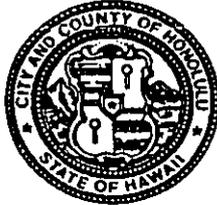


DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4564 • Fax: (808) 523-4567
Web site: www.co.honolulu.us

JEREMY HARRIS
MAYOR



RECEIVED

02 APR 26 P2:19

RAE M. LOUI, P.E.
DIRECTOR

ERIC G. CRISPIN, AIA
DEPUTY DIRECTOR

GEORGE T. TAMASHIRO, P.E.
ASSISTANT DIRECTOR
IN REPLY REFER TO:
GC-189

OFFICE OF ENVIRONMENT/
QUALITY CONTROL

April 25, 2002

Genevieve Salmonson, Director
Office of Environmental Quality Control
State Office Tower
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact (FONSI) for
Puu O Hulu Community Park Master Plan
TMK: 8-7-010:021
Maili, Waianae District, Oahu

The Department of Design and Construction has reviewed the comments received during the 30-day public comment period that began on March 8, 2002. This agency has determined that this project will not have significant environmental effects and by this letter issues a FONSI. Please publish this notice in the next edition of the Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the Final EA. Please call Mr. George Coates at 527-6642 if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Rae M. Loui".

RAE M. LOUI, P.E.
Director

RML:lk

Enclosure

MAY 8 2002

FILE COPY

2002-05-08-0A-~~FEA~~

FINAL ENVIRONMENTAL ASSESSMENT

PU'U O HULU COMMUNITY PARK MASTER PLAN
Mali, Waianae, Oahu

Prepared for

Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

April 2002

FINAL ENVIRONMENTAL ASSESSMENT

PU'U O HULU COMMUNITY PARK MASTER PLAN
Maui, Waianae, Oahu

Prepared in Partial Fulfillment of the Requirements
of Chapter 343, Hawaii Revised Statutes and
Title 11, Chapter 200, Hawaii Administrative Rules,
Department of Health, State of Hawaii

Prepared for

Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Prepared by

INK Architects, Inc.
680 Iwilei Road
Suite 550
Honolulu, Hawaii 96817

and

Gerald Park Urban Planner
1400 Rycroft Street, Suite 876
Honolulu, Hawaii 96814

April 2002

PROJECT PROFILE

Proposed Action: Pu'u O Hulu Community Park Master Plan

Proposing Agency: Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Accepting Authority: Department of Design and Construction, City and
County of Honolulu for Mayor, City and County
of Honolulu

Need for Assessment: Section 343-5 (a)(1), HRS
Propose the use of county lands or funds

Tax Map Key: 8-7-010:021
Land Area: 11.0 acres
Land Owner: City and County of Honolulu

Existing Use: Community Park

State Land Use Designation: Urban
Sustainable Communities Plan: Waianae
Land Use Plan: Rural Residential
Infrastructure Map: Rural Residential
Zoning: P-2 General Preservation

Anticipated Determination: Finding of No Significant Impact

Contact Person: George Coates
Project Coordinator
Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Telephone: 527-6642

Note: Revisions to the text of the Draft Environmental Assessment
appear in *bold italic* type. Deleted text is shaded.

TABLE OF CONTENTS

	Project Profile	
	Table of Contents	i
	List of Figures and Images	ii
SECTION 1	DESCRIPTION OF THE PROPOSED ACTION	1
	A. Technical Characteristics	1
	B. Economic Characteristics	3
	D. Social Characteristics	3
SECTION 2	EXISTING CONDITIONS	8
SECTION 3	SUMMARY OF ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS	15
	A. Short-term Impacts	16
	B. Long-term Impacts	17
SECTION 4	ALTERNATIVES TO THE PROPOSED ACTION	20
	A. No Action	20
	B. Alternative Site Plan	20
SECTION 5	LIST OF PERMITS AND APPROVALS	21
SECTION 6	AGENCIES AND ORGANIZATIONS CONSULTED <i>IN THE PREPARATION OF THE ENVIRONMENTAL ASSESSMENT</i>	22
SECTION 7	DETERMINATION OF SIGNIFICANCE	23
REFERENCES		25
APPENDIX A	HAWAIIAN TRADITIONAL AND CULTURAL PRACTICES ASSESSMENT	
APPENDIX B	<i>COMMENT LETTERS AND RESPONSES</i>	

LIST OF FIGURES

Figure	Title	Page
1	Location Map	4
2	Tax Map	5
3	Vicinity Map	6
4	Master Plan	7
5	Flood Hazard Map	11

LIST OF IMAGES

Image	Title	Page
1	North View of Park and Grass Field	9
2	North View of Unimproved Section of Park. Grass Field is on the Left.	9

SECTION 1 DESCRIPTION OF THE PROPOSED PROJECT

The Department of Design and Construction ("DDC"), City and County of Honolulu, proposes to construct site improvements at Pu'u O Hulu Community Park (formerly known as Maili Kai Community Park) located at Maili, Waianae District, City and County of Honolulu. A Location Map is shown in Figure 1. The property is identified as tax map key 8-7-10: 21 (See Figure 2).

Located at the end of Kaukama Road in Lualualei Valley, the 11.0 acre site is bounded by vacant land to the north and east, existing residential dwellings to the west, and existing and future residential housing to the south. A Vicinity Map is shown in Figure 3.

A. Technical Characteristics

The Pu'u O Hulu Community Park Master Plan separates the existing open field into half along an east to west axis. Field sports are proposed for the northern half and court sports and support facilities for the southern half. The types of recreation and support facilities proposed in the Master Plan are based in part on City facility standards for community parks and from input from members of the Maili Kai community.

A **regulation softball field** is proposed for the northeastern corner of the park. The field features a 60-foot diamond, "skinned" infield, and measures 300 feet down both foul lines. A backstop will be erected about 50 feet inside the northeast corner with at-grade dugouts for home and visiting teams. The field will be suitable for men and women's play.

A **little league baseball field** is proposed opposite the softball field. This field features a 60-foot diamond, grassed infield, and measures 300 feet down both foul lines. A backstop will be erected about 90 feet inside the western boundary of the park with at-grade dugouts for home and visiting teams.

No outfield fence is proposed for the baseball and softball fields. Fencing would preclude use of both ball fields for other field sports. In the event that baseball or softball league tournaments are held at the park, temporary outfield fences could be erected. Both fields will be lighted for night play. *The lights will be oriented to illuminate the play fields and courts (OEQC Comment).*

Two **soccer fields** (360' X 185') are proposed. The fields are aligned diagonally northwest to southeast. Because of space limitation and the need to share an open area, one soccer field overlaps the baseball field outfield and the other overlaps the softball field outfield.

A 10,000 square foot site in the middle of the southern half of the park is planned for a **skateboard park**. The facility will be designed under separate contract at a later time. A children's **play apparatus** would be located to the east of the skateboard park.

Two outdoor **basketball courts** and a **volleyball court** will be located in the southwest corner. The courts will be lighted for night play.

A **recreation center** of approximately 5,000 square feet is proposed. The free-standing structure will offer flexible space for recreation staff offices, classrooms for recreation programs and meetings,

restrooms, and storage facilities. The recreation center will be designed under separate contract. A one-story building constructed of cmu exterior walls and a pitched roof is envisioned.

A **comfort station** is proposed along the eastern property line generally between the softball field and the proposed parking lot. The comfort station will be built to City design standards with ADA accessible men and women's bathrooms and storage space for park maintenance equipment and supplies.

A 6-foot wide **concrete path** will circle the various field and court activities and support facilities creating an approximately 0.5 mile loop around the park. Trees and light poles will line sections of the path. The path is proposed for walking and jogging and can be used by light weight maintenance vehicles and emergency vehicles.

ADA accessible picnic tables will be dispersed on the eastern half of the park for picnic use and for sitting and viewing activities taking place at the different venues.

Vacant land abutting the park to the north, west, and east are labeled as Future Roads on the Master Plan. When constructed, these roads along with Kaukama Road effectively will surround the park site with subdivision roads. Besides from their primary function, the roads will buffer the park from surrounding residential housing.

Chain link **fencing** will enclose the entire park. Pedestrian entries through the fencing will be provided on three sides from Kaukama Road and Future Roads on the west and east.

A **78-stall parking lot** is planned for the southeastern corner adjacent to the recreation center and comfort station. Four stalls will be striped and identified for handicap use. The parking lot will be accessed via a 24-foot driveway from a "Future Road" to be constructed on the eastern side of the park. The lot will be paved with asphalt concrete and graded to drain in the direction of the ballfields. The parking lot will be lighted for public safety and security. Lighting will be shielded with full cut-off fixtures to prevent direct illumination to adjoining residential areas.

The parking lot will be landscaped per requirements of the Land Use Ordinance and an underground irrigation system installed.

Water and electrical hook-ups will be made to existing systems in Kaukama Road or utility stub-outs to the park. A 2" water line is considered adequate. Water consumption is estimated at 1,500 gallons per day for the comfort station and recreation center. Irrigation use is estimated at 8,600 gallons per day.

Wastewater from the comfort station will be piped to an existing sewer line just beyond the west end of the park. Approximately 40 LF of 4" pipe will connect the comfort station to a manhole to be constructed inside the park to the west of the comfort station. From this manhole, approximately 690 LF of 8" pipe will be installed across the park to a second and third manhole crossing the park. Approximately 40 LF of 4" pipe will connect to a fourth manhole to be constructed over the existing sewer line. This last section of pipe will have to be installed within a sewer easement (approximately 30' L X 5'W). The City will acquire the easement from the landowner.

Permanent drainage structures are not proposed. Surface runoff will be conveyed overland by swales and grade changes from the southern half of the park (the high side) to the northern half (the low side and planned open field area) and in the direction of an existing flowage easement on the western side of the park.

Landscaping, primarily in the form of trees, will be planted to provide shade, help to define recreation areas, add color and variety to the flat site, and screen the perimeter. Landscaping plans will be prepared as part of the design of each planned improvement. *The Department of Parks and Recreation has determined that monkey pod and shower trees are the desired tree types for landscaping Puu O Hulu Community Park. Other types of trees may be considered and included in landscape plans to be prepared during the design stages of Phases 3 and 4 (Waianae Neighborhood Board and Environmental Center Comment).*

C. Economic Characteristics

The construction cost of all improvements proposed in the Master Plan is estimated at \$ 3.5 million and will be funded by the City and County of Honolulu.

