project and contains the affordable housing conditions that must be satisfied.

Thank you for the opportunity to comment. We are returning the SMA application for your use.

ETO:df
Attachments

c: Housing Administrator

CHRIS HART & PARTNERS, INC.

April 2, 2003

Mr. Neal S. Fujiwara
District Conservationist
United States Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793

Dear Mr. Fujiwara:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 13, 2003, regarding the above-referenced project, which stated that you have no comments regarding the subject application.

Should you have any questions, please contact myself, or Mr. Michael Summers, at 242-1955.

Sincerely,

Christopher L. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

03/159

United States Department of Agriculture

NRCS Natural Resources Conservation Service

USDA

Our People...Our Islands...In Harmony
210 Imi Kala Street, Suite #209, Wailuku, HI 96793-2100

'03 FEB 18 P1:53

Date: February 13, 2003

Mr. Matt Niles, Staff Planner
County of Maui
Department of Planning
250 S. High Street
Wailuku, Hawaii 96793

Dear Mr. Matt Niles,

SUBJECT: Kai Makani; TMK: 3-9-001: 025; 3-9-041: 002, 003, 026, 038 & 027 portion
I.D. No.: SM1 2002/021

We have no comments on the subject application.

Thank you for the opportunity to comment.

Sincerely,

Neal S. Fujiwara
District Conservationist

CHRIS HART & PARTNERS, INC.

April 2, 2003

Mr. Jason K. Koga
District Land Agent
State of Hawaii
Department of Land and Natural Resources
54 South High Street, Room 101
Wailuku, Hawaii 96793-2198

Dear Mr. Koga:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 14, 2003, regarding the above-referenced project.

Please note that we have consulted on several occasions with the County of Maui's, Department of Parks and Recreation regarding this project.

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

Sincerely yours,

Christopher L. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Michael Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

LINDA LINGLE
GOVERNOR

PHONE: (808) 984-8103
FAX: (808) 984-8111

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

54 High Street, Room 101
Wailuku, Hawaii 96793

February 14, 2003

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

Attention: Matt Niles

Subject: Kai Makani, I.D. No.: SM1 2002/0021, Kihei, Maui; TMK: 3-9-001:025 (Maipoina Oe Lau Beach Park), and 3-9-041:002, 003, 026, 038, and 027 (Por.)

Thank you for providing us the opportunity to comment on the subject matter.

Maipoina Oe Lau Beach Park (TMK: 3-9-001:025) is owned by the State of Hawaii and placed under the County of Maui's jurisdiction by way of Governor's Executive Order No. 1431 for a memorial park.

We have no further comments to share at this time.

If you have any questions, please feel free to contact me at 984-8103.

Sincerely,

Jason K. Koga
District Land Agent

cc: N. Vaccaro
District Files

CHRIS HART & PARTNERS, INC.

April 2, 2003

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: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 14, 2003, regarding the above-referenced project. We are pleased to address your comments as follows:

1. Control of Fugitive Dust. 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 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 traffic routes, and locating potentially dusty equipment in areas of least impact.
   - Providing adequate water source on site prior to start-up of construction activities;
   - Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase;
   - Controlling of dust from shoulders, project entrances, and access roads; and
   - Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities. Controlling of dust from debris hauled away from project site.

2. 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.

3. Vector Control. Pursuant to Hawaii Administrative Rules, Chapter 11-26, "Vector Control", all rodents will be eradicated prior to demolition or site clearing activities.

4. 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." We note that a noise permit may be required prior to commencement of work.

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,

Christopher L. Hart, ASLA
Landscape Planner - Architect

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

LINDA LINGLE
GOVERNOR OF HAWAII

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

LORRIN W. PANG, M.D., M.P.H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET, ROOM 301
WAILUKU, MAUI, HAWAII 96793-2198

'03 FEB 19 A8:56

February 14, 2003

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

Attention: Matt Niles

Dear Mr. Foley:

Subject: **Kai Makani**
TMK: (2) 3-9-001: 025; 3-9-41: 002, 003, 026, 038, & 027 (por.)
SM1 2002/0021

Thank you for the opportunity to comment on the Special Management Area Permit application for the Kai Makani project. The following comments are offered:

1. 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 Hawaii Administrative Rules (HAR) Chapter 11-60.

2. National Pollutant Discharge Elimination System (NPDES) permit coverage will be required for this project. The Clean Water Branch should be contacted at 808 586-4309 regarding NPDES coverage.

3. 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.

4. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in HAR, Chapter 11-46, "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work.

Should you have any questions, please call me at 984-8230.

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

CHRIS HART & PARTNERS, INC.

April 2, 2003

Mr. Rodney K. Haraga
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Haraga:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 19, 2003, regarding the above-referenced Special Management Area (SMA) Permit Application. In response to your letter, we offer the following comments.

1. The applicant is agreeable to paying a pro rata share of regional transportation improvements as determined by the County through a traffic impact fee ordinance.

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

Sincerely,

Christopher L. Hart, ASLA
Landscape Architect and Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

LINDA LINGLE
GOVERNOR

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

RODNEY K. HARAGA
DIRECTOR

Acting Deputy Director
GLENN M. OKIMOTO

IN REPLY REFER TO:

STP 8.0646

February 19, 2003

'03 FEB 25 P12:20

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

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

Dear Mr. Foley:

Subject: Kai Makani
Special Management Area Use Permit (SMA)
TMK: 3-9-001: 025; 3-9-41: 002, 003, 026, 038, and 027 (por.)

This responds to your request for our review of the subject project application to develop a 112-unit multi-family residential development on approximately 10.5 acres of land in the Kihei area on the island of Maui.

As stated in our earlier April 9, 2001 letter (STP 8.9854) attached on the subject proposal, individual developments, such as this, of and by itself may not significantly impact the surrounding transportation facilities; however, the cumulative impacts of such developments in the area will require additional regional transportation improvements. As such, the applicant should be required to pay his pro rata share of required regional improvements.

We appreciate the opportunity to provide comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

Attach.

DIR 0404
STP 8.9854

April 9, 2001

Mr. Rory Frampton
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793-1706

Dear Mr. Frampton:

Subject: Kai Makani
Environmental Assessment
TMK: (2) 3-9-41: 002, 003, and 026

Thank you for your transmittal requesting our review of the subject project.

Individual parcel development of and by itself, such as the subject proposal, may not have a significant impact on the transportation facilities; however, the cumulative impact of the total development in the area will require regional roadway improvements. As such, the applicant should be required to pay his prorata share of required improvements.

We appreciate the opportunity to provide comments.

Very truly yours,

BRIAN K. MINAAI
Director of Transportation

CHRIS HART & PARTNERS, INC.

April 2, 2003

Mr. Anthony J.H. Ching
Executive Officer
State of Hawaii
Department of Business, Economic Development & Tourism
Land Use Commission

Dear Mr. Ching:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 19, 2003, which stated that your agency has no further comments to offer at this time.

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,

Christopher L. Hart, ASLA
Landscape Architect - Planner

Enclosure

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

ANTHONY J.H. CHIN
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, HI 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

'03 FEB 20 P1:26

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

February 19, 2003

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

Dear Mr. Foley:

Subject: I.D. No.: SM1 2002/0021
Project Name: Kai Makani
Applicant: Chris Hart and Partners
TMK: 3-9-001:025; 3-9-41:002, 003, 026, 038, and 027 (por.)

We acknowledge receipt of your February 7, 2003 memorandum 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 further 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

CHRIS HART & PARTNERS, INC.

April 4, 2003

Mr. Gilbert S. Coloma-Agaran
Director
Department of Public Works and Waste Management
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Agaran:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 21, 2003, regarding the above-referenced Special Management Area Permit Application.

In response to your letter, we offer the following comments.

1. The grading for the project will comply with the provisions of the grading ordinance. In addition, Best Management Practices will be implemented to the maximum extent practicable to prevent pollutants, including dust and sediment, from discharging off the project site.

2. Please note that our preferred park plan mentioned below does not incorporate parking within Mai Poina Oe Lau Beach Park and therefore grading within close proximity of the coastal dunes will not be required. However, should the alternative park plan be adopted, which incorporates parking within the park, a coastal engineer will be retained to identify the limits of the coastal dune along the Mai Poina Oe Lau Beach Park and the grading will comply with Section 20.08.035.I, Maui County Code (MCC).

3. The proposed drainage system will comply with the provisions of the drainage rules and shall create no additional adverse effects to adjacent and downstream properties.

4. The provisions of MCC, Section 16.26.3304, Improvements to Public Streets, shall be complied with to provide widening and improvements to South Kihei Road and Kenolio Road. The subdivision of the road-widening lots shall comply with the provisions of the subdivision ordinance.

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,

Christopher L. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering, Inc.
Project File

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

MILTON M. ARAKAWA, A.I.C.P.
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

February 21, 2003

MEMO TO: MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM: for GILBERT S. COLOMA-AGARAN, DIRECTOR OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT

SUBJECT: ENVIRONMENTAL ASSESSMENT
KAI MAKANI MULTI-FAMILY HOUSING
TMK: (2) 3-9-001025/3-9-041:002,003,026,038,027(POR)
EA 2002/0010

We reviewed the subject application and have the following comments:

1. The grading for the project shall comply with the provisions of the grading ordinance. Best management practices shall be implemented to the maximum extent practicable to prevent pollutants, including dust and sediment, from discharging off the project site.

2. The project shall comply with Section 20.08.035.I, Maui County Code (MCC), of the grading ordinance which prohibits grading of a coastal dune. The limits of the coastal dune along the Mai Poina Oe Iau Beach Park parcel shall be determined by a coastal engineer prior to approval of plans for the construction of additional parking for the beach park.

3. The drainage system design shall comply with the provisions of the drainage rules and shall create no additional adverse effects to adjacent and downstream properties.

4. The provisions of MCC, Section 16.26.3304, Improvements to Public Streets, shall be complied with to provide widening and improvements to South Kihei Road and Kenolio Road. The subdivision of the road-widening lots shall comply with the provisions of the subdivision ordinance.

If you have any questions regarding this memorandum, please call Milton Arakawa at Ext. 7845.

RMN:msc
S:\LUCA\Czm\kaimakani_39001025_sm1.msc03.wpd

CHRIS HART & PARTNERS, INC.

April 2, 2003

Mr. George Y. Tengan
Director
Department of Water Supply
County of Maui
P.O. Box 1109
Wailuku, Hawaii 96793-6109

Dear Mr. Tengan:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 21, 2003, regarding the above-referenced project.

In response to your letter, we offer the following comments:

1. Source Availability and Consumption. Thank you for the updated information regarding the status of the Central Maui Water System. The applicant understands that the Department, at the time of application for water meter or meter reservation, will review water availability for the subject project.

   Please note that the proposed project area is 10.442-acres, and not 16.07-acres, as is indicated in your letter. As such, the anticipated water demand for the project is approximately 62,720 gallons per day.

2. System Infrastructure. The applicant understands that domestic, fire and irrigation calculations will be required during the building permit process and that actual fire demand for structures is determined by fire flow calculations prepared, signed and stamped by a certified engineer or architect. As recommended, the applicant will contact the engineering division to

coordinate the location of meters along South Kihei or Kenolio Road as well as other water system improvements.

3. Pollution Prevention. Please note that because this project is greater than 5-acres, 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.

4. Conservation Measures. Should brackish and/or reclaimed water be readily available, the applicant will attempt to utilize such sources for non-potable water uses including irrigation and dust control during construction. Moreover, the applicant welcomes the opportunity to convey the Department's "Checklist of Water Conservation Ideas for Condominiums" to future homeowners.

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,

Christopher L. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering, Inc.
Project File

03 FEB 25 P2:06

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-6109
Telephone (808) 270-7816 • Fax (808) 270-7833

February 21, 2003

Mr. Matt Niles, Staff Planner
Planning Department
County of Maui
250 S High Street
Wailuku, Hawaii 96793

Dear Mr. Niles:

SUBJECT: ID: SM1 2002/0021
TMK: 3-9-011:025; 3-9-041:002, 003, 026, 038 and 027 (por)
Project Name: Kai Makani - Construction of 112-unit apartment, private recreation cabana, swimming pool, public tennis court, bicycle/pedestrian path, landscaping, 234 parking stalls, and beautification improvements and provision of 40 parking stalls within the Kihei Memorial Beach Park

Thank you for the opportunity to review this application for a Special Management Area Permit.

Source Availability and Consumption
The project area is served by the Central Maui System. The sources of water for this system are the Iao and Waihee aquifers, the Iao tunnel and the Iao-Waikapu Ditch. Sustainable yield of Iao aquifer is 20 MGD. Rolling annual average groundwater withdrawals as of December, 2002 were 16.848 MGD. Sustainable yield of Waihee aquifer is 8 MGD. Rolling annual average groundwater withdrawals for the same period were 4.994. The Commission on Water Resource Management has determined that Iao aquifer will be automatically designated should: 1) Pumpage exceed 18 MGD, and 2) Midpoint of the transition zone rise above 680 feet as measured in the Waiehu deep monitor well. Waihee aquifer will be automatically designated if water level elevation drops below 6 feet at the Kanoa test hole. Water availability will be reviewed at the time of application for meter or meter reservation. As of the September, 2002 update, anticipated demand for open projects with discretionary approvals on this system was over 8 MGD. Of these, 3.7 MGD worth were informed that they may have to develop source.

Anticipated water usage for this 16.07 acre project is about 80,000 gallons per day. Consumption may be higher during the initial phase of landscaping.

System Infrastructure

Twelve inch and eight inch waterlines border the west and east side of the project site respectively. Two stand pipes and 2 fire hydrants are located within 200-feet of the project area. Domestic, fire and irrigation services should be required in accordance with standards. Domestic, fire, and irrigation calculations will be required during the building permit process. Actual fire demand for structures is determined by fire flow calculations prepared, signed and stamped by a certified engineer or architect. The approved fire flow calculation methods for use include - Guidance for Determination of Fire Flow - Insurance Service Office, 1974 and Fire Flow - Hawaii Insurance Bureau, 1991. A provision for back-flow prevention will likewise be required. According to the applicant, lots will be consolidated. We encourage the applicant to contact our engineering division to discuss access required to provide utility to parcel 38, plan to locate water meters along Kihei or Kenolio Road as well as other water system improvements.

Pollution Prevention

Our comments during the EA pre-consultation process included information on Best Management Practices (BMPs) designed to minimize infiltration and runoff from construction and vehicle operations. Additional mitigation measures are enumerated below, and should be implemented during construction:

1. Limit construction to dry periods.
2. Prevent cement products, oil, fuel, and other toxic substances from falling or leaching into the water.
3. Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work.
4. Retain ground cover until the last possible date.
5. 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.
6. Avoid fertilizers and biocides, or apply only during periods of low rainfall to minimize chemical runoff.
7. Maintain drainage structures, detention, silting and debris basins.
8. Control dust by proper stockpiling and use non-potable water for dust control.
9. Cover open vehicles carrying soils, gravel or other particulate matter.

Conservation

We are pleased to note the integration of conservation techniques such as the use of low flow fixtures, efficient landscaping and selecting appropriate plants for the area, and properly planned and efficient irrigation systems in the project design. To further conserve water resources, we recommend that brackish and/or reclaimed water sources be utilized for non-potable water uses including irrigation and dust control during construction, if such alternative sources are available. In addition to this, we ask the applicant to convey the attached Checklist of Water Conservation Ideas for Condominiums to future homeowners for their information.

Should you have questions regarding system infrastructure and requirements, please call our Engineering Division at (808) 270-7835 or for questions on conservation and resource matters, please contact our Water Resources and Planning Division at (808) 270-7199.