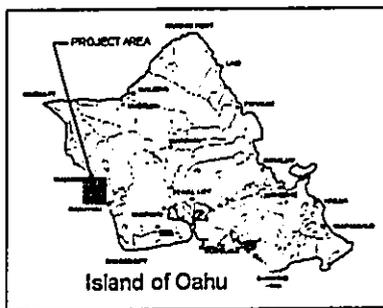
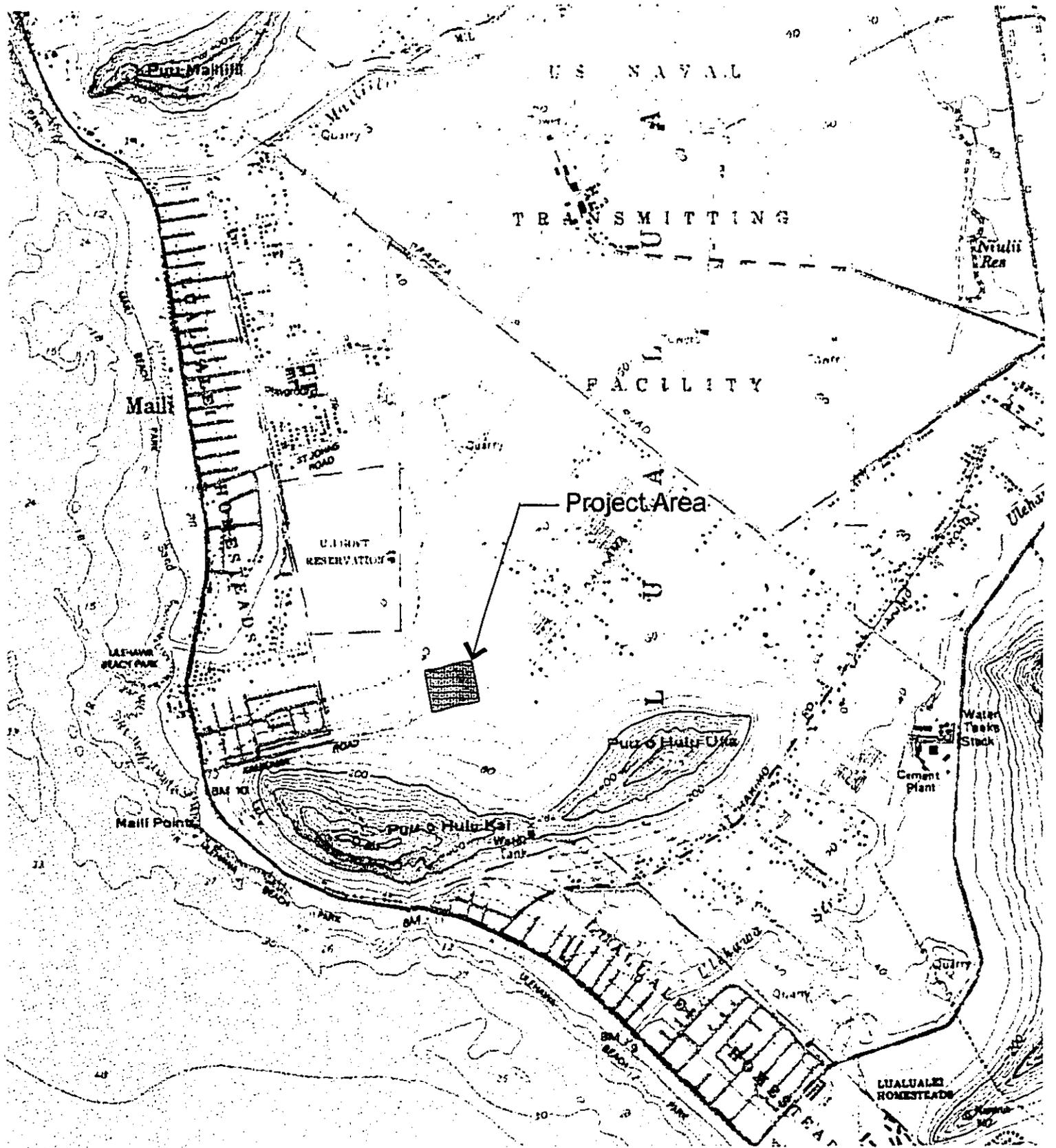
The project will be built in 4 phases and improvements constructed as funding is made available through the City and County of Honolulu budgeting and capital improvements project process. Phase 1 construction is scheduled to commence in late 2001 and Phase 2 by April 2002. Implementation of Phases 3 and 4 have not yet been determined. The planned construction phases and improvements within each phase are summarized below.

- | | |
|---------|---|
| Phase 1 | Construction of Softball Field (Ball Field 1). |
| Phase 2 | Construction of comfort station, portion of parking lot, some landscaping, paved access to the park. |
| Phase 3 | Construction of recreation building, remainder of parking lot, possibly play apparatus, possibly skateboard facility. |
| Phase 4 | Construction of basketball/volleyball courts, Ball Field 2, fencing, and landscaping. |

Schuler Homes Inc., the developer of the Maili Kai Subdivision, deeded the park site to the City and County of Honolulu in 1999. The park is not proposed on ceded lands.

D. Social Characteristics

Pu'u O Hulu Community Park will serve an existing community of 372 homes comprising a population of approximately 750 adults and 1,100 children. In the future, these numbers will increase as more homes in the subdivision are built, sold, and occupied.



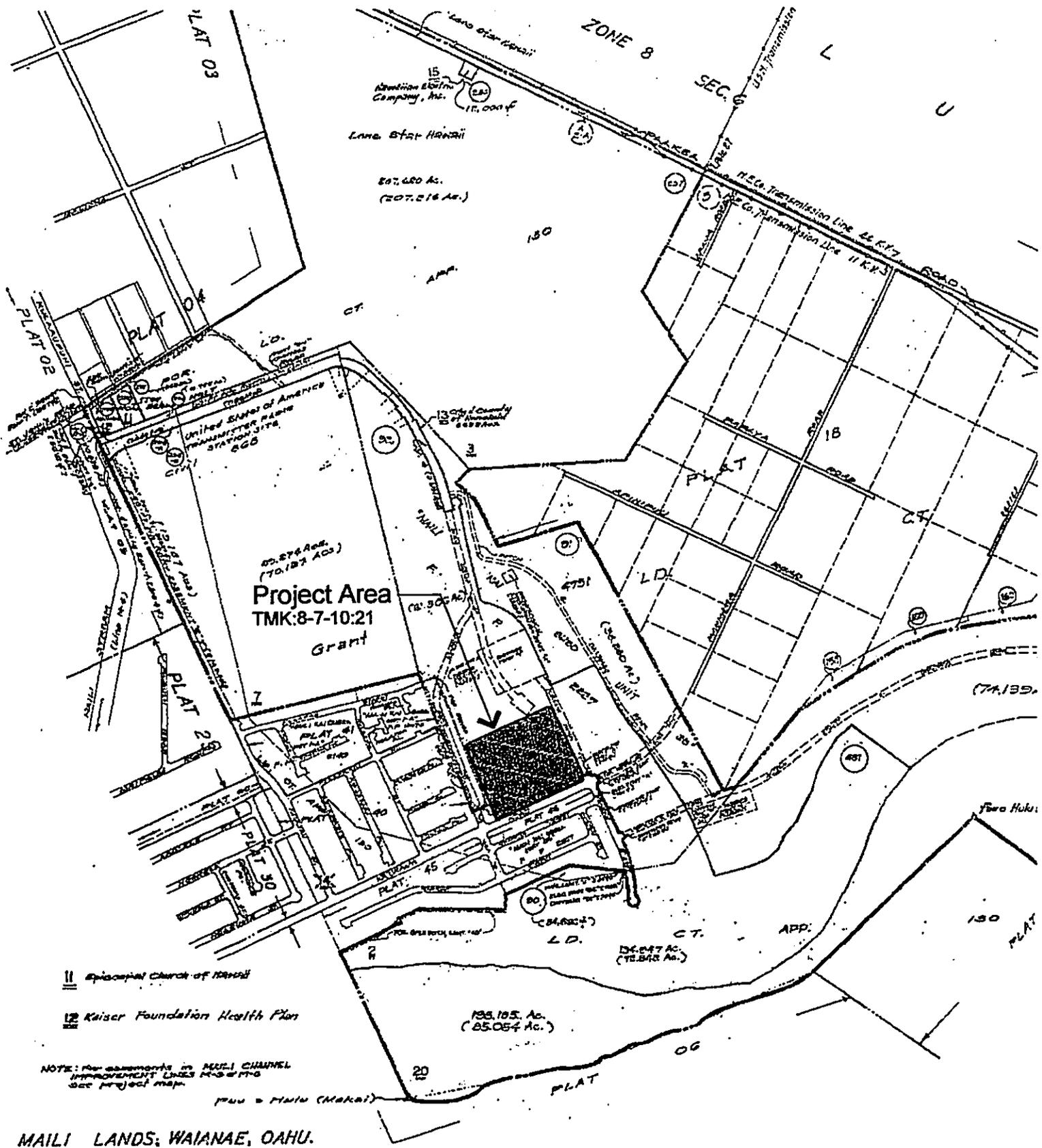
Source: USGS, Waianae-Schofield Barracks Quadrangles

Figure 1
Location Map
Pu'u O Hulu Community Park

City & County of Honolulu Māhū, Island of Oahu



Gerald Park
Urban Planner
October 2001

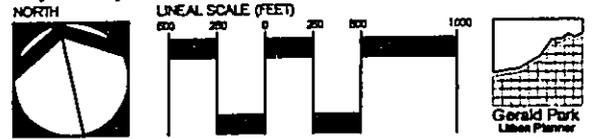


FIRST DIVISION		
ZONE	SEC.	PLAT
8	7	10
CONTAINING PARCELS		
SCALE: 1" = 500ft.		