Sincerely,

George Y. Tengan
Director

eam
cc:engineering division
applicant, with attachment:
A Checklist of Water Conservation Ideas for Condominiums

CHRIS HART & PARTNERS, INC.

April 2, 2003

Mr. Dierdre S. Mamiya
Administrator
State of Hawaii
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Mamiya:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated February 26, 2003, regarding the above-referenced project.

In response to your letter, we offer the following comments.

1. Water Resources. The applicant is aware that if the Commission has to designate the Iao aquifer as a water management area, all ground-water withdrawals to the purveyor would be subject to water use permits and that if withdrawals are constrained, uses may be subject to allocation to users by the purveyor.

2. Flood Zone Designation. We confirm that the project site is located in Special Flood Hazard Areas AO (depth 1), A4, and V18 according to the Flood Insurance Rate Map (FIRM) panel 0265C (September 6, 1989) for Maui County. The applicant is aware that the National Flood Insurance Program (NFIP) regulates development is the flood zone.

3. Maipoina Oe Lau Beach Park. We note that Maipoina Oe Lau Beach Park is owned by the State of Hawaii and placed under the County of Maui's

jurisdiction by way of the Governor's Executive Order No. 1431 for a memorial park.

4. Aquatic Resource Values. The applicant notes that it is preferable for construction related activities to occur during periods of minimal rainfall. In addition, the erosion control plan prepared for this project will incorporate Best Management Practices that will minimize the potential for non-point sources of pollution from impacting the coastal ecosystem.

Thank you for your consideration of our application. Should you have further questions, please contact myself, or Mr. Michael Summers, Staff Planner.

Sincerely yours,

Christopher L. Hart, ASLA
Landscape Architect - Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering, Inc.
Project File

LINDA LINGLE
GOVERNOR

03 FEB 27 A11 :46

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERNEST LAU
DEPUTY DIRECTOR

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

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

L-914/896/931

February 26, 2003

SM12002-0021
LD-NAV

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

Dear Mr. Foley:

Subject: Application: Special Management Area Use Permit
File No.: SM1 2002-0021 - TMK: 2nd/ 2-1-005: 108
Project: 112-Unit Condominium Development
Name: Kai Makani
Applicant: Chris Hart and Partners
Authority: County of Maui Department of Planning

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 covering the subject matter to the following DLNR Divisions for their review and comment:

- Division of Aquatic Resources
- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Land-Planning and Technical Services
- Land-Maui District Land Office

Attached herewith is a copy of the Division of Aquatic Resources, Commission on Water Resource Management, Engineering Division and Land-Maui District Land Office comments.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer on the subject matter. Should 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

LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

February 10, 2003
LD/NAV
Ref.: SM12002-0021.CMT

Suspense Date: 2/18/03

MEMORANDUM:

TO:
- XXX Division of Aquatic Resources (DD)
- ~~XXX Division of Forestry & Wildlife~~
- XXX Engineering Division (DD)
- **XXX Division of State Parks
- Division of Boating and Ocean Recreation
- XXX Commission on Water Resource Management (DD)
- **XXX Land - Planning and Technical Services
- XXX Land - Maui District Land Office (Received)

FROM: Charlene E. Unoki: Acting Assistant Administrator
Land Division

SUBJECT:
Application: Special Management Area Use Permit
I.D. No.: SM1 2002/0021
Project: 112-Unit Condominium Development
Name: Kai Makani
Applicant: Chris Hart and Partners
Authority: County of Maui Department of Planning

Please review the document covering the subject matter and submit your comment (if any) on Division letterhead signed and dated within the time requested above. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

**Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

(X) We have no comments.

( ) Comments attached.

Date: FEB 18 2003

Signed:

Name: MICHAEL G. BUCK, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE

LINDA LINGLE
GOVERNOR

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERNEST LAU
DEPUTY DIRECTOR

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

P.O. Box 621
HONOLULU, HAWAII 96809

February 10, 2003
LD/NAV
Ref.: SM12002-0021.CMT

Suspense Date: 2/18/03

MEMORANDUM:

TO:
- XXX Division of Aquatic Resources (DD)
- **XXX Division of Forestry & Wildlife
- ✓ XXX Engineering Division (DD)
- **XXX Division of State Parks
- Division of Boating and Ocean Recreation
- XXX Commission on Water Resource Management (DD)
- **XXX Land - Planning and Technical Services
- XXX Land - Maui District Land Office (Received)

FROM: Charlene E. Unoki: Acting Assistant Administrator
Land Division

SUBJECT:
Application: Special Management Area Use Permit
I.D. No.: SM1 2002/0021
Project: 112-Unit Condominium Development
Name: Kai Makani
Applicant: Chris Hart and Partners
Authority: County of Maui Department of Planning

Please review the document covering the subject matter and submit your comment (if any) on Division letterhead signed and dated within the time requested above. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

**Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

( ) We have no comments.

(X) Comments attached.

Date: _____

Signed: _____

Name: _____

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LA/NAV
Ref.: SM12002-0021.CMT

COMMENTS

We have reviewed the application for a *Special Management Area Permit* for the subject project and concur that the project site is located in Special Flood Hazard Areas (SFHAs) AO (depth 1), A4, and V18 according to the Flood Insurance Rate Map (FIRM) panel 0265C (September 6, 1989) for Maui County. The National Flood Insurance Program (NFIP) regulates development in all three of these flood zones. Please refer to Title 44 of the Code of Federal Regulations for specific requirements.

If there are questions regarding the NFIP, please contact the State Coordinator, Mr. Sterling Yong, of the Department of Land and Natural Resources at 587-0248. If there are questions regarding flood ordinances, please contact Mr. Francis Cerizo at 270-7771 of the County of Maui, Department of Planning.

If you have any questions, please call Mr. Andrew Monden of the Planning Branch at 587-0229.

Signed: Andrew M. Monden
for ERIC T. HIRANO, CHIEF ENGINEER

Date: 2/24/03

E:\WLD\MAKAI\SUZIE\MAUI\KaiMakaniMaui147.DOC

LINDA LINGLE
GOVERNOR

RECEIVED
03 FEB 12 A 9:40

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERNEST LAU
DEPUTY DIRECTOR

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

February 10, 2003
LD/NAV
Ref.: SM12002-0021.CMT

Suspense Date: 2/18/03

MEMORANDUM:

TO:
XXX Division of Aquatic Resources (DD)
**XXX Division of Forestry & Wildlife
XXX Engineering Division (DD)
**XXX Division of State Parks
Division of Boating and Ocean Recreation
✓ XXX ~~Commission on Water~~ Resource Management (DD)
**XXX Land - Planning and Technical Services
XXX Land - Maui District Land Office (Received)

FROM: Charlene E. Unoki: Acting Assistant Administrator
Land Division

SUBJECT: Application: Special Management Area Use Permit
I.D. No.: SM1 2002/0021
Project: 112-Unit Condominium Development
Name: Kai Makani
Applicant: Chris Hart and Partners
Authority: County of Maui Department of Planning

Please review the document covering the subject matter and submit your comment (if any) on Division letterhead signed and dated within the time requested above. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

**Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

( ) We have no comments. (✓) Comments attached.

Date: _____ Signed: _____

Name: _____

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

February 20, 2003

TO: Ms. Dede Mamiya, Administrator
Land Division

FROM: Dean A. Nakano, Acting Deputy Director
Commission on Water Resource Management (CWRM)

SUBJECT: Kai Makani (Kihei) 112-unit Condominium

FILE NO.: SM12002-0021.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.

[X] 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 Land 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.

[X] OTHER:

The aquifer that serves as the water supply for this project was overpumped beyond its sustainable yield in the recent past, and continues to show signs it has not yet fully recovered. The Commission action of November 2002 established criteria under which the Iao and/or Waihee Aquifers will be designated as water management areas. If those criteria are met, all ground-water withdrawals by the purveyor would be subject to water use permits. The service area would be subject to a declaration of water shortage or a water emergency. If withdrawals are constrained, water users may be subject to restrictions by the purveyor.

If there are any questions, please contact Charley Ice at 587-0251.

LINDA LINGLE
GOVERNOR

DIVISION OF AQUATIC RESOURCES		
DIRECTOR	✓	Suspense Date:
COM FISHERIES		Draft Reply ☐
AQ REC/ENV		Reply Direct ☐
AQ RES/MGMT	✓	Comments ☐
STAFF SVCS		Information ☐
FISH DEV		Comp Act & File ☐
STATISTICS		Return to:
AFRC		Copies to:
EDUCATION		Remarks:
SECRETARY		
OFFICE SVCS		03-105
FED AID		
25	X	

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. Box 621
HONOLULU, HAWAII 96809

2003 FEB 27 P 4:03

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERNEST LAU
DEPUTY DIRECTOR

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

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

February 10, 2003
LD/NAV
Ref.: SM12002-0021.CMT

Suspense Date: 2/18/03

MEMORANDUM:

TO: ✓XXX Division of Aquatic Resources (DD)
**XXX Division of Forestry & Wildlife
XXX Engineering Division (DD)
**XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management (DD)
**XXX Land - Planning and Technical Services
XXX Land - Maui District Land Office (Received)

RECEIVED
FEB 12 2003
AQUATIC RESOURCES

FROM: Charlene E. Unoki: Acting Assistant Administrator
Land Division

SUBJECT: Application: Special Management Area Use Permit
I.D. No.: SM1 2002/0021
Project: 112-Unit Condominium Development
Name: Kai Makani
Applicant: Chris Hart and Partners
Authority: County of Maui Department of Planning

Please review the document covering the subject matter and submit your comment (if any) on Division letterhead signed and dated within the time requested above. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

**Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

( ) We have no comments. (X) Comments attached.

Date: 2/24/03

Signed: W. Devick

Name: William S. Devick
Administrator

Suspense Date: February 18, 2003

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii

MEMORANDUM

To: William Devick, Administrator,
From: Richard Sixberry, Aquatic Biologist
Subject: Comments on Special Management Area Use Permit

Comments Requested By: Charlene Unoki, Land Division

Date of Request: 2/10/03 Date Received: 2/12/03

Summary of Project

Title: Kai Makani Condominium Project

Proj. By: Chris Hart & Partners

Location: Kihei, Maui

Brief Description:

The applicant plans to construct a 112-unit condominium complex and supporting infrastructure at Kihei, Maui. Improvements related to the near Maipoina Oe Lau Beach Park include parking stalls along Kihei Road and landscaping and beautification within the park.

Comments:

Significant impacts adverse to aquatic resource values are not expected from the activities proposed since mitigation measures, including Best Management Practices, described in the Draft EA appear to be adequate.

However, we suggest that construction activities be restricted to periods of minimal rainfall and areas denuded of vegetation which could be susceptible to erosion are appropriately stabilized. Further, precautionary measures should include preventing construction materials, petroleum products, debris and especially storm runoff and eroded soil from blowing, flowing, leaching or otherwise impacting the coastal ecosystem.

Richard Sixberry
Aquatic Biologist

LINDA LINGLE
GOVERNOR

PHONE: (808) 984-8103
FAX: (808) 984-8111

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
54 High Street, Room 101
Wailuku, Hawaii 96793

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERNEST LAU
DEPUTY DIRECTOR

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

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

'03 FEB 18 P1:53

February 14, 2003

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

Attention: Matt Niles

Subject: Kai Makani, I.D. No.: SM1 2002/0021, Kihei, Maui; TMK: 3-9-001:025 (Maipoina Oe Lau Beach Park), and 3-9-041:002, 003, 026, 038, and 027 (Por.)

Thank you for providing us the opportunity to comment on the subject matter.

Maipoina Oe Lau Beach Park (TMK: 3-9-001:025) is owned by the State of Hawaii and placed under the County of Maui's jurisdiction by way of Governor's Executive Order No. 1431 for a memorial park.

We have no further comments to share at this time.

If you have any questions, please feel free to contact me at 984-8103.

Sincerely,

Jason K. Koga
District Land Agent

cc: N. Vaccaro
District Files

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
54 South High Street, Room 101
Wailuku, Hawaii 96793-2198

AQUACULTURE DEVELOPM
PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATI
CONSERVATION AND
RESOURCES ENFORCE
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGE

August 30, 2002

RECEIVED
SEP 05 2002

Mr. Christopher L. Hart, ASLA
Landscape Architect – Planner
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, HI 96793-1706

Dear Mr. Hart:

Subject: Pre-Consultation for an Environmental Assessment in Support of Kai Makani, Kihei, Maui; TMK: 3-9-041:002, 003, 026, 038, and fronting a portion of 027 and TMK: 3-9-001:025 (Maipoina Oe Lau Beach Park)

Thank you for providing us the opportunity to comment on the subject matter.

According to our records, Maipoina Oe Lau Beach Park, is under the County of Maui's jurisdiction by way of Governor's Executive Order No. 1431 for a memorial park. Please consult with the County on the improvement plans.

If you have any questions, please feel free to contact me at 984-8103.

Sincerely,

Jason K. Koga
District Land Agent

cc: N. Vaccaro
District Files

CHRIS HART & PARTNERS, INC.

April 4, 2003

Mr. Thomas M. Phillips
Chief of Police
Police Department
County of Maui
55 Mahalani Street
Wailuku, Hawaii 96793

Dear Mr. Phillips:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated March 10, 2003, regarding the above-referenced project. We are pleased to address your comments as follows:

1. On-site Parking. The project complies with Maui County Code, Chapter 19.36 "Off-Street Parking and Loading", which requires 2 parking spaces per unit. In consideration of the type of project being proposed, i.e. predominantly 2-bedroom condominium units, the proposed number of parking stalls is adequate to serve the development. In addition, twenty (20) stalls will be provided on site for guest parking.

2. Off-site Parking. The proposed parallel parking along South Kihei Road will accommodate parking that currently occurs informally within the park, and along the shoulders of South Kihei Road. The subject stalls have been designed in a manner that makes it easier for vehicular ingress and egress onto South Kihei Road. Each stall is 2 feet longer than what is required by ordinance, i.e. 24-feet versus 22-feet. Moreover, only two parking spaces are proposed between planter islands, thereby, mitigating the delay that might be caused by vehicles backing into stalls.

   In addition, per our conversations with the local windsurfing community, parking is typically only a problem during high wind days, which occur approximately 50 days per year at that park.

In light of the above, we disagree with your conclusion that the proposed parking is inadequate and will add to traffic congestion along South Kihei Road.

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,

Christopher L. Hart, ASLA
Landscape Architect - Planner

Enclosure

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

03/071

Alan M. Arakawa
MAYOR

OUR REFERENCE
tj
YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

2003 MAR 11 P2:05

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLIC

March 10, 2003

MEMORANDUM

TO : MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

SUBJECT : I.D.: SM1 2002/0021
TMK: 3-9-001: 025; 3-9-41: 002, 003, 026, 038, and 027 (por.)
Project Name: Kai Makani
Applicant: Chris Hart and Partners

____ No further recommendation or comment is necessary or desired.

__X__ Refer to enclosed comments and/or recommendations.

Thank you for giving us the opportunity to comment on this project.

Assistant Chief Sydney Kikuchi
For: THOMAS M. PHILLIPS
Chief of Police

Enclosure

COPY

TO : **TOM PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI**

VIA : **CHANNELS** 03/14/03

FROM : **BRAD HICKLE, POLICE OFFICER III, DISTRICT VI KIHEI**

SUBJECT : **KAI MAKANI (TMK No. (2) 3-9-001:025) SMA PERMIT**

Sirs,

On 02/19/03 I received a copy of the Special Management Area use Permit application submitted by Chris Hart on behalf of Aheahe Makani, LLC.