Source: Department of Taxation, Tax Map Bureau

Figure 2
Tax Map Key
Pu'u O Hulu Community Park

City & County of Honolulu Maili, Island of Oahu



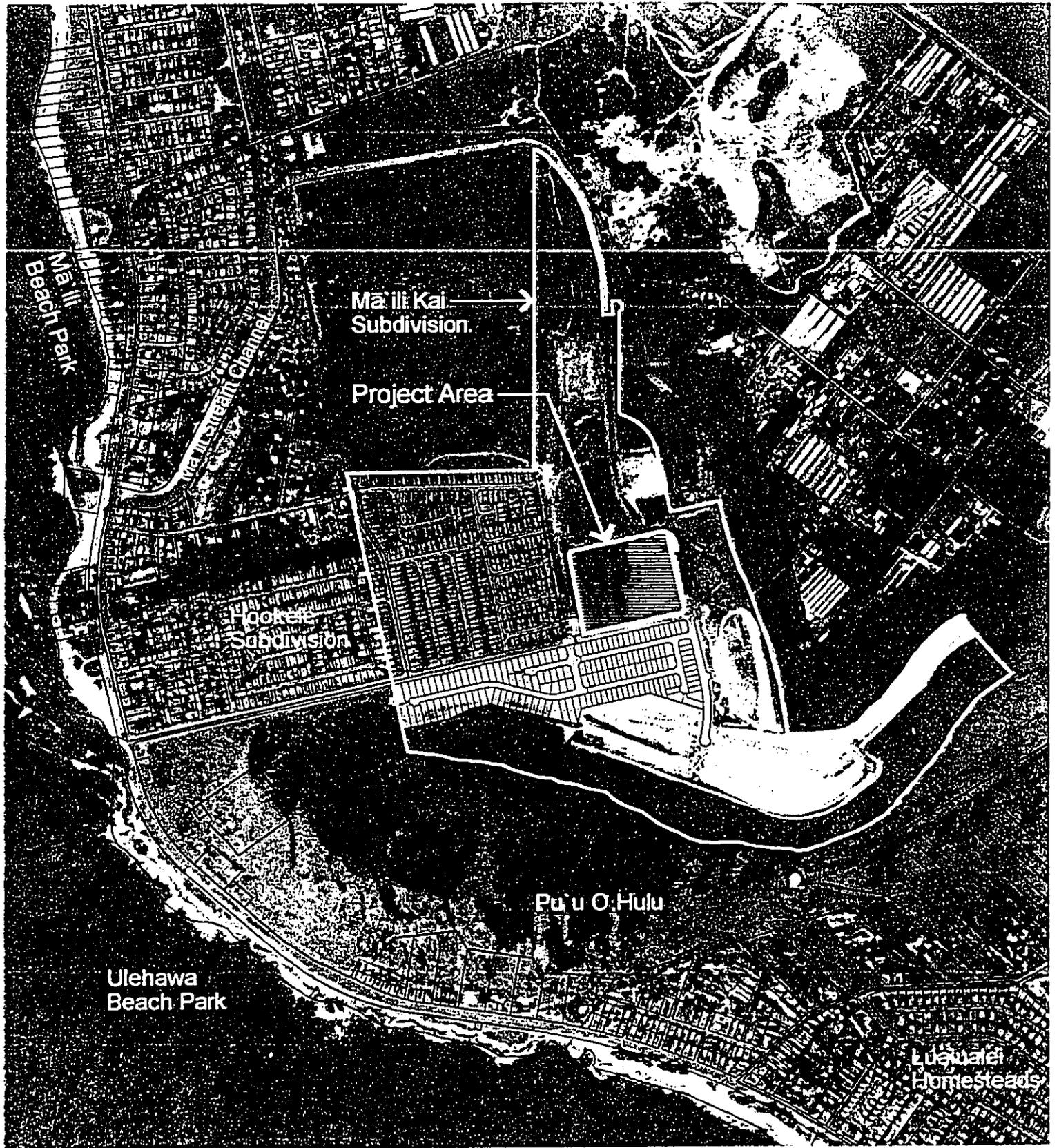
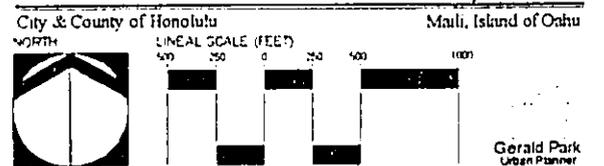
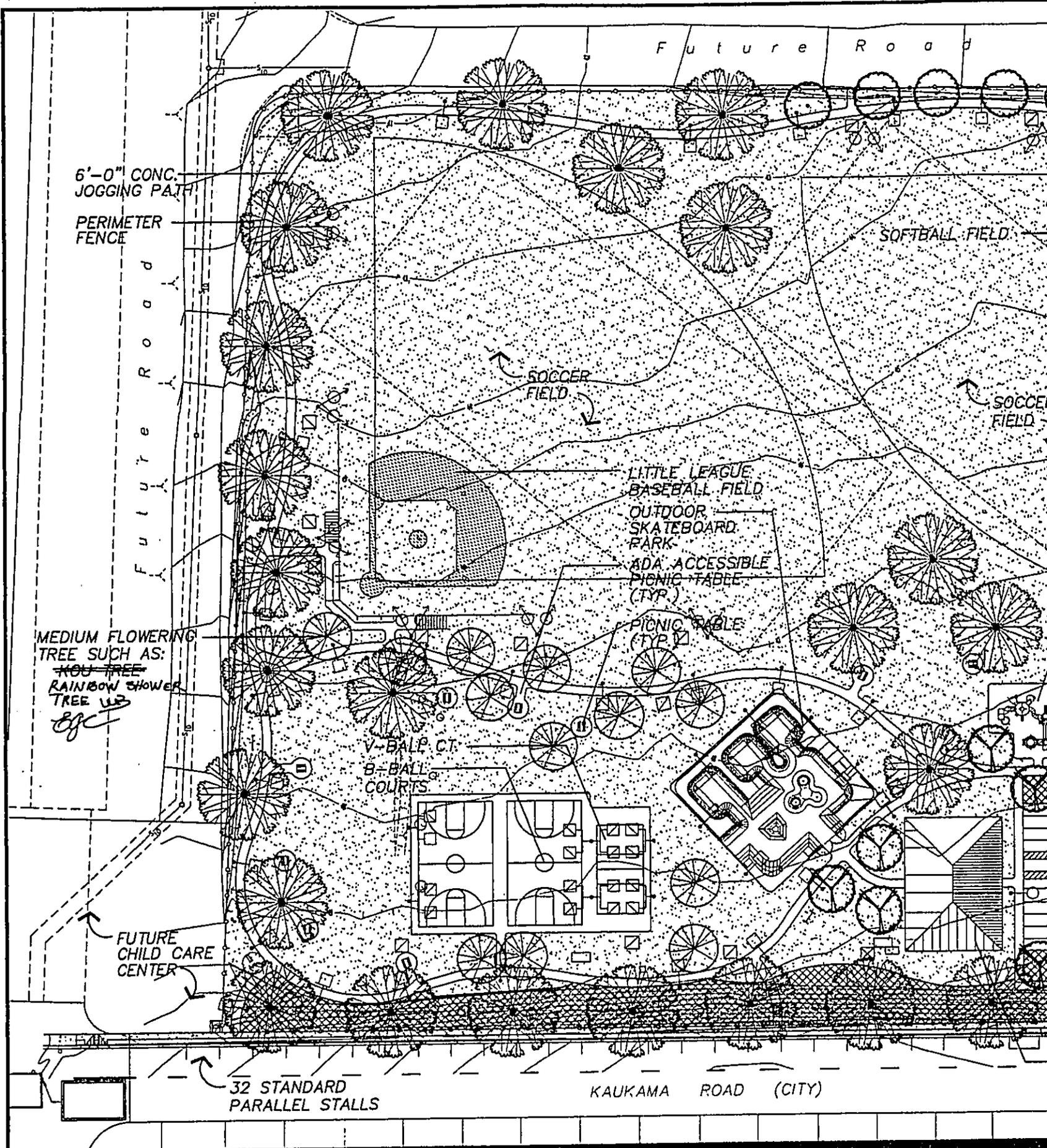


Figure 3
Vicinity Map
Pu'u O'Hulu Community Park

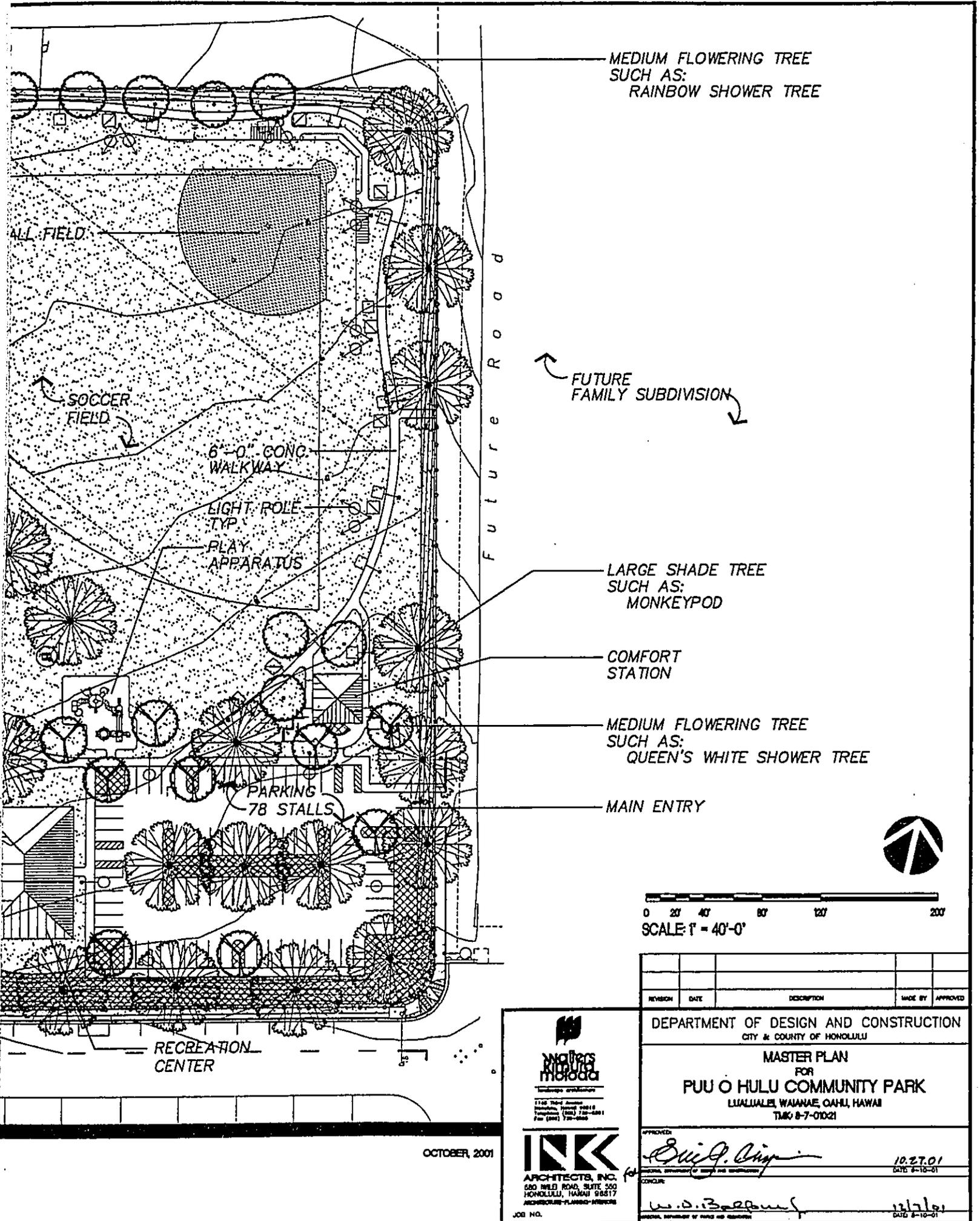


Gerald Park
Urban Planner
October 2001



Master Plan

DOCUMENT CAPTURED AS RECEIVED



MEDIUM FLOWERING TREE
SUCH AS:
RAINBOW SHOWER TREE

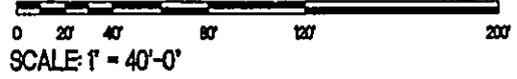
FUTURE FAMILY SUBDIVISION

LARGE SHADE TREE
SUCH AS:
MONKEYPOD

COMFORT STATION

MEDIUM FLOWERING TREE
SUCH AS:
QUEEN'S WHITE SHOWER TREE

MAIN ENTRY



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU

MASTER PLAN
FOR
PUU O HULU COMMUNITY PARK
LUALUALEI, WAIAANAE, OAHU, HAWAII
T.M.C. 8-7-01021

INK
ARCHITECTS, INC.
680 WILD ROAD, SUITE 500
HONOLULU, HAWAII 96817
ARCHITECTS-PLANNERS-INTERIORS

OCTOBER, 2001

APPROVED: *[Signature]* 10.27.01
DATE 8-16-01

CONCURRED: *[Signature]* 11/7/01
DATE 8-10-01

SECTION 2 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The description of environmental conditions is excerpted in part from the Final Environmental Impact Statement (EIS) Maili Kai Property (1988) prepared by PBR Hawaii. Information from the EIS is supplemented with current information about the park site and surrounding areas.

A. Existing Uses and Improvements

Approximately 4 acres of the park (a 400' X 445' area) in the southwest corner have been leveled, grassed, and an underground irrigation system installed (See Image 1). The remaining 7 acres were grubbed, rough graded, and grassed for dust control. The 7 acres lack an irrigation system and that has contributed to its existing barren condition and appearance and the proliferation of weeds (See Image 2).

The grassed portion is available for field play although there are no permanent facilities supporting recreational use of the park. Two, wooden, portable baseball/softball backstops are set up in the corners of the grass field adjoining Kaukama Road. There is no fencing, dugouts, or benches for baseball use. There also are no field markings indicating that the field is used for field sports or activities.

Although organized recreational activities were not observed during this consultant's field survey, the grassed area may be used as practice (or possibly game) fields for team sports such as youth soccer and baseball. Model airplane enthusiasts were observed flying radio-controlled planes during the field survey.

Department of Parks and Recreation maintenance personnel regularly maintain the grassed portion of the park.

B. Environmental Conditions

1. Climate

The Waianae District is generally characterized as semiarid and hot. Mean annual rainfall along the coast averages 20 inches per year, 30 inches in the lower valleys, and about 80 to 100 inches per year at the higher elevations of the Waianae Mountain Range. Much of the rainfall occurs during a few severe storms, such as "Kona" storms that approach Oahu from the south or west, usually between the months of December and March.

Daily temperatures range between 72° and 80° F and can reach the low to mid-90s during the summer months. The prevailing wind blows out of the northeast and east-northeast at an average of 10-13 mph.

2. Topography

The park site was graded in 1998 prior to being dedicated to the City and County of Honolulu. In general the entire site appears to be relatively flat with grades falling in a south to north direction. Ground elevation is about 51 above mean sea level in the southeast corner near Kaukama Road and falls to a low of about 40 feet msl in the northwest corner. The park is about 5-6 feet below the grade

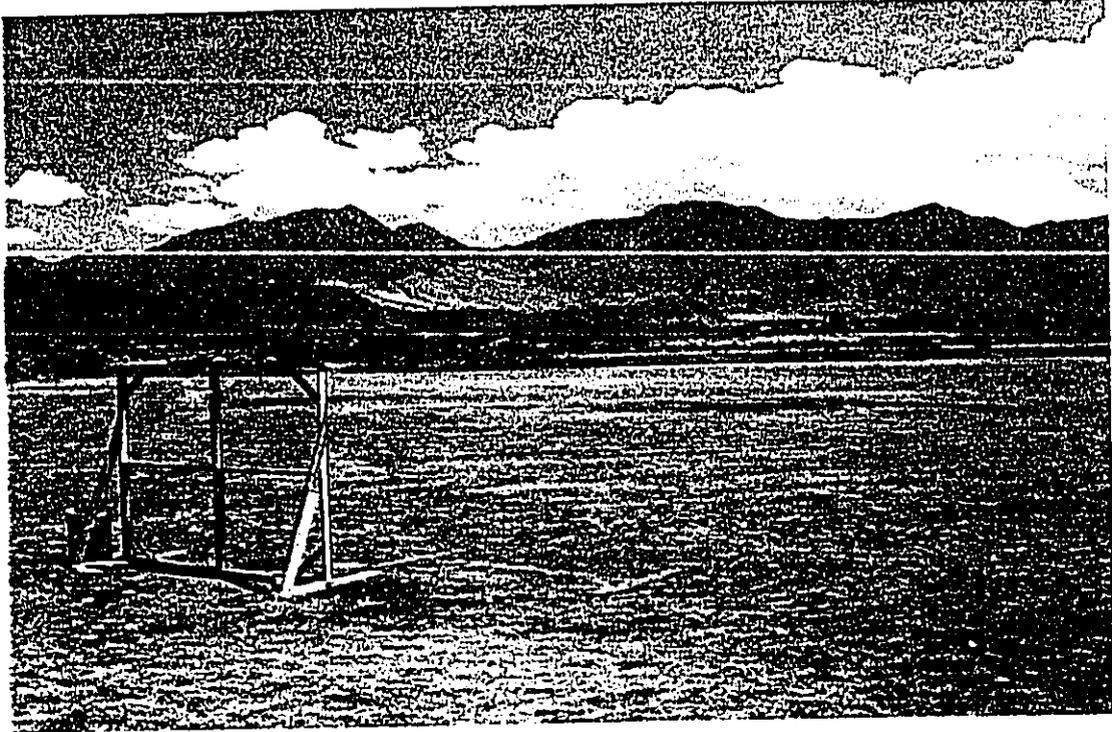


Image 1. North View of Park and Grass Field.

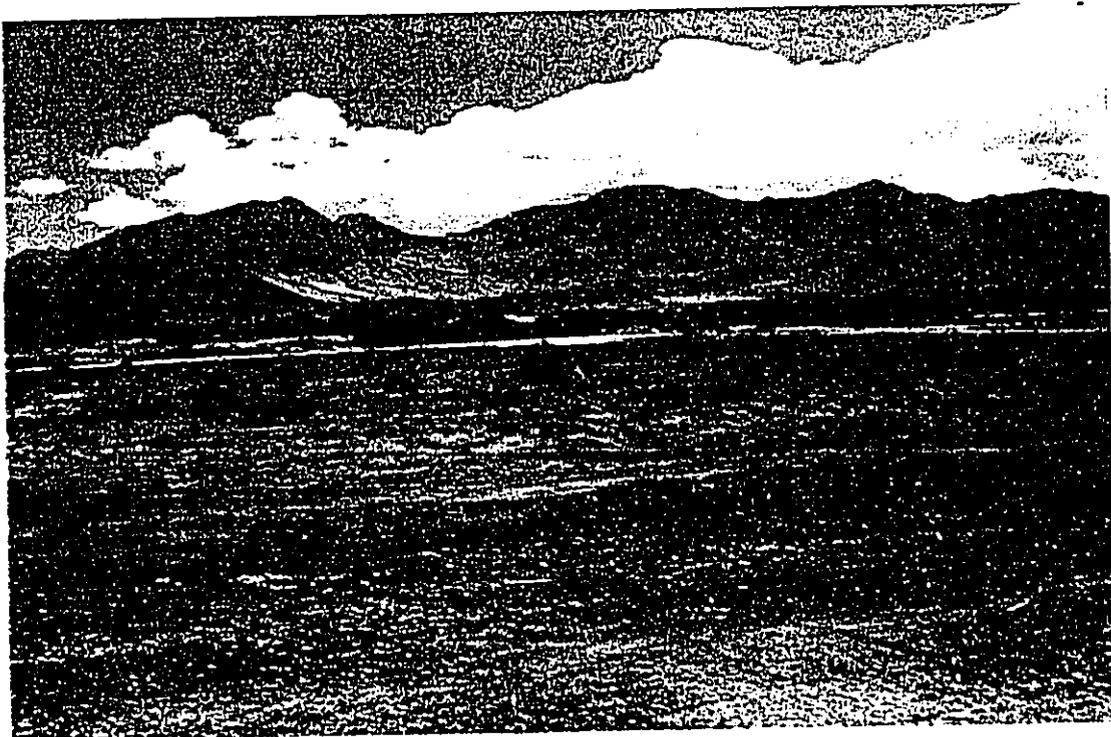


Image 2. North View of Unimproved Section of Park. Grass Field is on the Left.

of Kaukama Road (elevation 56 feet) and about 2-3 feet below the grade of abutting crushed coral roads to the north and east.