After reviewing the application for the proposed 112-unit condominium development I have no recommendations however my comments are as follows.

The developer has provided for 2 parking stalls per household when the average household owns 2.5 vehicles. There is only 10 additional parking stalls on property which will be for handicap parking and visitors. They have agreed to improve the existing roadway and improve parking on South Kihei road by providing 37 new parking stalls. These stalls will quickly be filled by sailboarders, windsurfers and other beach goers who use Mai Poina Oe Iau Park regularly. This is inadequate parking and will only add to the traffic congestion problems on South Kihei road.

I further do not believe adding this many additional residences or vehicles to the Kihei area is in the best interest of anyone but the developer who does not live here. The current infrastructure is not designed to handle any new development and a building moratorium should be the agenda of the county until which time the infrastructure is designed to accommodate current and future residents.

Respectfully Submitted,

Officer Brad Hickle E-9966
02/28/03 1900 hours

Noted.
Lt. D. Matsuura
3/4/03

Concur with Off. Hickle's comments with regards to new developments in South Maui. We experience congestion on a daily basis. It often impedes our ability to promptly respond to incidents. New development exacerbates the

LINDA LINGLE
GOVERNOR

RODNEY K. HARAGA
DIRECTOR

Acting Deputy Director
GLENN M. OKIMOTO

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

IN REPLY REFER TO:

STP 8.0740

April 22, 2003

RECEIVED
APR 24 2003
CHRIS HART & PARTNERS
Landscape Architecture & Planning

Mr. Christopher L. Hart, ASLA
Landscape Architect and Planner
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793-1706

Dear Mr. Hart:

Subject: Kai-Makani Multi-Family Residential Project
Consolidated Draft Environmental Assessment, Planned Development
Approval, and Special Management Area (SMA) Permit
TMK No. (2) 3-9-041: 002, 003, 026, 038, a portion of 027, and
TMK No. 3-9-001: 025

Thank you for your letter of April 2, 2003, advising us that the applicant is "agreeable to paying a pro rata share of regional transportation improvements as determined by the County through a traffic impact fee ordinance".

The County of Maui has yet to implement an impact fee program and it is not known if or when one will be implemented. Further, it is unclear as to whether the County's impact fee program will fully address all of the needed regional transportation improvements to State facilities. As such, please be advised that the pro rata share of regional transportation improvements may be determined by means other than "by the County through a traffic impact fee ordinance".

We appreciate your cooperation and understanding of the various factors affecting growth on Maui.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

c: Michael Foley, Maui Department of Planning

CHRIS HART & PARTNERS, INC.

May 28, 2003

Mr. Rodney K. Haraga
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Haraga:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated April 22, 2003, which was in response to our letter dated April 2, 2003.

Pursuant to our April 2 letter, please note that the applicant is agreeable to paying a pro rata share of regional transportation improvements as determined by the County through a traffic impact fee ordinance. In consideration of the fact that construction of the project will likely not be initiated for a year or more, and that a traffic impact fee study has been prepared and is currently being reviewed by Maui County agencies, we respectfully request clarification of your statement that the pro rata share of regional transportation improvements may be "determined by other means".

Can you please advise us of what other means the State has to collect such fees and how much the subject fees might be?

We are seeking to develop a quality housing project for long-term Maui residents and fifty percent of our project will be sold as affordable pursuant to standards established by the County's Department of Housing and Human Concern.

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

LANDSCAPE ARCHITECTURE AND PLANNING
1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956

Sincerely,

Christopher L. Hart, ASLA
President
Landscape Architect and Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File

ALAN M. ARAKAWA
Mayor

GLENN T. CORRBA
Director

JOHN L. BUCK III
Deputy Director

(808) 270-7230
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2 , Wailuku, Hawaii 96793

April 28, 2003

Mr. Michael Summers
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793

Dear Mr. Summers:

SUBJECT: **KAI MAKANI**
TMK 3-9-041:002, 003, 026, 038 & POR. OF 027, KIHEI

Thank you for meeting with our Department on April 14, 2003 to discuss the parks and playgrounds requirements for the subject project. Unfortunately, we have decided not to accept the off-street parking stalls nor the trees within the road right-of-way to satisfy a portion of the parks and playgrounds requirements.

However, at your request, our Department will allow the developer to satisfy a portion of the parks and playgrounds requirements with a perpetual land dedication of the playable tennis court area, in accordance with Section 18.16.320 of the Maui County Code. The aforementioned tennis court area shall be privately owned, privately maintained, and opened to the public. The remainder of the parks and playgrounds requirements shall be satisfied with a cash contribution.

Please submit two (2) copies of construction plans for the abovementioned tennis court area to our Department for review and approval. Upon review, we will provide comments to the developer.

Also, please be advised that the abovementioned tennis court area, as well as, the request for waiver of the comfort station requirements, will need to be approved by the County Council prior to our Department's approval of any building permit application for the subject project. Our Department is responsible for initiating the County Council's approval process. Upon your request, we will make a request to the Department of Corporation Counsel to prepare the necessary documents for submittal to the County Council.

Should you have any questions or concerns, please feel free to call me, or Dyan Ariyoshi, CIP Coordinator of our Planning and Development Division, at phone number 270-7981.

Sincerely,

GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Planning and Development Division

CHRIS HART & PARTNERS, INC.

May 30, 2003

Mr. Glenn T. Correa, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawaii 96793

Attention: Ms. Dyan Ariyoshi, CIP Coordinator, Planning and Development Division

Dear Mr. Correa:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated April 28, 2003, regarding the above-referenced project.

Pursuant to your letter, we understand that your Department will not accept the twenty (20) proposed on-street parking stalls and a 3-car loading space with street trees and pedestrian sidewalk within the road right-of-way abutting the park on the makai side of South Kihei Road as a partial contribution to our parks and playgrounds assessment requirement. Regarding this improvement, we are respectfully requesting your reconsideration because Kihei Memorial Park currently has no safe parking for park users.

In addition, please also consider that between May 10, 2002, and September 17, 2002, we met on eight (8) separate occasions with the Department of Parks and Recreation to discuss the park dedication requirements for the project. During these meetings, your Department indicated its support for the proposed on-street parking improvements, and a willingness to allow the cost of the subject improvements to be credited against our park assessment requirements. We also met on three (3) separate occasions with the Kihei Community Association (KCA) to discuss the proposed park and roadway improvements. The proposed park related improvements are strongly supported by the KCA because they will provide the following benefits:

- Alleviate the current parking shortage at the park;
- Beautify South Kihei Road and enhance pedestrian circulation through the provision of curbs, gutters, sidewalks, and shade trees;
- Increase the usable area of the park by creating additional lawn area, shade trees, picnic tables, and a walking path within the "dune" area where vehicles are currently parking; and
- Mitigate the current impact that the existing parking creates on the dune system.

Regarding your desire to improve the existing restroom at Kihei Memorial Park, it is our understanding that you are expecting the Kai Makani project to make $150,000.00 worth of improvements to this facility. However, in consideration of the current shortage of parking stalls at the park, we are respectfully requesting your acceptance of the twenty (20) proposed on-street parking stalls and a 3-car loading space with street trees and pedestrian sidewalk within the road right-of-way abutting the park on the makai side of South Kihei Road as a partial contribution to our parks assessment fee. This improvement is anticipated to cost approximately $75,000.00, and as such, the balance of approximately $75,000.00 could be utilized for improvements to the existing restroom facility and/or expanding the usable park area.

Furthermore, it should be noted that in addition to the above referenced park assessment requirement, the developer is subject to the park dedication requirements pursuant to Section 18.16.320 of the Maui County Code.

As requested, we will provide your Department with two (2) copies of construction plans for the tennis court area, and we understand that your Department will be responsible for initiating the County Council's waiver of the comfort station requirements.

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

Sincerely yours

Christopher L. Hart, ASLA
Landscape Architect and Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Project File✓

ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

(808) 270-7230
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2 , Wailuku, Hawaii 96793

July 14, 2003

Mr. Christopher Hart, ASLA
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793

Dear Mr. Hart:

Subject: **KAI MAKANI MULTI-FAMILY RESIDENTIAL PROJECT**
TMK 3-9-041:002, 003, 026, 038, & POR. OF 027,
AND TMK 3-9-001:025, KIHEI

This is in response to your May 30, 2003 letter to our Department requesting that we reconsider acceptance of the proposed on-street improvements on the makai side of the road right-of-way.

After reconsideration, we have decided to maintain our current position on the matter since the proposed construction of twenty (20) on-street parking stalls and a 3-car loading space would reduce the already limited park space. In addition, although there is potential to increase the park space adjacent to the dune area, we prefer to leave the unpaved and unmarked parking in its present state.

We will accept the playable tennis court area within the subject property to partially satisfy the park dedication requirements in accordance with Section 18.16.320 of the Maui County Code as previously agreed. The remaining balance shall be satisfied with a cash contribution.

Should you have any questions or concerns, please feel free to contact me, or Dyan Ariyoshi, CIP Coordinator of our Planning & Development Division, at 270-7981.

Sincerely,

GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Planning & Development Division - DPR

CHRIS HART & PARTNERS, INC.

August 7, 2003

Mr. Glenn T. Correa, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawaii 96793

Attention: Ms. Dyan Ariyoshi, CIP Coordinator, Planning and Development Division

Dear Mr. Correa:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for meeting with us on August 6, 2003, to discuss the above-referenced project and the associated improvements to Mai Poina Oe Lau Beach Park (Kihei Memorial Beach Park). The purpose of the meeting was to try to come to a resolution regarding the type of improvements that your department would support and credit towards our park dedication requirements.

As you are aware, there are two park dedication requirements applicable to this project. First, as a condition of zoning, the applicant is required to make up to a $150,000.00 contribution towards improvements to the park. The subject improvements must be made pursuant to plans agreed upon by the Department of Parks and Recreation and be constructed concurrently with development of the project site.

Pursuant to our August 6 meeting, it was agreed that renovating and expanding the existing restroom facility would satisfy this condition. The specific improvements would include:

- Renovating the women's restroom to include three (3) toilets and a sink;
- Renovating the men's restroom to include two (2) toilets, one (1) urinal, and a sink;
- Providing a unisex ADA accessible restroom with one (1) toilet and one (1) sink;
- Replacing the existing roof; and
- Landscape planting around the structure.

It is our assumption that conceptual and final design costs associated with these improvements would also receive park credits.

Second, the project is subject to the park dedication requirements pursuant to MCC, Chapter 18.16.320, "Parks and Playgrounds". At our August 8 meeting, your department agreed to accept the applicant's proposal to develop 20-onstreet parallel parking stalls along the makai side of South Kihei Road, a 3-car unloading zone, and landscape planting improvements within the park and along the subject roadways. These improvements are detailed in the attached plan and specifically include:

- 20 on-street parallel parking stalls along the makai side of South Kihei Road. In order to provide easier ingress and egress to windsurfing vans entering the parallel stalls, bulb-outs have been incorporated into the plan and the stalls have been lengthened from 22 to 24 feet and widened from 81/2 to 91/2 feet,
- 3-car loading zone,
- Landscape planting including street trees along the makai side of South Kihei Road. Per our discussion, we understand that the applicant would be responsible for maintenance of these trees.
- Landscape planting improvements within the park in order to beautify the grounds, stabilize the dunes, and create more park area for beach users; and
- Four picnic tables and benches.

We also understand, pursuant to your April 28, 2003, letter, and our August 8 meeting, that your department will accept the proposed on-site tennis court provided that it is privately owned, privately maintained, and opened to the public. The area of the tennis court is approximately 7,200 square feet and improvements will include a hardened play surface and nets, fencing, and lighting.

We would sincerely appreciate your Department's confirmation of the major points contained in this letter at your earliest convenience.

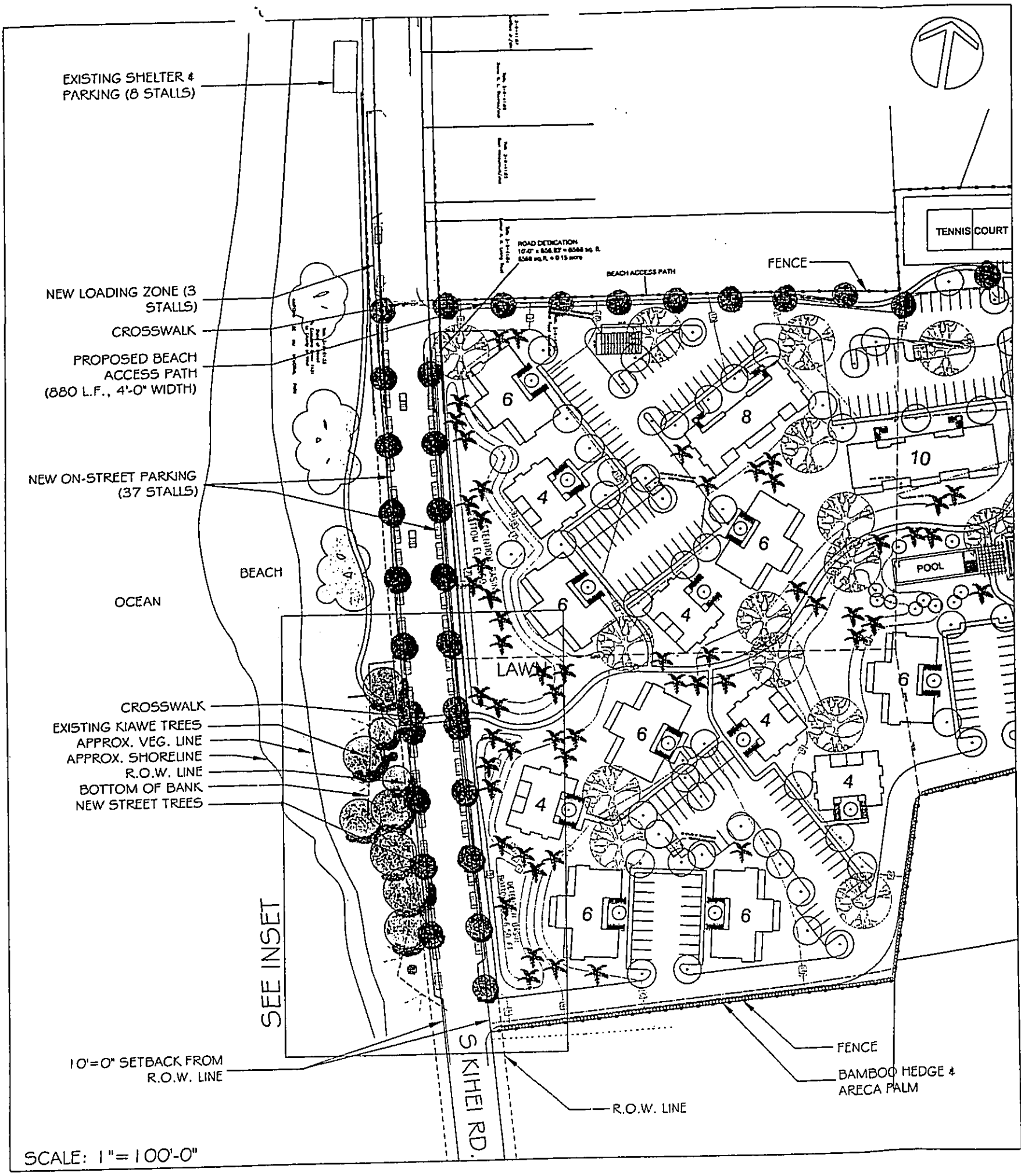
Thank you again for the time and energy you have invested into this project. Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Sincerely yours