3. Soils

Soil Conservation Service (1972) soil maps two soil types---Lualualei stony clay (LvA) and Mamala stony silty clay loam (MnC). Mamala soil covers about 99% of the park site and the Lualualei soil is only found in a small triangular-shaped section in the southwest corner.

In a representative profile of Mamala soil, the surface layer is dark reddish-brown stony silty clay loam about eight inches thick. The subsoil is dark, reddish-brown silty clay loam about eleven inches thick. The soil is underlain by coral limestone. The soil is moderately permeable, runoff is slow to medium, and the erosion hazard is slight to moderate. The nature of this soil is evidenced in the unimproved sections of the park where the surface layer is covered by soft, non-compressible silt mixed with limestone fragments.

The improved section is covered with six inches of fill (unknown material) to sustain grass atop the underlying limestone.

4. Drainage

There are neither natural drainage features such as gulches and streams nor man-made permanent drainage improvements on the park site. On-site runoff flows in the direction of the low spot in the northwest corner following the contoured grade.

It appears that most of the developed and undeveloped land in the vicinity of the park drains to the Maili Stream Channel via an extension of the channel. The Maili Stream Channel is an existing concrete rectangular channel that crosses Farrington Highway and discharges storm runoff into the ocean (PBR, 1988). Open ditches in private flowage easements abutting proposed Roads N and E on the east and west sides of the park respectively convey runoff into the channel extension which lies to the north of the park. A 36-inch drain culvert discharges runoff into the flowage easement on the west side of the park.

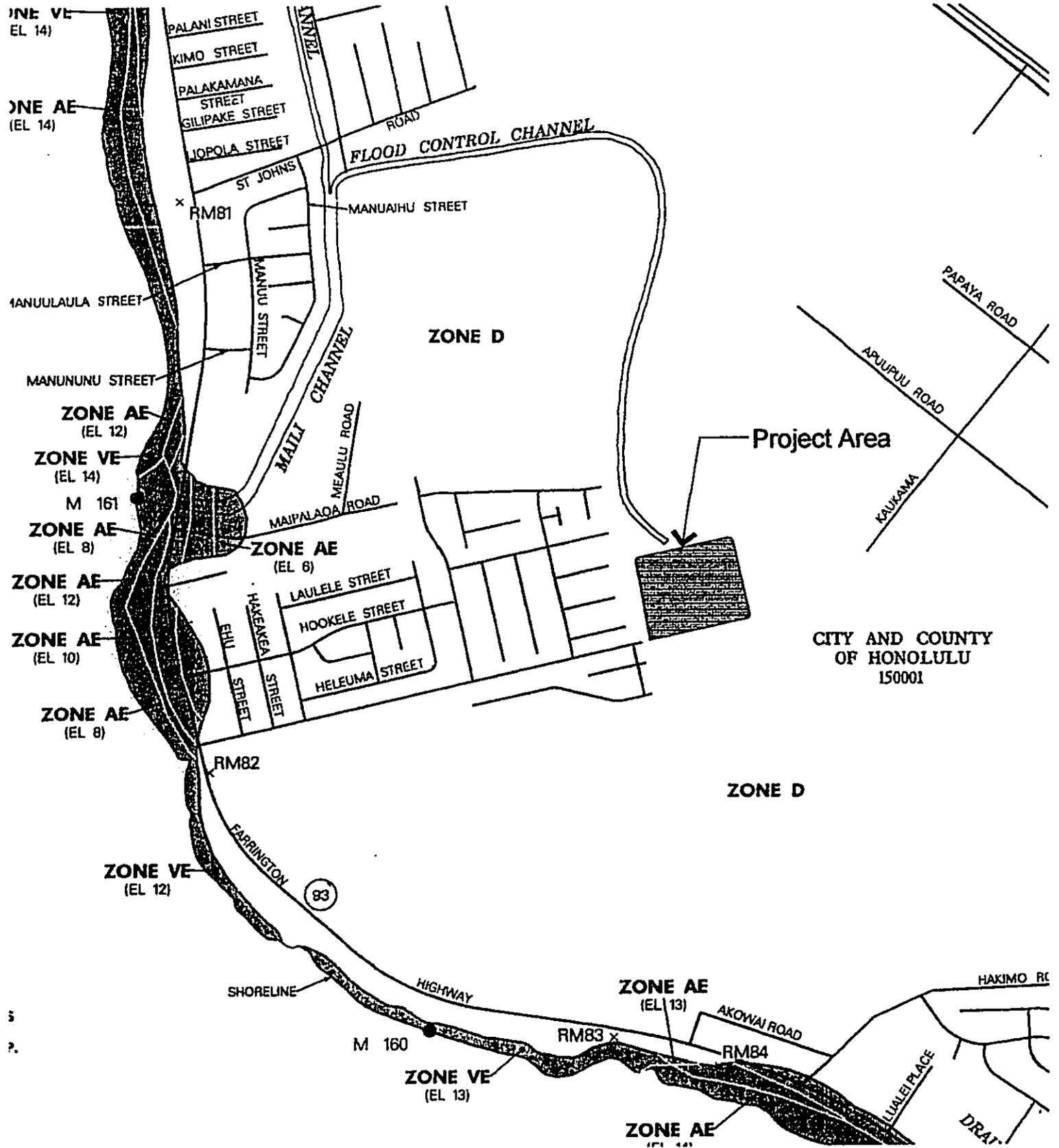
Existing runoff is estimated at approximately 6.07 cfs for the entire 11.0 acres based on a 10-year storm. In the absence of drainage structures within the site, runoff either percolates into the ground (with areas where ponding occurs) or flows towards the northwest corner of the site, the low point.

The park is neither located adjacent to any stream, marsh, pond, or wetland nor are similar natural features found on the premises.

5. Natural Hazards

The Flood Insurance Rate Map designates the property Zone D which is defined as "areas determined to be outside 500 year flood plain" (Federal Emergency Management Agency, 1990). The park is located outside the coastal high hazard area

Volcanic hazards are considered minimal due to the extinct status of former volcanoes (Mt. Kaala in particular). Seismic hazards in the Waianae area are no greater than other locations on Oahu and are accounted for in design standards and the building codes.



Legend

-  Special Flood Hazard Zone Inundated by 100-Year Flood
-  Zone AE Base Flood Elevation Determined.
-  Zone VE Coastal Flood with Velocity Hazard (Wave Action); Base Flood Elevation Determined.
-  Zone D Areas in which Flood Hazards are Undetermined

Source: Federal Emergency Management Agency
 Flood Insurance Rate Map
 Map Number 15003C1095E
 Date: November 20, 2000.

Figure 5
Flood Insurance Rate Map
Pu'u O Hulu Community Park

City & County of Honolulu
 NORTH
 Maui, Island of Oahu



6. Archaeological Resources

Rosendahl conducted an archaeological survey of 415± acres comprising the Maili Kai development in 1988. Although archaeological features were found in several areas and previously recorded features relocated, no archaeological features were discovered on the site of the park during his survey.

7. Cultural Resources

A Hawaiian traditional and cultural practices assessment for the proposed Pu'u O Hulu Community Park was prepared by Cultural Surveys Hawaii (2001). The assessment is found in Appendix A of this environmental assessment. Excerpts from the assessment are presented below.

Based on the investigation of archaeological studies conducted in the study area and in the coastal portions of Lualualei, there is evidence of prehistoric use of the area in the vicinity of the study area. A temporary habitation feature dated to the late prehistoric period found near the study area suggests the area in the vicinity may have been used for temporary habitation, perhaps seasonal camping. The presence of sinkwells in the area and the exposure to seasonal rains may have been incentives to occupy this area seasonally. Historic use of the study area was probably limited to mostly ranching and large scale sugar cane agriculture. More recently, the study area is being developed into a park surrounded by residential housing.

Documented traditions of the area makai of the proposed Mā'ilikai Community Park depict an area with a rich cultural past. Several legendary traditions in the vicinity of the study area were identified during the community consultations. The legendary demigod Māui retains his mythical presence in Lualualei. He is particularly associated with Pu'u of Hulu Kai, the basalt hill that towers over the study area, and the ocean off of Mā'ili, makai of the study area. Other legendary traditions in the area focus on the *manō* (shark), and the *mo'o* (lizard.)

Many types of *limu* and fish were gathered along the coast. A former *ko'a* dedicated to the shark is known to have existed on the shoreline makai of the study area. During consultation for this project, it was found that the shark is also associated with Pu'u O Hulu, the ridge that towers over the park.

8. Flora

The 4.0 acre improved section of the park is planted in Bermuda (*Cynodon Dactylon*) grass. Young autograph (*Clusia rosea*), shower (*Cassia sp.*), and kamani (*Calphyllum inophyllum*) trees are planted along the eastern and western edges of the grass field.

Koa haole (*Leucaena leucocephala*), kiawe (*Prosopis palida*), ilima (*Sida fallax*), 'uhaloa (*Waltheria indica*), and dryland grasses, and weeds were observed in the unimproved section. Ilima and 'uhaloa are native plants. None of the flora is considered rare, threatened, or endangered or considered for such status.

9. Wildlife Resources

No wildlife was observed on the premises during our field investigation. Given the presence of nearby residential areas, dogs and cats more than likely are present in the area. Mongoose may also forage the property.

In 1988, Bruner recorded fifteen species of exotic birds during an avifaunal survey. The most common species was the Zebra Dove (*Geopelia striata*), Spotted Dove (*Geopelia chinensis*), Cattle Egret (*Bulbucus ibis*), Rock Dove (*Columbia livia*), Common Mynah (*Acridotheres tristis*), Red-crested Cardinal (*Paroaria coronata*), Red-vented Bulbul (*Pycnonotus cafer*), House Sparrow (*Passer domesticus*), House Finch (*Carpodacus mexicanus*), Nutmeg Mannikin (*Lonchura punctulata*), and Java Sparrow (*Padda oryzivora*). These species were recorded in habitats Bruner labeled as grassland and parkland (grass and scattered trees). Four additional species were recorded in thickets of dense vegetation and are not reported here.