Christopher L. Hart, ASLA
Landscape Architect and Planner

Attachment
cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC

RECEIVED AS FOLLOWS



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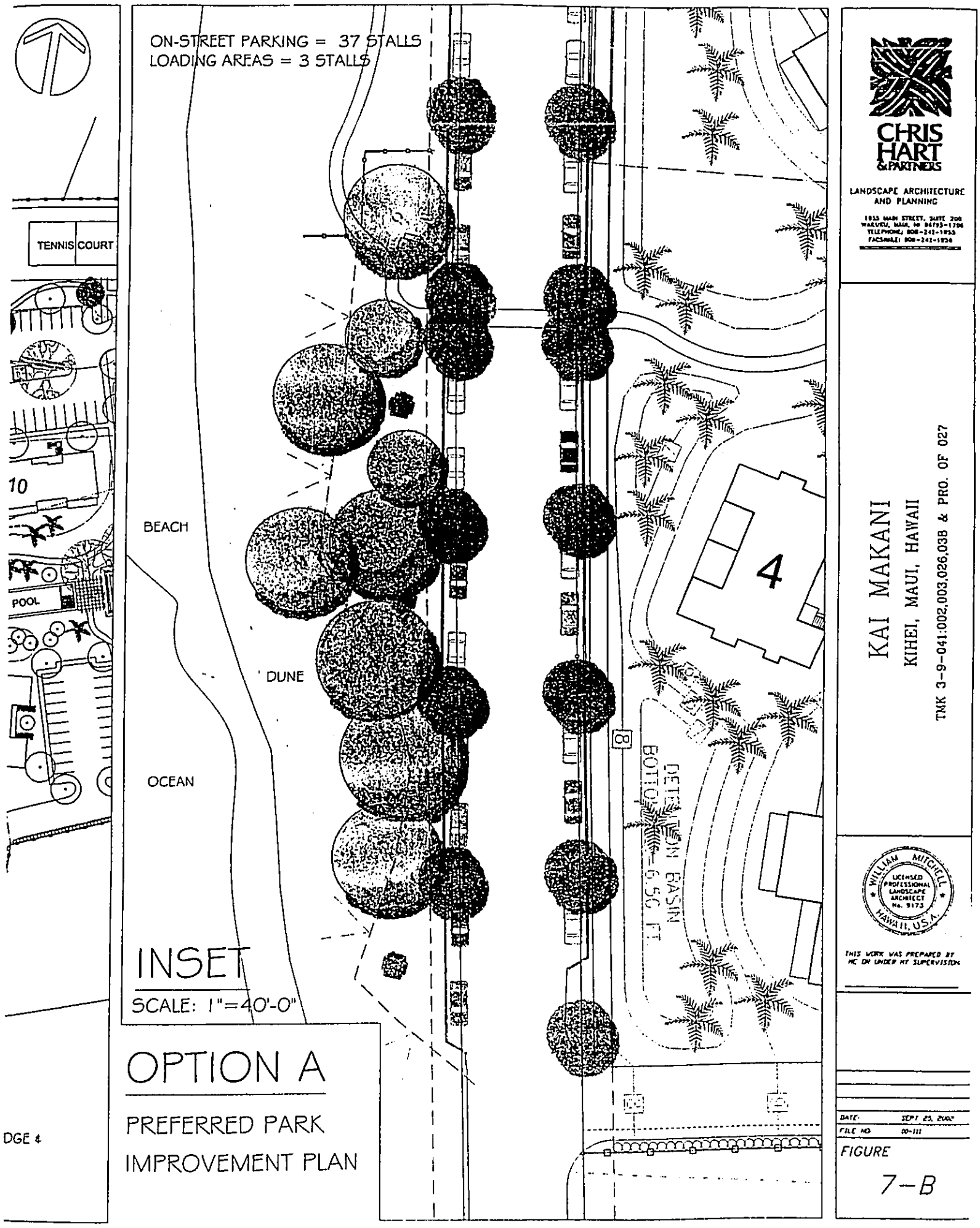


ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

(808) 270-7230
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2 , Wailuku, Hawaii 96793

August 25, 2003

Fax Memo

To Michael Summers	Date 9/10/03 # of pages 1
Co. Chris Hart & Partners, Inc.	From Dyan Ariyoshi
Phone # 242-1955	Co. Parks & Rec.
Fax # 242-1956	Phone # 270-7981
	Fax # 270-7162

As requested.

Mr. Christopher Hart, ASLA
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793

Dear Mr. Hart:

Subject: **KAI MAKANI MULTI-FAMILY RESIDENTIAL PROJECT**
TMK 3-9-041:002, 003, 026, 038, & POR. OF 027,
AND TMK 3-9-001:025, KIHEI

Our Department has reviewed your letter dated August 7, 2003, which summarizes the discussions of our August 6, 2003 meeting regarding the subject project. As requested, we are confirming that the information provided in the aforementioned letter is accurate. Please continue to keep our Department informed on the progress of the subject project.

Should you have any questions or concerns, please feel free to contact me, or Dyan Ariyoshi, CIP Coordinator of our Planning & Development Division, at 270-7981.

Sincerely,

GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Planning & Development Division - DPR

CHRIS HART & PARTNERS, INC.

August 12, 2003

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

Attention: Mr. Joseph Alueta, Staff Planner

Dear Mr. Foley:

RE: Consolidated Final Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041: 002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated July 3, 2003, regarding the above-referenced project. In response to your comments, please find the following:

1. Open space calculation and map. Please note that approximately 26.5% of the total project area, or 2.768 acres, will be maintained as an unobstructed, undeveloped, and contiguous landscaped open space corridor linking South Kihei Road to Kenolio Road in a mauka/makai direction (See Figure 1, Conceptual Site & Landscape Plan). This landscaped corridor will make available an expansive garden like setting throughout the project site and will provide a visual and pedestrian linkage between the project's swimming pool and recreation cabana and Maipoina Oe Lau Beach Park. Landscape planting of primarily Polynesian species palm trees, shade trees, bushes, flowers, and grasses will beautify the grounds. The project's open space will be owned in common for the enjoyment of all of the project's residents.

2. Non-point Source Pollution. As noted in the Draft Environmental Assessment, after development of the proposed project, it is estimated that the 50 year-1 hour storm runoff will be 18.7 cfs, a net increase of 11.7 cfs.

Onsite runoff will be intercepted by grated catch basins located within the paved parking and landscape areas. The runoff will be conveyed to onsite detention basins, which will be incorporated into the landscape planting scheme. Runoff from the mauka onsite detention basins will be interconnected to the makai onsite detention basins by overflow pipes. The connection of the detention basins, along with the proposed landscaping will provide a means of filtering sediment and other contaminations from the runoff. Said basins will be maintained by the Association of Apartment Owners as required.

Overflow from the detention basin located at the southwest corner of the property will be limited to the runoff amount of the existing runoff volume for a 50 year-1hour storm. The overflow will be conveyed to an underground perforated pipe detention system which will further allow any sediment and other contaminants to settle before excess runoff volume is conveyed by an underground culvert system to the existing 6'4' concrete box culvert.

The drainage design criteria shall be to minimize any alterations to the natural pattern of the existing onsite surface runoff.

The proposed drainage plan should significantly mitigate the potential for Non Point Source pollutants generated by the development to migrate from the project site to the coastal waters during a typical storm event.

3. Infrastructure Concurrency. Section III of the Draft Environmental Assessment addresses the impact that the proposed project will have upon existing public infrastructure, facilities, and service systems. The State and County have established methodologies for assessing projects for the impacts they cause to regional infrastructure and services. As such, the developer will contribute the pro rata share required by the State and County for roadways, sewer, water, park, recreation, and educational facilities and services in order to minimize the incremental impact of the subject development upon these facilities.

   In regards to the availability of water for the project, the applicant understands that water availability will be reviewed at the time of application for meter or meter reservation and that the Iao Aquifer is nearing its maximum sustainable yield. Should the Department of Water Supply determine that water is not available for this project, the applicant understands that the timing of the subject project could be significantly affected.

   As for traffic conditions, the level-of-service analysis for existing conditions indicates that certain turning movements at the intersection of

Ohukai Road at South Kihei Road and Ohukai Road at Piilani Highway currently operate at level-of-service F and E respectively. These conditions are present with or without the project and as shown in the Traffic Impact Assessment Report will be only minimally affected by the increase in traffic generated by the development.

In order to improve operating conditions at affected roadways, and to contribute on a fair share basis to regional roadway improvements, the applicant proposes the following:

- Improvement of the intersection of South Kihei Road at Ohukai Road with a separate southbound left turn lane;
- Improvement of the approach of Ohukai Road to South Kihei Road with separate left and right turn lanes;
- Restricting left turns from the project's driveway onto South Kihei Road. The allowed movements would be right in, right out, and left in.
- Land dedication and substantial roadway improvements fronting the project along South Kihei and Kenolio Roads with concrete curbs, gutters, sidewalks, parking and landscape planting and irrigation. Also, similar improvements will be made on the makai side of South Kihei Road fronting the County Park. The applicant will make the subject improvements in accordance with Section 16.26A.4601 of the Maui County Code.
- The applicant is agreeable to paying a pro rata share of regional transportation improvements as determined by the County through a future traffic impact fee ordinance.

Alternate design analysis. Please note that after approximately ten (10) meetings with the Department of Parks and Recreation on August 6, 2003, the Department agreed to support and credit the following improvements towards our park dedication requirements:

- Renovating and expanding the existing restroom facility; including:
    - Renovating the women's restroom to include three (3) toilets and a sink;
    - Renovating the men's restroom to include two (2) toilets, one (1) urinal, and a sink;
    - Providing a unisex ADA accessible restroom with one (1) toilet and one (1) sink;
    - Replacing the existing roof;
    - Providing Landscape planting around the structure;

- Improvements to South Kihei Road by providing approximately 20-onstreet parking stalls and a 3-car loading zone on the Makai side together with an additional 17-onstreet parking stalls on the Mauka side, which will be non-credited;
- Providing landscape planting including pedestrian sidewalks, irrigation, and street trees along the mauka and makai sides of South Kihei Road;
- Constructing landscape planting improvements within the park in order to beautify the grounds, stabilize the dunes, and create more park space for beach users;
- Providing four picnic tables and benches; and
- Developing an on-site public tennis court.

In consideration of the foregoing, the applicant is unwilling to incorporate parking onto the subject property since this parking would compromise the project's on-site open space drainage facilities, urban design character, and ultimately the project's financial viability.

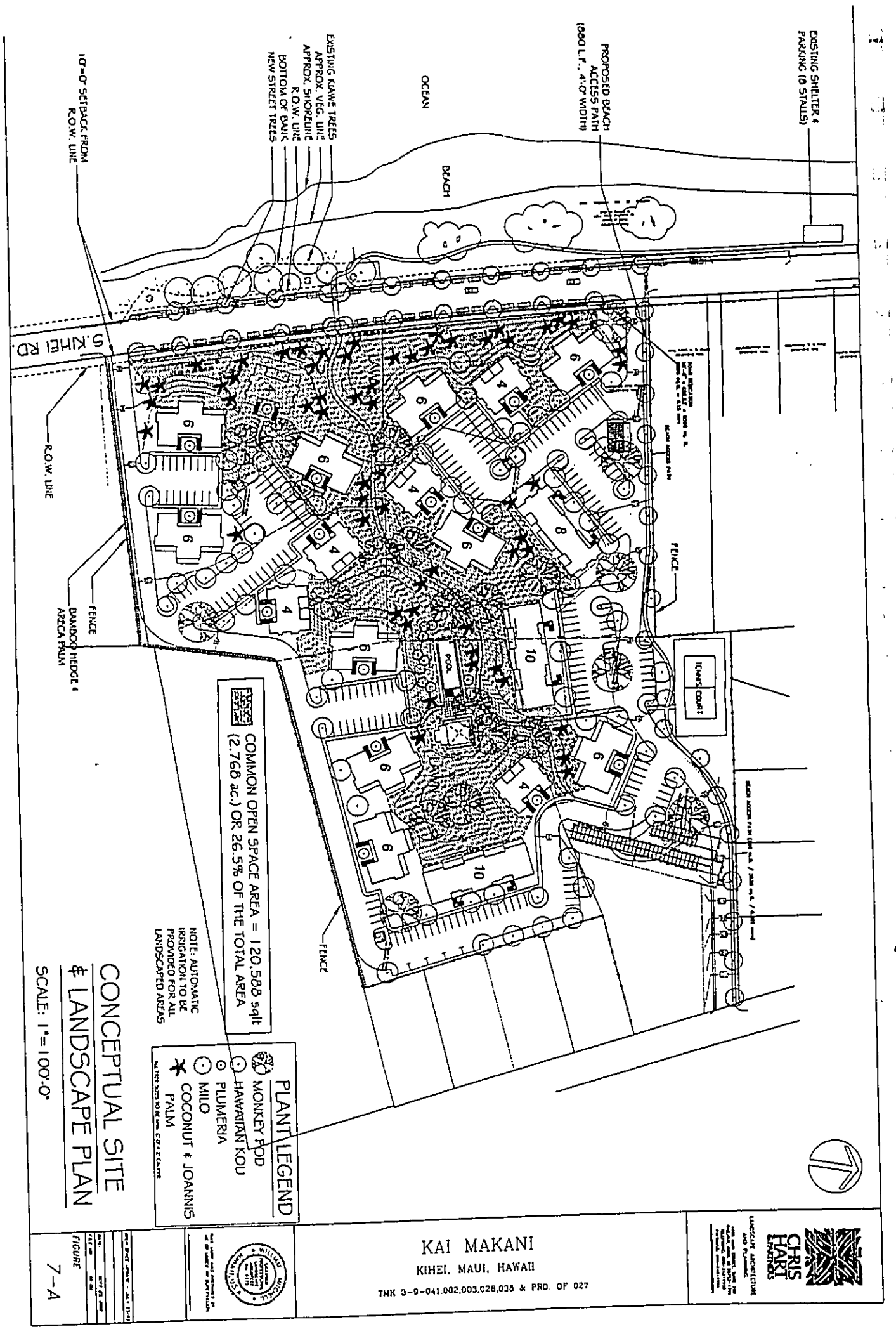
Thank you again for your consideration of our request. Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Sincerely yours

Christopher L. Hart, ASLA
Landscape Architect and Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering, Inc.
Mr. Phillip Rowell, Phillip Rowell & Associates
Project File✓

RECEIVED AS FOLLOWS



Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 3, 2003

Mr. Christopher L. Hart
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Maui, Hawaii 96793

Dear Mr. Hart:

RE: **Final Environmental Assessment**

Project Name: Kai Makani
TMK: 3-9-001: 025; 3-9-41: 002, 003, 026, 038, and 027 (por.)
I. D. No.: EA 2002/0010 SM1 2002/0021

In reviewing the Final EA please incorporate the following:

1. Open Space calculation and map of the site showing how the project complies with requirements of the Planned Development requirements. No structures should be within this area. How or where on this project is the "park like effect" that the open space is to provide?

2. There is no discussion on polluted water from the parking lot area. Although the retention basins are proposed, is this the only means to control contamination? Discussion is needed on the impacts of polluted water entering the near shore water and the quality of the near shore waters.

3. To address how the project's consistency with the community plans goal to not allow new development for which infrastructure may not be available concurrent with the development's impacts (Page 43.) Only traffic is discussed, please incorporate or make reference how impacts to existing infrastructure is being mitigated or being developed concurrently. For mitigative traffic measure, please make reference to your commitment to pay pro-rata share to traffic improvements as indicated in your response letter to DOT.

4. Alternate design analysis should look at providing beach parking on the project site itself similar to the situation at Kamaole Beach Park I.

Thank you for your cooperation. If additional clarification is required, please contact Mr. Joseph Alueta, Staff Planner, of this office at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

c: Clayton I. Yoshida, AICP, Planning Program Administrator
Joseph Alueta, Staff Planner
Project File
General File
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CHRIS HART & PARTNERS, INC.

August 12, 2003

Mr. Rodney K. Haraga
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Haraga:

RE: Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit for the Kai-Makani Multi-Family Residential Project (TMK Nos.: (2) 3-9-041:002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated June 6, 2003, which provided additional clarification regarding your Department's fair share fees.

As noted in our previous letters, the applicant is agreeable to paying a pro rata fair share of required regional transportation improvements as determined by the County through a proposed traffic impact fee ordinance. The applicant is also willing to pay the State a similar fee should it have enabling legislation that would allow for such a fee to be collected on a fair and equitable basis.

Per your suggestion that the applicant participate by making a "fair share contribution" towards regional transportation improvements, please note that the applicant may consider participating in such a program provided that the amount required would not significantly affect the affordability of the homes, and if the subject requirement is being similarly imposed in a consistent manner on all other residential projects in the Kihei area.

Please note that the applicant will be making land dedication and substantial roadway improvements fronting the project along South Kihei Road and Kenolio Roads with concrete curbs, gutters, sidewalks, parking and landscape planting and irrigation. Also, similar improvements will be made on the makai side of South Kihei Road fronting the County Park. The applicant will make the subject improvements in accordance with

Section 16.26A.4601 of the Maui County Code. In addition, the applicant will be improving the intersection of South Kihei Road at Ohukai Road with a separate southbound left turn lane and the approach of Ohukai Road to South Kihei Road with separate left and right turn lanes.

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

Sincerely,

Christopher L. Hart, ASLA
President
Landscape Architect and Planner

cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering, Inc.
Mr. Phillip Rowell, Phillip Rowell & Associates
Project File ✓

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

Acting Deputy Director
GLENN M. OKIMOTO

IN REPLY REFER TO:

STP 8.0773

June 6, 2003

Mr. Christopher L. Hart, ASLA
President
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793-1706

Dear Mr. Hart:

Subject: Kai-Makani Multi-Family Residential Project
Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit
TMK No. (2) 3-9-041: 002, 003, 026, 038, a portion of 027, and
TMK No. 3-9-001: 025

We are in receipt of your May 28, 2003 letter requesting clarification on the developer's fair share of regional transportation improvements.

While the County is considering a traffic impact fee ordinance, it is uncertain that such an ordinance will be passed and what form it will take. Further, until the ordinance is adopted, a impact fee program established, intergovernmental agreements executed, and funds actually transferred to the State, there is no assurance that the State will receive any contributions to pay for the developer's fair share of required regional transportation improvements.

In response to your question concerning "what other means the State has to collect such fees"—an example would be developer agreements. The State has most recently accepted developer participation for the widening of Piilani Highway to four lanes as part of the fair share contribution. As to your question on "how much the subject fees might be"—our Highways Division has an ongoing effort to develop a fair and equitable means of determining fair share contributions based on trips generated and required mitigation.

Should you have any further questions or concerns, please contact Mr. David Shimokawa of our Statewide Transportation Planning Office at 587-2356.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

c: Michael Foley, Maui Department of Planning

LINDA LINGLE
GOVERNOR

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

RODNEY K. HARAGA
DIRECTOR

Deputy Director
Bruce Y. Matsui

IN REPLY REFER TO:

STP 8.0865

August 25, 2003

Mr. Christopher L. Hart, ASLA
President
Chris Hart & Partners, Inc.
Landscape Architecture and Planning
1955 Main Street, Suite 200
Wailuku, Hawaii 96793-1706

Dear Mr. Hart:

Subject: Kai-Makani Multi-Family Residential Project
Consolidated Draft Environmental Assessment, Planned Development Approval, and Special Management Area (SMA) Permit
TMK Nos.: (2) 3-9-041: 002, 003, 026, 038, a portion of 027, and
TMK No. 3-9-001: 025

In reply to your August 12, 2003 letter, this is to advise you that a copy of your letter will be forwarded to our Highways Division for their reference and consideration as part of the Division's work on the fair share issue.

We appreciate your cooperation and understanding.

Very truly yours,

for RODNEY K. HARAGA
Director of Transportation

c: Michael Foley, Maui Department of Planning

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

December 26, 2003

Mr. Chris Hart
Chris Hart and Partners
1955 Main Street, Suite 200
Wailuku, Hawaii 96793

Dear Mr. Hart:

RE: Final EA Determination for the Kai Makani 112-Unit Condo Development and Beach Parking Improvements at TMK: 3-9-001:025, 3-9-041:002, 003, 026, 038, por of 027 (SM1 2002/0021)

At its regular meeting on November 25, 2003 the Maui Planning Commission reviewed the above request and after due deliberation, voted to return the EA for additional information. Please include the following information and/or expand in more detail the following area of the EA:

- Provide additional parking alternatives including parking on the adjacent parcel and providing parking on the project site. This analysis should include project costs and site plan alteration.

- Enhanced assessment or explanations on drainage issues.

- Assessment of project impact on energy consumption and use of solar water heaters and other energy efficient construction to minimize the project's impact of energy facilities.

- Clarify the amount of affordable units that will be available as two different numbers are stated in the document. Also break down, if any, the different levels of median income levels that the units will be provided at.

- Clarify the project driveway access and turn movements. Project proposes no limitation of traffic movements at driveways, yet traffic report recommends limited turn movements.

Thank you for your cooperation. If additional clarification is required, please contact Mr. Joseph Alueta, Staff Planner, of this office at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:JWA:lar
c: Clayton I. Yoshida, AICP, Planning Program Administrator
Joseph Alueta, Staff Planner
Star Medeiros, Chairperson, Maui Planning Commission
Department of Public Works and Environmental Management
Project File
General File
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File Copy

February 10, 2004

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

Attention: Mr. Joseph Alueta, Staff Planner

Dear Mr. Foley:

RE: Final EA Determination for the Kai-Makani Multi-Family Residential Project and associated Improvements to Mai Poina Oe Lau Beach Park (TMK Nos.: (2) 3-9-041: 002, 003, 026,038, a portion of 027, and TMK No. 3-9-001:025)

Thank you for your letter dated December 26, 2003, on behalf of the Maui Planning Commission, which requests that additional information be incorporated into the Final EA. This letter addresses those concerns as well as other concerns identified by the Commission during the November 25, 2003, public hearing.

1. Additional Parking Alternatives. Pursuant to the Planning Commission's request, please find additional analysis of the following beach parking alternatives:

   - Option C – Acquisition of parcel identified as TMK No. 3-9-041:004 for beach parking purposes.

     Analysis: In September 2003, the applicant contacted the owner of the subject property, through the office of Scott A. Sherley (R) BIC, ERA Maui Real Estate, regarding the owner's interest in selling. The property owner reported that the subject property is not for sale (See: Attachment "A"). As such, acquisition of the property will need to be through eminent domain. Should the County decide to condemn the property, a portion of the park dedication monies required of Kai Makani could be available to pay for all or a portion of the cost of land acquisition. The

anticipated cost of constructing the proposed parking lot is $80,000, including landscape planting and lighting. This assumes that the entry and exit is from South Kihei Road and not on Kenolio Road as indicated on the plan.

The applicant supports the County pursuing condemnation of the property provided that automobile ingress and egress from the lot is from South Kihei Road. According to information provided by several realtors to the Kihei Community Association (KCA), the value of the parcel may range from $350,000 to $500,000.

Realignment of South Kihei Road. The KCA has also requested that South Kihei Road be realigned so that parking can be provided within the beach park. On December 19, 2003, the applicant met with the Department of Public Works and Environmental Management (DPWEM) and Department of Transportation in order to discuss the proposed realignment. The DPWEM provided a letter dated January 20, 2004, regarding the proposed plan and provided the following comments (See: Attachment "B"):

- The parking area is within the sand dune as depicted on our topographic map for South Kihei Road Improvements Phase V conducted in September, 2000.

- The sand dunes are subject to movement by wind and surf. We would surmise that the parking lot will have significant maintenance problems with sand.

- The narrow median between the travel way and the parking lot is an excellent way to separate this parking area from through traffic on South Kihei Road.

Otomo Engineering, Inc. has prepared a preliminary cost estimate for the roadway and drainage improvements required of the realignment. The cost of the makai side improvements are anticipated to be approximately $90,000 and the mauka side improvements are anticipated to cost $144,000. The drainage improvements do not include the portion of the drainline from the site to the box culvert at Maui Isana. The realignment of South Kihei Road will also require an additional, beyond the currently provided 10-feet, road-widening strip up to 6.3 feet wide. Should this alternative be selected, the applicant requests that the cost associated with the improvements and land dedication be credited towards the project's park dedication requirements. Attached is

the KCA's preferred parking plan as technically prepared by Otomo Engineering Inc. (See: Attachment "C").

- **Option D** – Provide additional parking on-site for beach parking purposes.

  Attached please find a revised site plan identifying additional parking on-site that could be reserved for beach users (See: Attachment "D"). By removing the proposed tennis court, twenty-three on-site parking stalls are created. Vehicular access to the lot is from both South Kihei Road and Kenolio Road. Convenient pedestrian and bicycle access is available from the proposed pedestrian way/bike path fronting the subject lot. The parking lot will consume an additional 7,800 square feet of land area and will cost approximately $60,000 to construct. Should this alternative be selected, the applicant requests that the cost associated with the land and improvements be credited towards the project's park dedication requirements.

  With the incorporation of the additional parking, the project will have a total of thirty-nine (39) visitor parking stalls, of which twenty-three could be reserved for beach users in the form of a public beach parking lot.

2. Drainage Mitigation. As discussed in the EA, it is estimated that the existing 50-year storm runoff from the project site is 7.0 cfs. After development of the proposed project, it is estimated that the 50-year storm runoff will be 18.7 cfs, a net increase of 11.7 cfs.

   In order to mitigate the impact of the project, onsite runoff will be intercepted by grated catch basins located within the paved parking and landscape areas. Runoff from the mauka onsite detention basins will be interconnected to the makai onsite detention basins by overflow pipes. The connection of the detention basins, along with the proposed landscape planting will provide a means of filtering sediment and other contaminations from the runoff.

   Overflow from the detention basin located at the southwest corner of the property will be limited to the runoff amount of the existing runoff volume for a 50 year-1hour storm. As an additional mitigation measure, and in order to remove additional pollutants from the water, the overflow will be conveyed to an underground perforated pipe detention system which will further allow any sediment and other contaminants to settle before excess runoff volume is conveyed by an underground culvert system to the existing 6'x 4' concrete box culvert to Maui Isana.

The drainage design criteria shall be to minimize any alterations to the natural pattern of the existing onsite surface runoff. This plan meets the drainage criteria set forth in Chapter 4 – Rules for the Design of Storm Drainage Facilities in the County of Maui. Based on the calculations contained within the Preliminary Drainage Report, Appendix E of the EA, the sedimentation hazard to coastal waters and downstream properties is minimal. The soil loss per unit area and severity rating computed for the proposed development are well within tolerable limits.

A National Pollution Discharge Elimination System (NPDES) permit will be required for the project since the project area is greater than one acre. The NPDES permit, which is essentially an erosion control plan for construction activities, will incorporate Best Management Practices (BMP's) designed to specifically reduce the potential for non-point sources of pollution from impacting nearshore water quality. BMP's to be incorporated into the project include installation of stormwater control structures prior to initiation of major site improvements. This will include installation of the permanent stormwater/siltation facilities on the site.

In addition, temporary berms to divert storm runoff to the retention basins will be constructed. Temporary silt screens will be installed along South Kihei Road and within drainage swales along the project limits. Temporary silt screens will also be installed around or within new catch basins and drain inlets. Topsoil stockpiles will be covered or stabilized.

Sediment and debris from construction activities will be properly disposed of. Bare areas will be replanted or covered as soon as grading or construction is completed. Cement products, oil, fuel, and other toxic substances will be prevented from falling or leaching into water. Fertilizers and biocides, if applied, will be applied during periods of low rainfall to minimize chemical runoff. With the incorporation of the above-referenced mitigation measures, the proposed project will not have a significant impact on neighboring or downstream properties, or coastal water quality.

3. Energy Consumption and Use of Solar Water Heaters. The average residential consumer used 7,772 kWh per year, or 21.30 kWh per day of electricity in 2001 (Maui County Data Book, 2002). As such, it is anticipated that the proposed project might use approximately 870,464 kWh per year or 2,384 kWh per day of electricity.

   In order to conserve energy, the project will incorporate the following energy conservation measures:

- Utilization of solar water heating throughout the project;
- Radiant Barrier Roof Sheathing to keep the attic cool;
- Thermostatically controlled attic fans;
- R-11 insulation in exterior walls;
- R-19 insulation in ceilings
- Large roof overhangs on most west facing facades;
- Tree planting to shade buildings and paved areas;
- Designing south, east, and west shading devices to minimize solar heat gain; and
- Incorporate natural ventilation by channeling trade winds.

4. Affordable Housing Requirements. The requirement for affordable housing arises out of a Unilateral Agreement (Ordinance No. 1881, Bill No. 115 (1990)) that was negotiated between the County and the prior property owner when the subject property was rezoned from R-2 Residential District to A-1 Apartment District. The Unilateral Agreement requires that fifty percent of the units of the project located on TMK Parcel Nos. 3-9-041:002, 3-9-041:003, and 3-9-041:028, be sold or rented to persons earning not more than 140% of the median income for the County of Maui for a family of four as established by the Department of Housing and Urban Development.

   Since eighty-six (86) of the proposed units are located on the above-referenced parcels, 43 units will be sold pursuant to the affordable housing criteria outlined in the unilateral agreement (See: Attachment "E", Exhibit "B", Condition No. 2a and b).

5. Driveway Access and Turn Movements. Pursuant to the recommendation of the project's traffic consultant, Phillip Rowell and Associates, left turns from the project's driveway along South Kihei Road will be prohibited. The allowed movements will be right in, right out, and left in. The driveway along Kenolio Road will not be restricted.

The following are additional concerns raised by the Planning Commission:

6. Use of Reclaimed Water. The applicant will provide stub-outs for the use of reclaimed water so that when such water becomes available it can be utilized for landscape irrigation on the project site.

7. Regional Traffic Conditions and Proposed Mitigation Measures. The following summarizes operating conditions, and proposed mitigation measures, at Ohukai Road at South Kihei Road, Ohukai Road at Piilani Highway, and the project driveway along South Kihei Road:

- **Ohukai Road at South Kihei Road.** Left turns from Ohukai Road to South Kihei Road currently operate at Level-of-Service F during both peak periods. This is consistent with most left turns into South Kihei Road throughout the region because of the heavy north-south traffic. The proposed project will produce only a six second increase in delay at the affected intersection for left turning vehicles. The proposed project will produce no change in the Level-of-Service of any traffic movement as a result of project generated traffic.

  A traffic signal warrant analysis was also performed for this intersection. The conclusion of the analysis is that Warrant 10, Peak Hour Delay, and Warrant 11, the Peak Hour Volume, is satisfied for future conditions with and without the project. However, installation of a traffic signal is not recommended for the following reasons:

  a. The delay warrant is satisfied as a result of delays *to left turning vehicles*. Drivers that make this left turn have accepted the delay since there are alternative routes for traffic to reach areas south of Ohukai Road, such as Kenolio Road and Piilani Highway.

  b. If traffic signals are installed, this would be the only signalized intersection along South Kihei Road between Mokulele Highway and Piikea Street. As a result, traffic would be attracted from other east-west roadways connecting South Kihei Road and Piilani Highway because left turns onto southbound South Kihei Road would be easier.