The migratory indigenous Pacific Golden Plover (*Pluvialis dominica fulva*) also was observed.

Although Bruner's survey was conducted some time ago, it is anticipated that most if not all the exotic bird species he recorded probably frequent the park or surrounding developed and undeveloped areas.

10. Land Use Controls

State and County land use controls governing the use of the property are listed below.

State Land Use Designation: Urban
City and County of Honolulu General Plan: Rural
Waianae Sustainable Communities Plan Land Use Map: Rural Residential
Waianae Sustainable Communities Plan Public Facilities Map: Rural Residential
Zoning: P-2, General Preservation
Special Management Area: Outside Special Management Area

Park use is permitted by all of the land use controls.

11. Views

The Pu'u O Hulu landform has been recognized in past (Development Plan Special Provisions for Waianae, 1978; Coastal View Study, 1987) and present plans (Waianae Sustainable Communities Plan, 2000) as one of the many significant landforms in the Waianae District. The Sustainable Communities Plan states as a policy "the preservation of open space and scenic beauty should be a high priority consideration for any and all public programs and projects that may affect the coastal lands, valleys, and mountains of the Waianae District."

Pu'u O Hulu Community Park is located approximately 1,600 feet north of the Maili coastline and the ocean. Existing and future residential housing and urban roads surround (or will surround) the park. Park development should not obstruct views of the surrounding flat valley floor, the rising slopes of Pu'u O Hulu, and the rugged Waianae Mountains at the back of the valley and further to the west beyond Waianae. Existing dwellings, which comprise the Maili Kai Subdivision, blocks views of the ocean from the park and will continue to do so into the future.

Several tall antennas to the north of the park comprising the Naval Communications Area Transmission Facility are visible to the northeast of the park further into Lualualei Valley.

12. Municipal Facilities and Services

a. Streets and Circulation

Kaukama Road, the major street serving the Maili Kai subdivision, is a two-lane, two-way, fully improved 60-foot right-of-way with curbs, gutters, and sidewalks on either side of the road. On-street parking is permitted along both sides of the street. Currently Kaukama Road ends at the eastern end of the park site.

Vehicle movements at Farrington Highway are controlled by a traffic signal. Farrington Highway is the only road linking the Waianae District (the communities of Makaha, Waianae, Maili, and Nanakuli) with the Ewa District and Honolulu beyond.

The Waianae *Sustainable Communities Plan* identifies Kaukama Road as a possible reliever road route to Farrington Highway.

b. Utilities

Municipal water (12-inch main) and drainage (18-inch line with catch basins) systems are located in Kaukama Road. A 10-inch sewer line is located along the west end of the park within an existing sewer easement.

Power and communication lines are placed underground in Kaukama Road.

c. Parks

Pu'u O Hulu Community Park is the only public park within the Maili Kai Subdivision. Ulehawa (57.65 acres) and Maili (39.56 acres) Beach Parks are improved city beach parks along the coastline through the communities of Maili and Nanakuli. Maili Community Park, a 3.7 acre-park, is located about 2 miles to the north on Kulaaupuni Street adjoining Maili Elementary School. [Note: Park acreage obtained from Department of Parks and Recreation, 1997].

d. Protective Services

Police service originates from the Kapolei Police Station in Kapolei about 8 miles away. The Honolulu Police Department also maintains a substation in the former Waianae Police Station in the town of Waianae about 3.5 miles away. Fire protection service originates from Station 26 located on Farrington Highway near the entrance to the Waianae Boat Harbor. Station 28, which is located in the community of Nanakuli, is about 3.8 miles to the southeast of the project site.

SECTION 3

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

The scope of the project was discussed with the consulting architect, members of the design team, and staff of the Department of Design and Construction. State and County agencies were contacted for information relative to their areas of expertise. Information meetings were held in the neighborhood to elicit resident concerns and ideas for the master plan. Time was spent in the field noting site conditions and conditions in the vicinity of the park. The sum total of our consultations and field investigations helped to identify existing conditions and features that could affect or be affected by the project. These conditions include:

- There are no rare, threatened, or endangered flora or fauna on the property;
- There are no recorded archaeological features on the property;
- There are no cultural resources on the property;
- The property is not located in a flood hazard zone;
- The 11.0 acre park site has already been grubbed and graded;
- Pu'u O Hulu Community Park is an existing park without permanent facilities; and
- Existing water, wastewater, and utility systems are adequate to serve the proposed improvements.

Improvements to Pu'u O Hulu Community Park are planned in four phases. Because of this phasing, the short-term impacts described below should be repeated during each of the construction phases. A softball field (now entering construction) is the major facility planned for Phase 1; construction of a comfort station, a portion of the paved parking lot, and paved access to the park are projected for Phase 2. Subsequent phases will be built as funding allows.

In evaluating the planned facilities and potential environmental impacts, improvements such as the pedestrian walkway, softball and little league baseball fields, combination basketball and volleyball courts, children's play apparatus, and perimeter fencing are relatively small scale, low-intensity improvements and can be constructed without significant environmental impacts. The parking lot also can be graded and paved without significant impact.

The major structures, the Recreation Center Building, Comfort Station, and Skateboard Facility also can be built relatively easy but is anticipated to require more site work and take longer to build than the other facilities. It has not been determined if the skateboard facility will be erected as an above ground or below ground structure (or a combination of both).

An unimproved section of the park may be used as a temporary construction base yard. The yard is needed to accommodate a field office, construction vehicles and equipment, building materials, and stockpiled material. Ideally, the base yard should be readily accessible to vehicles delivering construction materials and to building sites. Selection of a base yard site will be left to the Contractor and the Department of Design and Construction. The size of the yard will vary depending on the needs of the Contractor.

Because construction will be phased over a long period of time, some construction work could interfere with recreational use of facilities already in place. If this occurs, the Contractor will erect

safety barriers around work sites to minimize conflicts with the on-going use of the existing recreation facilities.

Mitigating measures in the form of public health regulations and construction techniques are anticipated to change over time. It is expected that such changes would promote rather than degrade overall public health and safety and will be incorporated into future construction plans prepared for Pu'u O Hulu Community Park.

A. Short-term Impacts

Site work will probably be the most disruptive construction activity on the environment. Grubbing, grading, trenching, and stockpiling activities all are prerequisites for building the temporary and permanent improvements to follow.

Site work is a persistent source of fugitive dust. Site contractors are aware that dust is a nuisance to both workers and people living near work sites and it is imperative for them to maintain stringent dust controls. Water sprinkling is probably the most effective dust control measure given the size of the building site and the scale of proposed improvements. The Contractor, however, may choose to implement other measures based on their experience with similar projects and job sites.

The Contractor will be responsible for general housekeeping of the site and for keeping adjacent streets and properties free of dirt, mud, and construction litter and debris. Pollution control measures shall comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health.

Construction noise, like fugitive dust, cannot be avoided. Occupied residential properties are located opposite and adjoining the park site on two sides. Construction noise will be audible at these locations but exposure is expected to vary in volume, frequency, and duration. Noise will vary also by construction phase, the duration of each phase, and the type of equipment used during the different phases. For this project, noise may be most pronounced during the early stages when the various building sites are grubbed and excavated.

Community Noise Control regulations establish a maximum permissible sound level for construction activities occurring within various zoning districts. Park use (interpreted to be public space) is placed in the Class A zoning district and the maximum permissible sound level is 55 dBA between the hours of 7:00 am and 10:00 pm (Chapter 46, Community Noise Control, 1996). Construction activities often produce noise in excess of the permissible daytime noise level and a noise permit will be needed. The Contractor will be responsible for obtaining the permit and complying with conditions attached to the permit. Work will be scheduled for normal working hours (7:00 am to 3:30 pm) Mondays through Fridays.

Site work will expose soil thus creating opportunities for runoff and erosion. All earthwork will be done in accordance with erosion control regulations of the City and County of Honolulu and approved grading plans. Best Management Practices (BMPS) for erosion and drainage control during construction will be prepared for review and approval by the Department of Planning and Permitting. Erecting silt fences around work sites is a common construction technique and other measures may be employed as needed.

No above grade archaeological features are known to exist at the park. Should subsurface archaeological or cultural features or burials be unearthed, work in the immediate area will cease and historic authorities notified immediately for proper disposition of the finds.

Sections of the existing grassed area will be grubbed and graded to site some of the planned facilities. Other areas will be cleared of weeds and grassed. Construction work is not anticipated to have adverse effects on the existing vegetation because the identified species are all common to the State of Hawaii. None of the plants observed on the park site (improved and unimproved areas) are considered or are candidates for rare, threatened, or endangered status.

Construction notices will be posted to alert residents and motorists of construction in roads. Flagmen will be posted to marshal vehicles around excavations in the roadway. One traffic lane will be kept open at all times to minimize inconveniences to motorists. The trench area affected by construction will be restored to pre-construction conditions or better. Open trenches will be covered with steel plates at the end of each working day and safety devices with warning lights posted during night hours.

Construction vehicles hauling men and material will contribute to traffic on Farrington Highway. Material deliveries will be scheduled during non-peak traffic hours to minimize impacts on local traffic. Flagmen will be posted for traffic control during material loading and off-loading. This activity should not affect existing traffic at this time because there is little or no traffic owing to the surrounding areas being vacant. In the future, as residential housing replaces the vacant land some traffic delays can be expected but should not last more than a few minutes.

B. Long-term Impacts

A significant long-term effect would be to have a community park and recreation amenities for a community that has actively sought to have a park built for almost 8 years. The Master Plan for Pu'u O Hulu Community Park is the result in part of previously approved master plans, resident review of recreation proposals for the park, and community consensus as to the type of facilities that would serve the immediate and foreseeable recreation needs of the community.

The Department of Planning and Permitting offered the following comment: Development of the proposed Pu'u O Hulu Community Park (formerly known as Ma'ili Kai Community Park) is consistent with Section 3.11.1 "Overview of Existing Parks and Recreational Areas" of the Wai'anae Sustainable Communities Plan (SCP) since the Wai'anae District has a shortfall of one Community Park and seven or eight neighborhood parks. As stated in the Wai'anae SCP, "The City's planned development of Ma'ili Kai Community Park will fulfill the need for a fourth community park in the district."

If Pu'u O Hulu Community Park were to be well used for various forms of recreation activities, then it would be clearly indicative of the recreation need that the park would be filling. It is the only land-based park planned to serve the recreation needs of residents of the Maili Kai development. It is estimated that the current population is approximately 750 adults and 1,100 children residing in the development. Considering that the Maili Kai development is about 25% completed, according to the Department of Planning and Permitting, 1999) the total development of "1,373 residential units could generate a population of 6,865 (assuming five persons per household)."

In general, weekday uses are expected to generate less activity than weekends. Indoor activities will be carried out at the recreation center, children and adults will use the various "hard" courts for basketball and skateboarding, toddlers will play on the children's apparatus, and organized team sports would use the open fields for practice. Having a place to recreate and facilities to foster recreation as learning activity is one of the principal reasons for having parks.

Weekend use is anticipated to intensify especially for field sports. This would be no different from weekends in other communities where organized youth soccer, football, and baseball are the prevailing outdoor sports activities in most parks (when in season).

The Department of Parks and Recreation initially will provide a recreation director for the recreation center. Additional staff would be hired as needed. **Recreation programs** offered by the Department of Parks and Recreation would be scheduled Monday through Fridays at various times during the day. Typical recreation programs would include physical fitness, crafts, hula, ukulele, guitar, ceramics, Hawaiian quilting, ikebana, and tai chi.

During these periods, temporary impacts on **traffic and parking** can be expected. The 78-stall parking lot will not be able to accommodate all park users at one time. If parking is not available, motorists will then park on nearby streets. While on-street parking may be convenient for park users, it can create problems for homeowners fronting the street. In many instances, carelessly parked vehicles partially block driveways thus hindering ready egress/ingress into/from house driveways, make viewing of through traffic difficult, and can create other traffic and pedestrian hazards.

Noise would be audible within the park and in areas outside of the park at times when children and adults are engaged in organized and unstructured play. This impact cannot be avoided. The sounds of laughter, cheering, yelling, talking, basketballs bouncing off court surfaces, and skateboards grinding concrete will be audible in adjoining areas when the facilities are in use.

Roads and perimeter landscaping will surround Pu'u O Hulu Community Park. Both features should buffer the park and activities at the park from surrounding residential areas and help to attenuate noise.

At full build-out, approximately 0.84 acres (about 7.5%) of the 11 acre park will be committed to impervious surfaces in the form of the off-street parking lot, recreation building, children's play apparatus area, skateboard facility, the combination volleyball/basketball courts, and walkway.

Surface runoff is estimated at 10.32 cfs (based on a 10-year storm) because of the increase in impervious surfaces and the decrease in open grassy area. As stated in the project description, no drainage structures or drainlines are proposed to drain the park. Runoff will be conveyed to the open field area and to the northwest corner of the site. Runoff will percolate into underlying limestone with some flow discharging into the flowage easement on the western end of the park.

The most pronounced **visual effect** would be to have a park replace vacant flat land with an array of recreational amenities. The improvements will not significantly obstruct views of Pu'u O Hulu and the Waianae Mountains. The park may offer residents in the subdivision a more encompassing panoramic view of the mountains that can be seen from their homes.

Archaeological investigations of the study area suggest that Hawaiians may have used the area for temporary habitation in the late prehistoric period. Historic use of the study area was probably limited to mostly ranching and large-scale sugar cane agriculture. More recently, the study area is being developed into a park surrounded by residential housing.

Several **legendary traditions** of the area in the vicinity of the study area were identified during the community consultation. The legendary demigod Maui retains his mythical presence in Lualualei. He is particularly associated with Pu'u o Hulu Kai, the basalt hill that towers over the study area and the ocean off of Maili, makai of the study area. Other legendary traditions in the area focus on the mano (shark), and the moo (lizard).

No specific **traditional and cultural practices** were identified for the Maili Kai Community Park per se, however several community members voiced concerns for the cultural practices which may have been associated with the study area. The primary concern expressed was burials, particularly considering the existence of limestone sinkholes known to be in the area. Limestone sinkholes are one of several documented burial sites utilized in traditional Hawaiian burial practices.

Because the 11-acre park has already been graded, the chances for finding any burials are slight. Cultural Surveys Hawaii (2001) recommends the following based on community concerns raised for the potential of burial disturbance and appropriate handling and disposition of burials;

1. In the event a burial is inadvertently disturbed during excavation operations, all work in the immediate area should be stopped.
2. The appropriate parties should be contacted regarding the disturbed burial. These include:
 - a) Department of Land and Natural Resources/State Historic Preservation Division, Burials Program.
 - b) Koa Mana: Koa Mana is very involved in the Wai'anae Community and is particularly concerned with locating lineal descendants of disturbed 'iwi in order to facilitate culturally appropriate handling and disposition of the burial.
 - c) *'Ohana Luaualei Ahupua'a, Wai'anae Archaeological Preservation Council, and the Waianae Coast Culture and the Arts will also be notified (Waianae Neighborhood Board Comment).*

During the consultation for this project, it was learned that the study area was once called Nanikai. Many still call the makai of the study area Nanikai. Cultural practices associated with a swamp near the study area were identified during the community consultation. The swamp, known as Loko Nanikai to one *kūpuna* and possibly also called the Ma'ipalaoa Swamp, was once a thriving coastal wetland. Prior to the construction of the Maili Drainage Channel, the swamp was used to gather the brackish water shrimp *'opae lōlō*, and the medicinal plants, *'uhaloa* and *pōpolo*. Although the wetland no longer exists as it once did, some community members are concerned that the development of the park and adjoining residential areas will impact the water quality in the drainage and further degrade what remains of the wetland ecosystem and the marine environment fronting the drainage.

Park operating hours has not yet been determined. More than likely the operating hours of the park will coincide with similar recreation facilities operated and maintained by the Department of Parks and Recreation, City and County of Honolulu.

Officers of the Honolulu Police Department would have the primary responsibility of routinely patrolling the park and removing violators of park rules and city ordinances.

SECTION 4 ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

The no action alternative would maintain the status quo of the park site and preclude the occurrence of all environmental impacts, short and long-term, beneficial and adverse described in this Assessment.

B. Alternatives to Master Plan Layout

The recreation facilities presented in the Master Plan are the facilities recommended and agreed to by the Department of Design and Construction, Department of Parks and Recreation, and residents of the Maili Kai community.

SECTION 5
PERMITS AND APPROVALS

Permits and approvals required for the project are listed below. Other permits and approvals may be required depending on final construction plans.

<u>AUTHORITY</u>	<u>PERMIT/APPROVAL</u>
City and County of Honolulu Department of Planning and Permitting Department of Planning and Permitting	Grubbing, Grading, and Stockpiling Permit Building Permit for Building, Electrical, Plumbing Sidewalk/Driveway and Demolition Work
Department of Planning and Permitting	Permit to Excavate Public Right-of-Way
State of Hawaii Department of Health Department of Health	Variance From Pollution Controls NPDES General Permits

SECTION 6
**AGENCIES AND ORGANIZATIONS CONSULTED IN THE
PREPARATION OF THE ENVIRONMENTAL ASSESSMENT**

*The Draft Environmental Assessment for the Pu'u O Hulu Community Park Master Plan was published in the Office of Environmental Quality Environmental Notice of March 8, 2002 and March 23, 2002. Publication initiated a 30-day public review period ending on April 8, 2002. The Draft Environmental Assessment was mailed to agencies and organizations listed below. An asterisk * identifies agencies and organizations that submitted written comments during the review period. All comment letters and responses are found in Appendix B.*

City and County of Honolulu

- *Board of Water Supply
- *Department of Parks and Recreation
- *Department of Planning and Permitting
- Department of Transportation Services
- *Police Department
- *Fire Department

State of Hawaii

- Department of Health
 - **Office of Environmental Quality Control*
- Department of Land and Natural Resources
 - *State Historic Preservation Division
 - **University of Hawaii Environmental Center*

Others

- The Honorable John DeSoto, Honolulu City Council
- *Waianae Coast Neighborhood Board No. 24
- Lokelani Phase I
- Lokelani Phase II
- Pualani By the Sea
- *Hawaiian Electric Company
- Waianae Public Library (Placement)

SECTION 7 DETERMINATION OF SIGNIFICANCE

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). The relationship of the proposed project to these criteria is discussed below.

- 1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;**

Natural or cultural resources will not be lost as a result of this project.

- 2) Curtails the range of beneficial uses of the environment;**

The project does not curtail the beneficial uses of the environment

- 3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;**

The project does not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

- 4) Substantially affects the economic or social welfare of the community or State;**

The project will not substantially affect the economic or social welfare of the State.

- 5) Substantially affects public health;**

Public health should not be adversely affected during construction. Air pollution in the form of fugitive dust, noise from construction equipment, and minor erosion can be expected. Measures described in this Assessment and measures to be submitted with construction plans and documents should aid in mitigating short-term air quality impacts.

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

Substantial secondary impacts are not anticipated. Water, sewer, and electrical systems in the immediate area were adequately sized during subdivision development in anticipation of park development.

- 7) Involves a substantial degradation of environmental quality;**

When completed, Pu'u O Hulu Community Park should not result in a substantial degradation of environmental quality. The park site and surrounding areas were previously modified by agricultural activities (including sugarcane cultivation) and currently by developing the surrounding areas for residential use.

Pu'u O Hulu Community Park and the facilities to be constructed thereon are intended to contribute to the overall well being of the community and its residents.

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

The Pu'u O Hulu Community Park Master Plan does not involve a commitment for larger actions. Once the 11.0 acres are built out, there is no more room for expanding the park.

Development of this park and parks in other communities is a function of the City and County of Honolulu and a commitment provide recreation facilities for the benefit of residents of the City and County of Honolulu.

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

There are no rare, threatened or endangered flora or fauna on the premises. The few trees and existing grass playfield are planted with plant materials common to Oahu.

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

Ambient air quality will be affected by fugitive dust and combustion emissions during construction but can be controlled by measures stipulated in this Assessment. Construction noise may be pronounced during site preparation work but should diminish once the infrastructure improvements are completed. All construction activities will comply with air quality and noise pollution regulations of the State Department of Health.

Erosion control measures will be prescribed in grading plans and best management practices prepared for the project.