  Proposed Mitigation Measures. An analysis of this intersection was performed to determine if installation of separate left turn lanes along South Kihei Road would improve the Level-of-Service. With separate left turn lanes, only the vehicles turning left from South Kihei Road are delayed. Without separate left turn lanes, all vehicles along South Kihei Road are delayed because they have to wait behind vehicles waiting to turn left. By installing left turn lanes, the total delay to traffic along South Kihei Road is reduced 3.6 hours[1] during the morning and 6.7 hours during the afternoon peak hour. As such, the installation of separate left turn lanes significantly reduces delay to northbound and southbound through traffic along South Kihei Road at Ohukai Road.

[1] Hours refers to average vehicle delay times vehicle volume during the peak hour.

In consideration of the improved performance that would result from the installation of left turn lanes, the applicant will install the subject lanes at part of the proposed project.

- **Ohukai Road at Piilani Highway.** The conclusion of the Level-of-Service Analysis for the intersection of Ohukai Road at Piilani Highway is that several movements are expected to operate at Level-of-Service E or F as a result of background conditions without the project. As shown below, based upon established criteria for defining a significant traffic impact, those movements currently operating at a poor Level-of-Service will not be significantly impacted by the additional traffic generated by the project:

  a. During the morning peak hour, the overall intersection volume-to capacity ratio is 0.880 without and with the proposed project, which means that the traffic impacts of the project are insignificant.

  b. During the morning peak hour, the final volume-to-capacity ratio for the westbound left and through movement is 0.888. The volume to capacity ratio increases from 0.870 to 0.888 for a change of 0.018. The change required to be significant is 0.020. The project's traffic impact on this movement is therefore insignificant.

  c. Also during the morning peak hour, the volume-to-capacity ratio for the northbound through is 0.944 without and with the project. The project adds no traffic to this movement. Therefore, the impact on this movement is also insignificant.

  d. During the afternoon peak hour, there is no change in the volume-to-capacity ratio of the overall intersection.

  e. The volume-to-capacity ratio of the eastbound left and through movement increases from 0.788 to 0.804, for a change of 0.016. The change required for significance is 0.020. Therefore, the impact on this movement is insignificant.

  f. The volume-to-capacity ratio of the westbound left and through increases from 1.081 to 1.084. The change

required to be significant is 0.010, but the change is 0.003. Therefore, the impact is insignificant.

g. The volume-to-capacity ratio of the northbound through movement increases from 1.045 to 1.049. The required change for significance is 0.010. The calculated change is 0.004.

h. The volume-to-capacity ratio of the southbound left turn increases from 0.718 to 0.720. The change required to be significant is 0.040. The calculated change is 0.002.

i. The volume-to-capacity ratio for the southbound through increases from 1.018 to 1.022. The change is 0.004 but the change required for significance is 0.010.

Because the project will not produce a significant impact on any traffic movement at this location, no mitigation is recommended. **However, the applicant is agreeable to paying a pro rata fair share of required regional transportation improvements as determined by the County or State through a proposed traffic impact fee ordinance.** The County Council is currently reviewing the traffic impact fee ordinance and the funds collected from such an ordinance could be used to make regional transportation improvements.

- **Project Driveway along South Kihei Road.** Left turns from the project driveway onto South Kihei Road will operate at Level-of-Service F during the afternoon peak hour.

  Proposed Mitigation Measures. Left turns from the project driveway along South Kihei Road will be prohibited. The allowed movements will be right in, right out, and left in.

8. Flood and Tsunami Hazards. Only a small portion of the site is located within Flood Zone V18 (tsunami zone). There will be no structures located in this zone. The remainder of the site is located in Flood Zones A4, AO (depth 1 foot), and C. The structures located within Flood Zone A4 will have the finish floor elevations raised above the established base flood elevations. The structures located within Flood Zone AO will have the finish floor elevations set at least 1 foot higher that the lowest adjacent grade. There are no requirements for Flood Zone C.

9. Water Conservation Measures. The following water conservation measures will be incorporated into the project:

- Installation of water conserving, low flow fixtures;
- Incorporating water efficient landscaping (xeriscaping) into the landscape design; and
- Installation of stub-outs to accommodate the future use of reclaimed water when such water becomes available.

10. Open Space Calculation. As discussed in the EA approximately 26.5% of the total project area, or 2.768-acres, will be maintained as an unobstructed, undeveloped, and contiguous landscaped open space corridor linking South Kihei Road to Kenolio Road in a mauka/makai direction. The proposed landscaped open space is in compliance with MCC Section 19.32.030 (B), which requires that not less than twenty (20) percent of the area of a Planned Development be dedicated to "common open space integrated with the lot layout and street system in order to maximize its park like effect" (See: Attachment "F").

11. Project Density. In the context of the Planned Development, it is possible to request a 10% density bonus and the project is not proposing such a bonus. Therefore, the project's proposed density is as follows:

	Gross Covered Floor Area		Lot Coverage	
A-1 Apartment District	Proposed	Allowed	Proposed	Allowed
• Without bonus	109,610 SF or 34%	127,195 SF or 40%	55,840 SF or 17.5%	79,487 SF or 25%

Without including the additional area allowed by the 10% density bonus, the project is proposed at 86% of the allowable gross covered floor area and 70% of the maximum allowable lot coverage. If you include the additional area allowed by the 10% density bonus, the project is proposed at 81% of the maximum allowable gross covered floor area.

	Proposed	Allowed
• Total Units with Bonus	112	126
• Total Units without Bonus:	112	120

Note: The possible bonus calculation assumes additional units are 1,076 square feet/unit, which is the median size of the units in the project.

12. Project Alternatives. There are several alternative density and design scenarios that could be analyzed. These include:

Maximum Density: Developing the project to the highest potential density can be achieved by reducing the size of units. For example, by reducing the size of the units to 850 square feet, **approximately 156 units** can be built. Increasing the number of the units would increase the paved parking requirement by 88 stalls and substantially impact the project's on-site open space and on-site recreation facilities and infrastructure, as well as the demand on public infrastructure and services. The maximum density alternative would also negatively impact the balanced residential urban design character of the project.

Less Density: Reducing the number or size of the proposed structures would result in fewer units; thereby, reducing the project's marginal impact on public infrastructure and services. However, decreasing the number of units would require that certain fixed development costs, i.e. land acquisition, planning and design studies, and on- and off-site infrastructure improvements, be amortized over fewer units thus increasing the cost per unit and resulting in a less affordable, profitable or an economically unviable project.

Discussion. Typically, the purpose for modifying project features and creating alternatives is to avoid or reduce environmental impacts. If the design of a project does not result in a significant environmental impact, it is not necessary to look for alternative ways to design the project. As documented in the EA, the proposed project should not result in significant environmental impacts to surrounding properties, nearshore waters, natural resources, or archaeological and historic resources on the site or in the immediate area. Public infrastructure and services, with the incorporation of the proposed mitigation measures, should not be significantly impacted by the proposed development. As such, reducing the number of units is not warranted.

Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Sincerely yours

Christopher L. Hart, ASLA
Landscape Architect and Planner

Enclosures
cc. Mr. Mike Foley, Department of Planning
Mr. Adam Sparks, Aheahe Makani LLC
Mr. Stacy Otomo, Otomo Engineering, Inc.
Mr. Phillip Rowell, Phillip Rowell & Associates

ERA Maui Real Estate

Always There For You®

January 13, 2004

Adam Sparks
c/o Mike Summers
Chris Hart & Partners
1955 Main Street, STE 200
Wailuku Hi. 96793

RE: Parcel 2-3-9-041-004, South Kihei Road, Kihei Maui Hawaii.

Aloha Mr. Sparks,

On or around September 11th, 2003 you had contacted our office regarding a parcel in Kihei, known as Parcel TMK: 2-3-9-041-004, and as to whether or not the Owners were interested in selling this parcel.

At the time of our conversation, the owner was not interested in selling and a letter sent around the same time went unanswered.

If you have any other questions and/or concerns, please feel free to contact our office.

Sincerely

Scott A Sherley ®
Broker in Charge/Kahului
2004 President, Hawaii Association of Realtors.

275 West Kaahumanu Ave. • #2C-A1 • Kahului, HI 96732 • Office: (808) 877-6565 • Fax: (808) 877-9449 • Toll Free: (800) 451-6759 • E-Mail: eramaui@eramaui.com
225 Pikea Ave. • Suite 92 • Kihei, HI 96753 • Office: (808) 879-1511 • Fax: (808) 874-3482 • Toll Free: (800) 451-6759 • E-Mail: eramaui@eramaui.com
Each ERA Office Is Independently Owned and Operated

Attachment "A"

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

MILTON M. ARAKAWA, A.I.C.P.
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

January 20, 2004

MEMO TO: MICHAEL FOLEY
PLANNING DIRECTOR

FROM: for GILBERT S. COLOMA-AGARAN
DIRECTOR OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT

SUBJECT: KAI MAKANI BEACH PARKING PLAN

We have had an opportunity to review the revised beach parking plan from the Kai Makani Project and offer the following comments:

1. The parking area is within the sand dune as depicted on our topographic map for South Kihei Road Improvements Phase V conducted in September, 2000.

2. The sand dunes are subject to movement by wind and surf. We would surmise that the parking lot will have significant maintenance problem with sand.

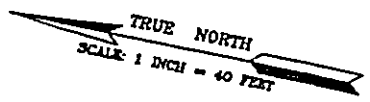
3. The narrow median between the travel way and the parking lot is an excellent way to separate this parking area from through traffic on South Kihei Road.

If you have any questions, please call Milton Arakawa at 270-7845.

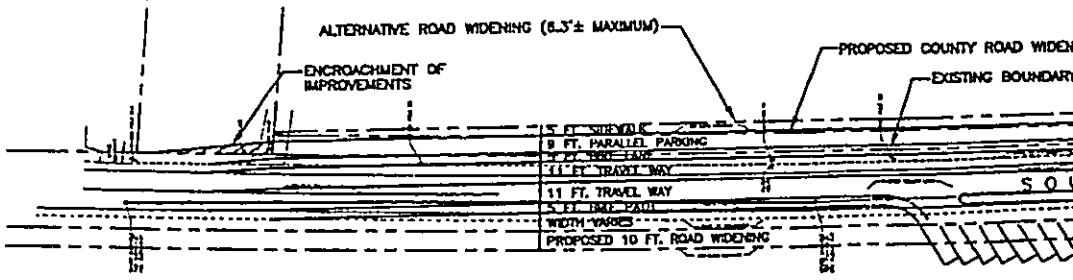
GSCA:MA:jso
xc: ✓Stacy Otomo, Otomo Engineering, Inc.
s:\milton\kai makani rev

Attachment "B"

RECEIVED AS FOLLOWS



KAI MAKANI PROJEC



CONCEPTUAL KAI MAKANI BEACH PA
SCALE: 1 INCH = 100 FEET

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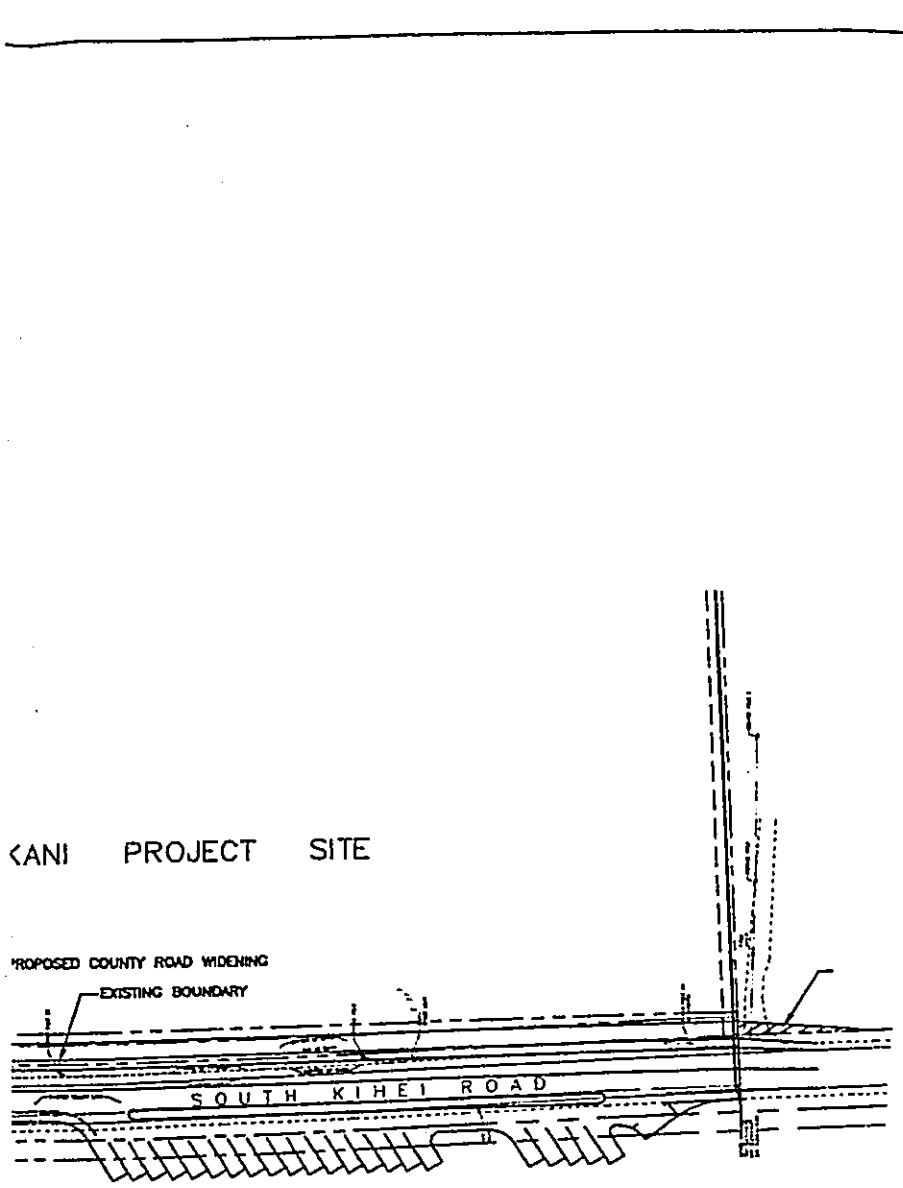

MAKANI BEACH PARKING PLAN

OTOMO
ENGINEERING, INC.
CONSULTING CIVIL ENGINEERS

STACY A. OTOMO
LICENSED PROFESSIONAL ENGINEER
No. 9115-C
HAWAII, U.S.A.

SIGNATURE DATE

KAI MAKANI CONDOMINIUM
T.M.K.: (2)3-9-041: 002, 003, 026 & 027
KIHEI, MAUI, HAWAII
CONCEPTUAL BEACH PARKING PLAN

REVISION	DATE	NOTE

DESIGNED BY: S.A.O.
DRAWN BY: S.A.O.
PROJECT NO.: 2001-35
DRAWING NAME: BEACH PARKING
DATE: 9-20-02

SHEET NO.
C-1
OF SHEETS

Attachment "C"

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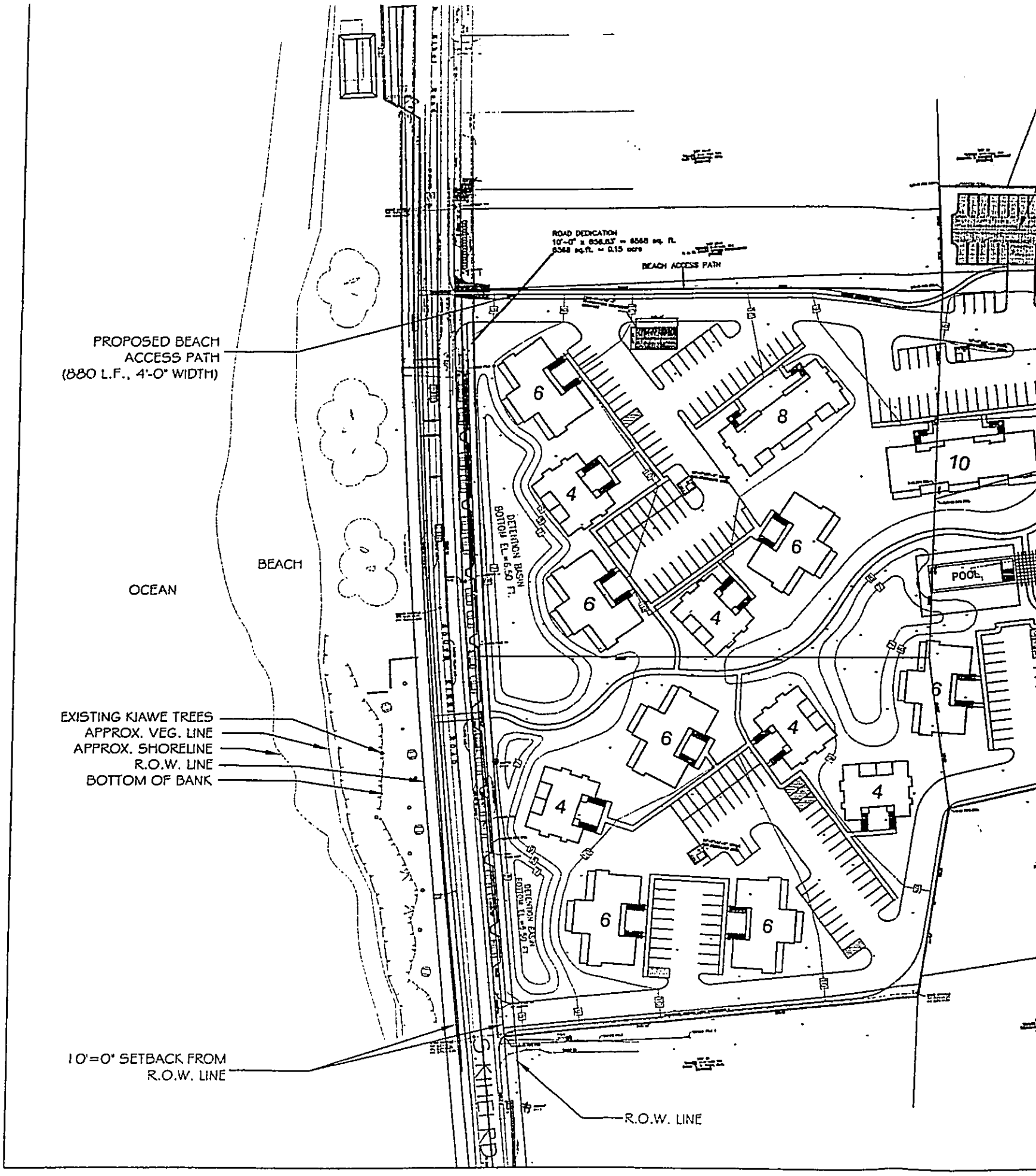

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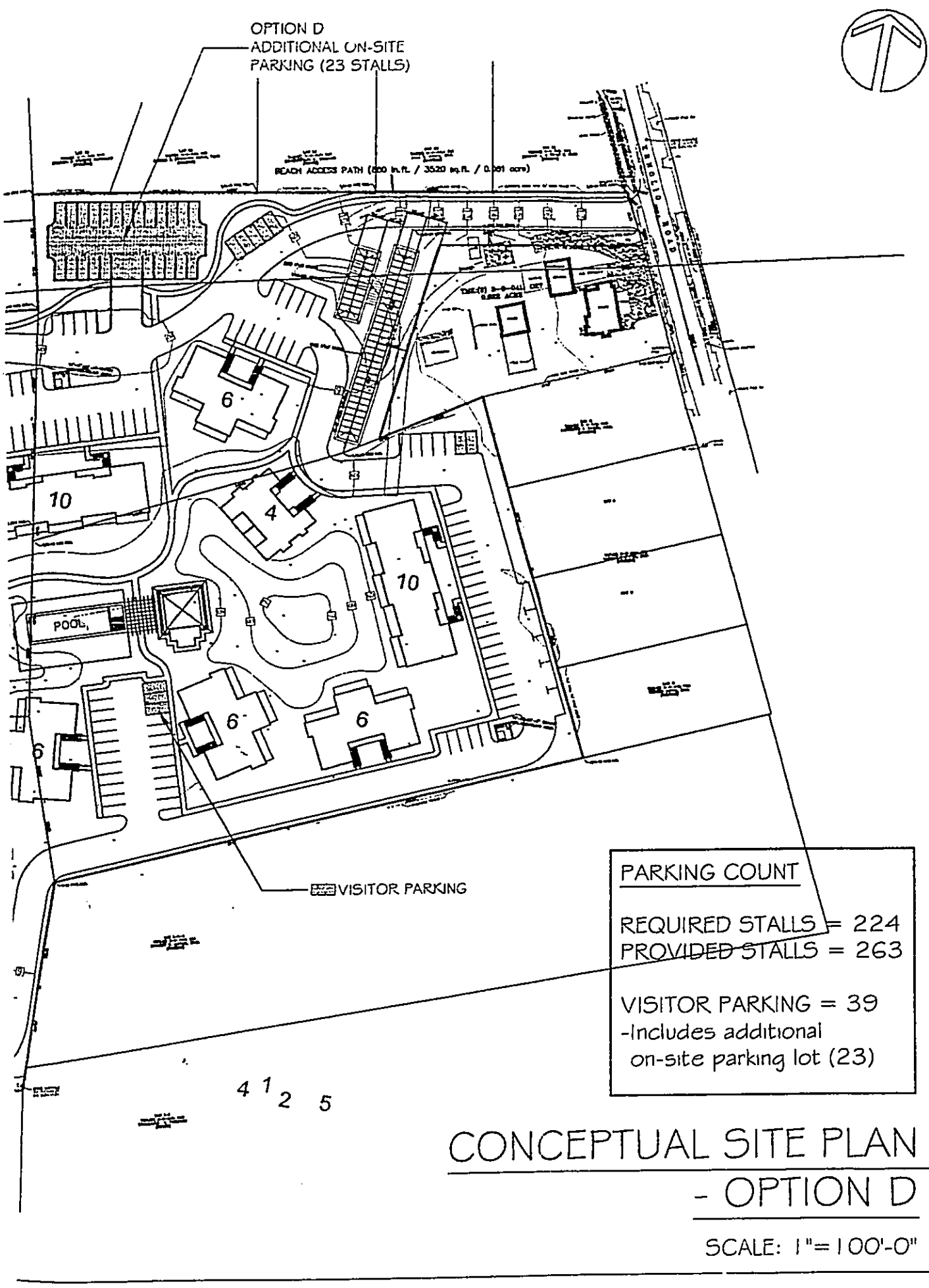

Attachment "D"

RECEIVED AS FOLLOWS

We hereby certify that this is a true copy of the or
filed as Land Court Document No. ____
and / or recorded in the Bureau of Conveyanc
Document No. 90-190094
DECEMBER 13, 1990 at ____ o'clock ____
TITLE GUARANTY OF HAWAII, INCORPOR
By ____

LAND COURT | REGULAR SYSTEM

AFTER RECORDATION, RETURN BY: MAIL (X) PICK-UP ( )

County of Maul
200 South High Street
Wailuku, Maui, Hawaii 96793

UNILATERAL AGREEMENT AND DECLARATION FOR CONDITIONAL ZONING

THIS INDENTURE, made this 22nd day of November, 1990, by KIHEI ROAD ASSOCIATES, a California general partnership, whose principal place of business and mailing address is 414 East Cota Street, Suite 201, Santa Barbara, California 91301, hereinafter referred to as "Declarant", and who is also the recorded owner of that certain parcels of land located at Kihei, Maui, Hawaii, identified for real property tax purposes by Tax Map Key No. 3-9-41:2, 3-9-41:3, and 3-9-41:28, comprised of approximately 7.328 acres, more particularly described in Exhibit "A", which is attached hereto and made a part hereof, and in Land Zoning Map No. 539, which is on file in the Office of the County Clerk of the County of Maui which is by reference

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made a part hereof, and hereinafter referred to as the "Property".

WITNESSETH:

WHEREAS, the Council of the County of Maui, State of Hawaii, hereinafter referred to as "Council", is considering a change of zoning from R-2 Residential District to A-1 Apartment District for the Property; and

WHEREAS, the Council recommends through its Planning and Land Use Committee, Committee Report No. _____, that said change in zoning be approved for passage on first reading subject to certain conditions pursuant to Chapter 19.42, Maui County Code; and

WHEREAS, Declarant has agreed to execute this instrument pursuant to the conditional zoning provisions of Chapter 19.42, Maui County Code.

NOW, THEREFORE, the Declarant hereby makes the following Declaration:

1. That this Declaration is made pursuant to the provisions of Chapter 19.42, Maui County Code, relating to conditional zoning;

2. That the Property, and all parts thereof, is and shall be held subject to the covenants, conditions and restrictions contained herein and that all of such covenants, conditions and restrictions shall be effective as to and shall run with the land as to the Property from and after the recording of this Declaration with the Bureau of Conveyances or the Land Court of the State of Hawaii, as the case may be,

without the execution, delivery or recordation of any further deed, instrument, document, agreement, declaration, covenant or the like with respect thereto by the Declarant, the County of Maui, or any heir, devisee, executor, administrator, personal representative, successor, and assign, as the case may be, of any of them, that the acquisition of any right, title or interest in or with respect to the Property by any person or persons, entity or entities, whomsoever, shall be deemed to constitute the acceptance of all of the covenants, conditions and restrictions of this Declaration by such person or persons, entity or entities, and that upon any transfer of any right, title or interest in or with respect to the Property the same shall be subject to, and the transferee shall assume and be bound and obligated to observe and perform, all of the covenants, conditions and restrictions of this Declaration;

3. This Declaration and all of the covenants, conditions and restrictions contained herein shall continue to be effective as to and run with the land in perpetuity, or until the same is released as to the Property or any part thereof by the County;

4. The term "Declarant" and any pronoun in reference thereto, wherever used herein, shall be construed to mean the singular or the plural, the masculine or the feminine or the neuter, and vice versa, and shall include any corporation, and shall be held to mean and include the "Declarant", Declarant's heirs, devisees, executors, administrators, personal representatives, successors, and assigns;

5. That the Declaration shall become fully effective on the effective date of the zoning ordinance approving the chang of zoning from R-2 Residential District to A-2 Apartmen District for the Property and this Declaration shall be recorded in the Bureau of Conveyances or Land Court of the State of Hawaii, as the case may be;

6. That the Declarant agrees to develop said Property in conformance with the conditions set forth in Exhibit "B", which is attached hereto and made a part hereof and which shall be made a part of the zoning ordinance; and

7. That the conditions imposed are reasonable and rationally relate to the objective of preserving the public health, safety and general welfare and such conditions fulfill the need for the public service demands created by the proposed use.

AND IT IS EXPRESSLY UNDERSTOOD AND AGREED that the conditions imposed in this Declaration shall run with the land identified hereinabove and shall bind and constitute notice to all subsequent lessees, grantees, assignees, mortgagees, lienors and any other persons who claim an interest in the said land, and the County of Maui shall have the right to enforce this Declaration by appropriate action at law or suit in equity against all such persons, provided that the Declarant or its successor and assigns may at any time file a petition for the removal of the conditions and terminate this Unilateral Agreement, such petition to be processed in the same manner as petitions for change in zoning.

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The undersigned hereto agree that this instrument m executed in counterparts, each of which shall be deemed an original, and said counterparts shall together constitute one the same agreement, binding all of the parties hereto, notwithstanding all of the parties are not signatory to the original or the same counterparts. For all purposes, includin without limitation, recordation, filing and delivery of this instrument, duplicate unexecuted and unacknowledged pages of th counterparts may be discarded and the remaining pages assembled one document.

IN WITNESS WHEREOF, the undersigned has executed this Declaration the day and year first above written.

APPROVED AS TO FORM:

B. MARTIN LUNA
Attorney for Applicant

APPROVED AS TO FORM
AND LEGALITY:

GLENN M. KOSAKA
Corporation Counsel
County of Maui

DECLARANT:

KIHEI ROAD ASSOCIATES,
a California general partnership

By its General Partners:

CESD INVESTMENT CORP.,
a California corporation

By
THEODORE J. SKLAR
Its Vice President

AMERICAN LANDMARK DEVELOPMENT,
INC., a California corporation

By

Its

The undersigned hereto agree that this instrument may be executed in counterparts, each of which shall be deemed an original, and said counterparts shall together constitute one and the same agreement, binding all of the parties hereto, notwithstanding all of the parties are not signatory to the original or the same counterparts. For all purposes, including, without limitation, recordation, filing and delivery of this instrument, duplicate unexecuted and unacknowledged pages of the counterparts may be discarded and the remaining pages assembled as one document.

IN WITNESS WHEREOF, the undersigned has executed this Declaration the day and year first above written.

APPROVED AS TO FORM:

B. MARTIN LUNA
Attorney for Applicant

APPROVED AS TO FORM
AND LEGALITY:

GLENN M. KOSAKA
Corporation Counsel
County of Maui

DECLARANT:

KIHEI ROAD ASSOCIATES,
a California general partnership

By its General Partners:

CESD INVESTMENT CORP.,
a California corporation

By
THEODORE J. SKLAR
Its Vice President

AMERICAN LANDMARK DEVELOPMENT,
INC., a California corporation

By
Robert F. Sowada II
Its Chairman, CEO

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STATE OF CALIFORNIA)
) SS.
COUNTY OF Los Angeles)

On this 21st day of November, 1990, before me appeared THEODORE J. SKLAR, to me personally known, who, being by me duly sworn, did say that he is the Vice President of CESD INVESTMENT CORP., a California corporation, which corporation is a general partner of KIHEI ROAD ASSOCIATES, a California general partnership, that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said officer acknowledged said instrument to be the free act and deed of said corporation and said partnership.

OFFICIAL SEAL
KIYOKO ING
Notary Public-California
LOS ANGELES COUNTY
My Commission Expires
September 7, 1994

Notary Public, in and for said
County and State

My commission expires: 9-07-94

STATE OF CALIFORNIA)
) SS.
COUNTY OF _____)

On this _____ day of _____, 19____, before me appeared _____, to me personally known, who, being by me duly sworn, did say that he is is the _____ of AMERICAN LANDMARK DEVELOPMENT, INC., a California corporation, which corporation is a general partner of KIHEI ROAD ASSOCIATES, a California general partnership, that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said officer acknowledged said instrument to be the free act and deed of said corporation and said partnership.

Notary Public, in and for said
County and State

My commission expires:

STATE OF CALIFORNIA)
) SS.
COUNTY OF _____)

On this _____ day of _____, 19____, before me appeared THEODORE J. SKLAR, to me personally known, who, being by me duly sworn, did say that he is the Vice President of CESD INVESTMENT CORP., a California corporation, which corporation is a general partner of KIHEI ROAD ASSOCIATES, a California general partnership, that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said officer acknowledged said instrument to be the free act and deed of said corporation and said partnership.

_____
Notary Public, in and for said County and State

My commission expires:

STATE OF CALIFORNIA)
) SS.
COUNTY OF Santa Barbara)

On this 22 day of November, 1990, before me appeared Robert F. Snowball, to me personally known, who, being by me duly sworn, did say that he is is the Chairman CEO of AMERICAN LANDMARK DEVELOPMENT, INC., a California corporation, which corporation is a general partner of KIHEI ROAD ASSOCIATES, a California general partnership, that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said officer acknowledged said instrument to be the free act and deed of said corporation and said partnership.

OFFICIAL SEAL
RHONDA LEE LEDSON
NOTARY PUBLIC CALIFORNIA
PRINCIPAL OFFICE IN
SANTA BARBARA COUNTY
My Commission Exp. Feb 23, 1993

Rhonda Lee Ledson
Notary Public, in and for said County and State

My commission expires:

2-23-93

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FIRST: ALL that certain parcel of land (being t
land described in Land Patent (Grant) No. 11,492 issued to
Harold M. Baldwin) situate at Waiakoa, District of Kula, Isla
and County of Maui, State of Hawaii, being LOT 18 of the
"WAIAKOA HOUSE LOTS", and thus bounded and described:

Beginning at a pipe at the northwest corner of this
lot, the southwest corner of Lot 17, Waiakoa House Lots, and
the east side of Kihei-Makena Road (40 feet wide), the
coordinates of said point of beginning referred to a + on roc
(Kalaepohaku) at seashore and on the boundary between the lanc
of Pulehunui and Waiakoa being 2558.99 feet South and 708.54
feet East, and the coordinates of said + on rock (Kalaepohaku)
referred to Government Survey Triangulation Station "Puu-o-
Kali" being 17875.5 feet North and 25734.0 feet West, as shown
on Government Survey Registered Map 3028, and running by
azimuths measured clockwise from true South:

1.	260°	34'		393.44	feet along Lot 17, Waiakoa House Lots to a pipe;
2.	342°	00'		133.80	feet along Lot 3, Waiakoa Homesteads, Makai Section (Grant 7209 to John Kupahau) to a pipe;
3.	359°	06'		165.30	feet along Lot 4, Waiakoa Homesteads, Makai Section (Grant 7108 to Leialoha) to a pipe;
4.	74°	47'	30"	358.95	feet along Lot 19, Waiakoa House Lots to a pipe on the east side of Kihei-Makena Road;
5.	164°	47'	30"	165.85	feet along the east side of Kihei-Makena Road to a pipe;

6. Thence along same on a curve to the right having a radius of 7619.44 feet, the chord azimuth and distance being 165° 25' 18" .2 167.56 feet to the point of beginning, containing an area of 2.79 Acres.

EXHIBIT

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SUBJECT, HOWEVER, to the restrictive condition relative to the use of said land as the same is contained in said Land Patent Grant No. 11,492.

SECOND: ALL that certain parcel of land (being land described in Land Patent (Grant) No. 11,293 issued to Clarence R. Baldwin) situate at Waiakoa, District of Kula, Island and County of Maui, State of Hawaii, being LOT 17 of "WAIAKOA HOUSE LOTS", and thus bounded and described:

Beginning at a pipe at the southwest corner of this lot, the northwest corner of Lot 18, Waiakoa House Lots, and the east side of Kihei-Makena Road (40 feet wide) the coordinates of said point of beginning referred to a + on roc (Kalaepohaku) at seashore and on the boundary between the la of Pulehunui and Waiakoa being 2558.99 feet South and 708.5 feet East, and the coordinates of said + on rock (Kalaepohaku referred to Government Survey Triangulation Station "Puu-o-Kali" being 17,875.5 feet North and 25734.0 feet West, as sh on Government Survey Registered Map 3028, and running by azimuths measured clockwise from true South:

1.	Along the east side of Kihei-Makena Road on a curve to th right having a radius of 7619.44 feet, the chord azimuth and distance being 167° 16' 04" .5 323.42 feet to a pipe;			
2.	260°	34'	417.14	feet along Lot 16, Waiakoa House Lots, to a pipe;
3.	351°	25'	171.00	feet along Lot 3, Waiakoa Homesteads, Makai Section, (Grant 7209 to John Kupaha to a pipe;
4.	351°	32'	152.00	feet along same to a pipe;
5.	80°	34'	393.44	feet along Lot 18, Waiakoa House Lots, to point of beginning containing an area of 3.00 Acres, or thereabouts.

SUBJECT, HOWEVER, to the restrictive condition relative to the use of said land as the same is contained in said Land Patent Grant No. 11,293.

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THIRD: ALL of that certain parcel of land, bei
Portion of Grant 7209 to John Kupahau, situated at Waiakoa
Makai Homesteads at Kula, Kihei, Island and County of Maui,
State of Hawaii, and more particularly described as follows

BEGINNING at a pipe on the northeast corner of th:
lot, east corner of land owned by Zenkichi Shiroma and wife,
Karen, on the west side of Government road, the coordinates
which point referred to Triangulation Station "Kalaepohaku"
2480.81 feet south and 1555.24 feet east and running by
azimuths measured clockwise from true South:

1.	335°	19'	30.70	feet along the west side of Government road to a pipe
2.	80°	34'	175.00	feet along remainder of Grant 7209 to a pipe;
3.	6°	54'	182.00	feet along same to a pipe;
4.	64°	28'	245.51	feet along same to a pipe;
5.	171°	32'	12.00	feet along Lot 17 of Waiakoa House Lots to a pipe;
6.	171°	25'	171.00	feet along same to a pipe;
7.	167°	36'	89.54	feet along Lot 16 of Waiakoa House Lots to an iron pin;
8.	260°	34'	455.90	feet along land owned by Zenkich Shiroma and wife, Karen, tc the point of beginning, containing an area of 1.538 acres.

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CONDITIONS

The zoning established by this ordinance is subject to the following conditions imposed in accordance with Section 19.42.060 of the Maui County Code:

1. That the permitted uses on the subject parcels shall be limited to the following uses identified in Chapter 19.12 of the Maui County Code:

   a. Single family dwellings;
   b. Apartment houses; and
   c. Apartment courts;

2. That fifty percent of the units of the project shall be targeted for affordable housing in the following manner:

   a. That for a reasonable time, these units shall be offered for sale in fee simple at a price determined by the Director of Human Concerns of the County of Maui to be affordable to a person with a gross annual household income of not more than 140% of the median income for the County of Maui, for a family of four as established by the Department of Housing and Urban Development of the United States of America; and

   b. If after a reasonable time all of these units are not sold, the remaining, unsold units shall be rented at a monthly rate, which includes the rental of each unit and the utility costs associated with the unit, determined by the Director of Human Concerns of the County of Maui to be affordable to a person with a gross annual household income of not more than 140% of the median income for the County of Maui, for a family of four as established by the Department of Housing and Urban Development of the United States of America; provided that, these remaining, unsold units may be sold in accordance with condition 2.a previously stated herein at any time;

3. That no building permit shall issue until the Department of Water Supply determines that an adequate water supply is available for this project;

EXHIBIT "B"

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4. That no certificate of occupancy shall issue to the project until the Department of Education determines that the number of school students caused by this project can be adequately accommodated by schools in the area, or until the new Kihei school has been constructed, whichever occurs sooner; and

5. The project shall be constructed concurrently with the improvements to Kihei Memorial Beach Park pursuant to plans agreed upon by the Department of Parks and Recreation entailing costs up to one hundred fifty thousand and no/100 dollars ($150,000.00).

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JAN 16 2004
CHRIS HART & PARTNERS
Landscape Architecture & Planning

January 13, 2004

Adam Sparks
c/o Mike Summers
Chris Hart & Partners
1955 Main Street, STE 200
Wailuku Hi. 96793

RE: Parcel 2-3-9-041-004, South Kihei Road, Kihei Maui Hawaii.

Aloha Mr. Sparks,

On or around September 11th, 2003 you had contacted our office regarding a parcel in Kihei, known as Parcel TMK: 2-3-9-041-004, and as to whether or not the Owners were interested in selling this parcel.

At the time of our conversation, the owner was not interested in selling and a letter sent around the same time went unanswered.

If you have any other questions and/or concerns, please feel free to contact our office.

Sincerely -

Scott A Sherley ®
Broker in Charge/Kahului
2004 President, Hawaii Association of Realtors.

275 West Kaahumanu Ave. • #2C-A1 • Kahului, HI 96732 • Office: (808) 877-6565 • Fax: (808) 877-9449 • Toll Free: (800) 451-6759 ...
225 Piikea Ave. • Suite 92 • Kihei, HI ...

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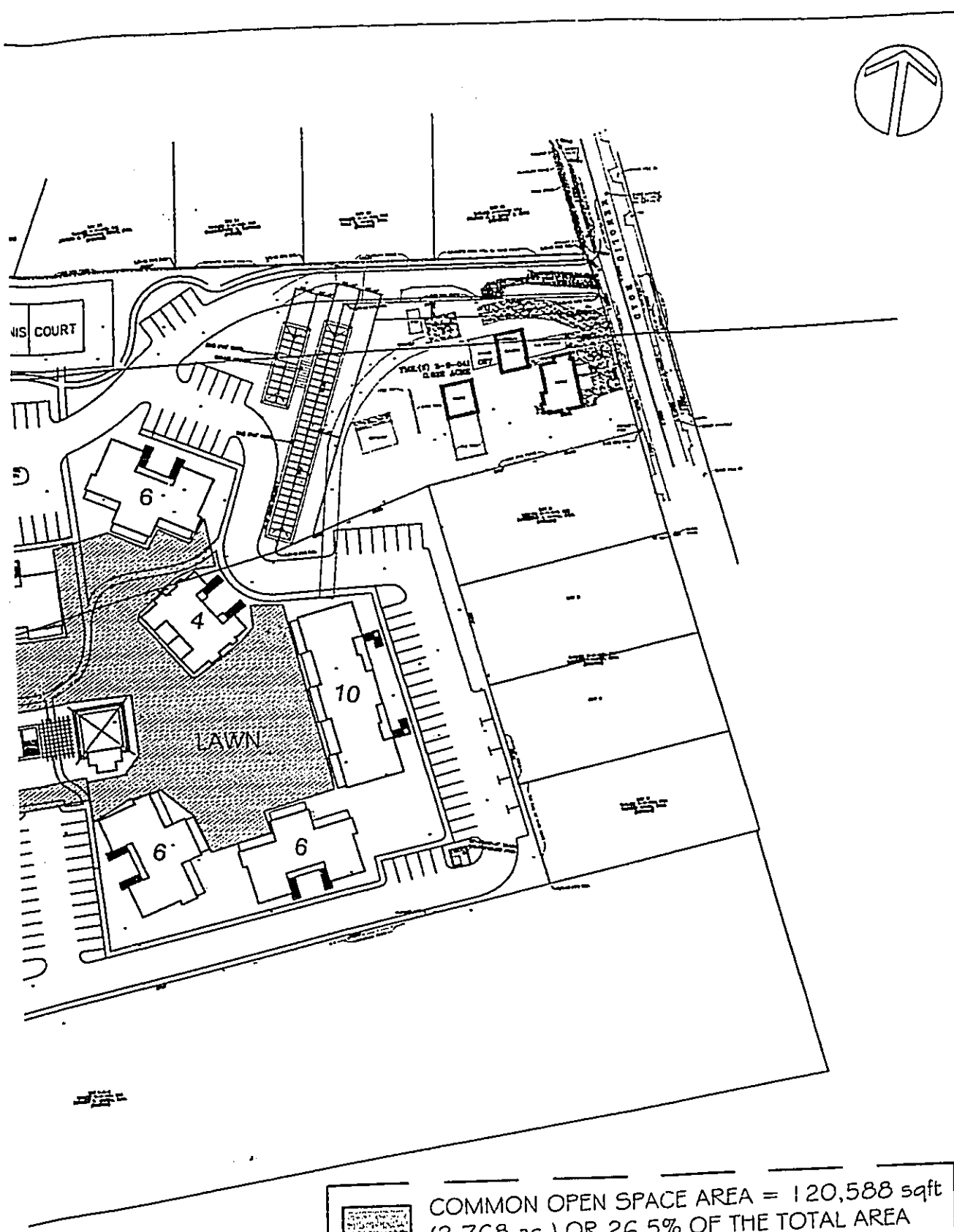

COMMON OPEN SPACE AREA = 120,588 sqft
(2.768 ac.) OR 26.5% OF THE TOTAL AREA

CONTIGUOUS OPEN SPACE

SCALE: 1"=100'-0"

CHRIS HART & PARTNERS

LANDSCAPE ARCHITECTURE AND PLANNING

1088 BISHOP STREET, SUITE 308
HONOLULU, HAWAII 96813-1708
TELEPHONE (808) 942-1188
FACSIMILE (808) 942-1189

KAI MAKANI

KIHEI, MAUI, HAWAII

TMK 3-9-041:002,003,028,038 & PRO. OF 027

WILLIAM MITCHELL
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 9173
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

OPEN SPACE UPDATE - JULY 25/03

DATE SEPT 23, 2002

FILE NO 00-111

FIGURE

Attachment "F"

ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

(808) 270-7230
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2 , Wailuku, Hawaii 96793

March 5, 2004

Mr. Michael Summers
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Hawaii 96793

Dear Mr. Summers:

Subject: **KAI MAKANI MULTI-FAMILY RESIDENTIAL PROJECT**
TMK 3-9-041:002, 003, 026, 038, & POR. OF 027, KIHEI

Subsequent to a meeting with Gary Elster of the Kihei Community Association (KCA), our Department met with the Department of Public Works and Environmental Management, the Department of Planning, and the Mayor's Office to discuss the acceptable park related improvements for the subject project.

The Department of Planning confirmed that constructing a parking lot within the existing park site across the subject project, adjacent to the dunes, is not an option. The Department of Public Works and Environmental Management confirmed that realignment of South Kihei Road was not an option. Also, it was determined that the KCA's request for the County to purchase property adjacent to subject project for additional beach park and on-street parking shall be kept a separate issue.

It is our understanding that the developer is required to make improvements, agreed upon by the Department of Parks and Recreation, entailing costs up to $150,000.00 at the Kihei Memorial Beach Park (also referred to as the Maipoina Oe Lau Beach Park), pursuant to condition no. 5 of the zoning requirements. At the time of building permit approval, the developer is required to satisfy the park dedication requirements in accordance with Section 18.16.320 of the Maui County Code.

Our Department plans to expend the aforementioned funds by 1) requiring the developer to reconstruct the existing restroom/pavilion building at the Maipoina Oe Lau Beach Park, including construction of any necessary related improvements, and 2) allowing the developer to provide a privately owned and maintained park within the subject property for construction of a tennis court. The remaining balance will be a cash contribution towards the parks and playgrounds assessment fees.

It is also our understanding that the developer plans to construct offsite parking on the mauka side of South Kihei Road only. Due to the limited number of onsite guest parking for the subject project, it is expected that its residents and guests will regularly utilize the aforementioned on-street parking. Since this will reduce the number of available on-street parking for the beach park users, we are requesting that the developer should also construct on-street parking on the makai side of South Kihei Road.

Should you have any questions or concerns, please feel free to contact me, or Patrick Matsui, Chief of our Planning & Development Division, at 270-7387.

Sincerely,

GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Planning & Development Division - DPR