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

The proposed improvements are not located in an environmentally sensitive area.

- 12) Substantially affects scenic vistas and view planes identified in county or state plans or studies, or,**

The proposed improvements will not substantially affect existing views of Pu'u O Hulu, the Waianae Mountain range at the back of the valley and views of the mountains in the direction of Waianae.

- 13) Requires substantial energy consumption.**

Energy will be required to energize the park lights to allow for night use and use of the recreation center during evening hours.

REFERENCES

Cultural Surveys Hawaii. October 2001. *A Hawaiian Traditional and Cultural Practices Assessment for the Mailikai Community Park, Ahupuaa of Lualualei, Oahu*. Prepared for Gerald Park Urban Planner.

Department of Land Utilization, City and County of Honolulu. 1986. *Land Use Ordinance (As Amended through Ordinance No 96-72)*.

Federal Emergency Management Agency. 1990. *Flood Insurance Rate Map, City and County of Honolulu*. Community Panel No. 15003C1095E.

Park, Gerald. 1997. 2000. *Field Observation*.

PBR Hawaii. 1988. *Maili Kai Property Final Environmental Impact Statement*. Prepared For Kaiser Cement Corporation.

U.S. Department of Agriculture, Soil Conservation Service. 1972. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai*. In Cooperation with The University of Hawaii Agricultural Experiment Station. U.S. Government Printing Office, Washington D.C.

**A Hawaiian Traditional and Cultural Practices Assessment for the
Pu`u o Hulu Community Park, *Ahupua`a* of Lualualei, O`ahu
(TMK 8-7-10:21)**

by

K.W. Bushnell, B.A.,
and
Hallett H. Hammatt, Ph.D.

Prepared for

Gerald Park Urban Planner

Cultural Surveys Hawaii, Inc.
October 2001

APPENDIX A

**HAWAIIAN TRADITIONAL AND CULTURAL PRACTICES ASSESSMENT
FOR THE MĀ'ILIKAI COMMUNITY PARK, AHUPUA'A OF LUALUALEI, O'AHU
(TMK: 8-7-10: 021)**

ABSTRACT

A Hawaiian traditional and cultural practices assessment was carried out for the Pu`u o Hulu Community Park. Reviewing archaeological investigations, historical data and maps, and making community consultations were different components used in order to assess the potential cultural impacts to the study area.

Archaeological investigations of the study area suggest that the area may have been used for temporary habitation by Hawaiians in the late prehistoric period. Historic use of the study area was probably limited to mostly ranching and large scale sugar cane agriculture. Most recently, the study area is being developed into a park surrounded by residential housing.

Several legendary traditions of area in the vicinity of the study area were identified during the community consultations. The legendary demigod Māui retains his mythical presence in Lualualei. He is particularly associated with Pu`u o Hulu Kai, the basalt hill that towers over the study area, and the ocean off of Mā`ili, *makai* of the study area. Other legendary traditions in the area focus on the *manō* (shark), and the *mo`o* (lizard).

No specific traditional and cultural practices were identified for the Pu`u o Hulu Community Park per se, however several community members voiced concerns for cultural practices which may have been associated with the study area. The primary concern expressed was burials, particularly considering the existence of limestone sinkholes known to be in the area. Limestone sinkholes are one of several documented burial sites utilized in traditional Hawaiian burial practices. The second concern expressed is related to the traditional practices associated with the former swamp (today Mā`ili Stream) and the marine environment fronting the swamp. Although these areas are not within the study area, actions taken in the study area do affect the quality of the present Mā`ili Stream and the reef and marine ecosystem into which the stream drains. Based on the concerns expressed, recommendations are given.

Note: As much as possible, throughout this report the spelling of Hawaiian vocabulary and place names has been standardized to present orthography, except those Hawaiian words used in quotations.

TABLE OF CONTENTS

ABSTRACT	i
LIST OF TABLES	iii
I. INTRODUCTION	1
A. Project Background	1
B. Scope of Work	1
C. Methodology	2
D. Description of the Traditional Cultural Practices Region	2
E. Natural Setting	3
A. Previous Archaeological Studies in Lualualei <i>Ahupua`a</i>	6
B. Previous Archaeological Studies in or near the Study Area	7
III. CULTURAL SETTING	9
A. Lualualei <i>Ahupua`a</i>	9
B. Early Historic Period	11
C. Mid-1800's: Land Commission Awards (LCAs)	11
D. 1850 - 1900	11
E. Early 1900's to Present	13
IV SETTLEMENT PATTERN FOR STUDY AREA	17
V. RESULTS OF COMMUNITY CONSULTATIONS	17
VI. TRADITIONAL PRACTICES OF MĀ`ILI	20
A. Legends	20
B. Placenames of Mā`ili	21
C. Trails	23
D. Native Gathering of Plants	23
E. Burials	24
F. Discussion of Concerns Raised During Consultation	25
VII. SUMMARY AND RECOMMENDATIONS	26
V. REFERENCES	28

LIST OF FIGURES

Figure 1	Portion of (1983) USGS Topographical Map (7.5 Series), Waianae Quad showing the location of the study area.	4
Figure 2	Tax Map Key 8-7-10:21 Showing Pu`u o Hulu Community Park and Study Area.	5
Figure 3	Portion of 1919 U.S. Army Fire Control Map, Nanakuli Quad, Showing sugar cane growing in the study area.	14
Figure 4	Portion of 1902 Hawaiian Territory Survey, Lualualei Homestead Map, Waianae, Oahu Showing the Study Area as a Portion of Homestead Lot 9 (Grant 4751) to H.M. Von Holt.	15
Figure 5	Portion of 1928-1929 U.S. Coast and Geodetic Survey and Air Corps US Army Map, Waianae Quad showing the location of the study area.	16

LIST OF TABLES

Table 1	Results of Community Consultations	7
---------	--	---

I. INTRODUCTION

A. Project Background

At the request of Gerald Park Urban Planner, Cultural Surveys Hawaii conducted a Traditional and Cultural Practices Assessment for the proposed Pu`u o Hulu Community Park. The Pu`u o Hulu Community Park was dedicated to the City and County of Honolulu in the late 1990s by Schuler Homes Inc., who has been involved in developing the residential subdivisions near the park. Currently, the Pu`u o Hulu Community Park consists of a graded 11 acre parcel of which 4 acres is planted in grass. Two portable, wooden backstops suggest the park is being used for little league baseball. Trees have been planted on the southern and western boundaries of the grassy field. Future plans involve constructing two playing fields (soccer, baseball and softball), basketball courts, a volleyball court, an outdoor skateboard park, a parking lot, a comfort station, a recreation center, a play apparatus, and a jogging path.

The Pu`u o Hulu Community Park is located in Lualualei, Wai`anae District, off of Ka`ukama Road. South of the park is Ka`ukama Road, the infrastructure of a residential subdivision in the process of being built and Pu`u o Hulu. North of the park is the remains of Kaiser Cement Corporation's quarrying operation, or what many people refer to as just the "quarry". East of the park is a dirt road and undeveloped land with *kiawe* trees. And west of the park is a dirt road, an excavated drainage and the Lokelani subdivision. The entire eleven acres of the proposed has already been graded, probably during a former phase of the development.

The purpose of this Traditional Practices Assessment is to consider the effects future improvements to the park may have on native Hawaiians as it pertains to the culture and their right to practice traditional customs. The Hawai'i State Constitution, Article XII, Section 7 protects "all rights" of native Hawaiians that are "customarily and traditionally exercised for subsistence, cultural and religious purposes". Because the Pu`u o Hulu Community Park already exists, to some extent, and the land slated for the park extension has been graded, the Scope of Work (SOW) for the Traditional Practices Assessment was modified to reflect the changes already made to the park. The process for evaluating cultural impacts is evolving. There continue to be gray areas and unresolved issues pertaining to traditional access and gathering rights for native Hawaiians. Act 50 of the Session Laws of Hawaii 2000 is an attempt to balance the scales between traditional lifestyles and development and economic growth.

B. Scope of Work

The following Scope of Work was proposed based on the recommendations of Dr. Holly Mc Eldowney of the Culture and History Branch of the State Historic Preservation Division. Although this scope of work does not fulfill all of the OEQC guidelines for the assessment of cultural impacts, Cultural Surveys Hawaii, Inc. believes the following scope of work will adequately assess the cultural impact of the proposed development.

1. Examination of historical documents, Land Commission Awards, historic maps, with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal and other resources or agricultural pursuits as may be indicated in the historic period.
2. A review of the existing archaeological information pertaining to the immediate vicinity of the property as they may allow us to reconstruct traditional land use activities and identify and describe the cultural resources, practices and beliefs associated with the parcel and identify present uses, if appropriate.
3. Consultation with local residents and other knowledgeable persons regarding specific traditional use of the Pu`u o Hulu Community Park and its environs generally. Cultural Surveys Hawaii will contact Native Hawaiian groups in order to identify groups or persons knowledgeable about the historic and traditional practices in the project area and region. The results of this information will be presented in a table form. This consultation will provide sufficient information to assess the impact of the proposed development on traditional cultural practices.
4. Preparation of a report on items 1-3 summarizing the information gathered related to traditional practices and land use. The report will assess the impact of the proposed action on the cultural practices and features identified.

C. Methodology

Historical documents and maps were researched at the Hawai'i State Archives, Hawai'i State Survey Office, Hawai'i State Library, and the Cultural Surveys Hawai'i library.

Hawaiian organizations, agencies and community members were contacted in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the project area and the surrounding vicinity. A discussion of the consultation process can be found in the following section on "Community Consultations". Please refer to Table 1 for a complete list of individuals and organizations contacted.

D. Description of the Traditional Cultural Practices Region

The study area consists of an eleven acre park, the Pu`u o Hulu Community Park and its immediate vicinity. The Pu`u o Hulu Community Park is situated at the end of Ka`ukama Road, off of Farrington Highway, in the *ahupua`a* of Lualualei, District of Wai`anae (TMK 8-7-10:21). Pu`u o Hulu Community Park lies on the north side of and at the base of Pu`u o Hulu Kai, a ridge that rises to 860'. In assessing the cultural impact to a proposed development, the geographic boundaries of study area are often extended beyond

those of the proposed development. The reason for this is to "ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment"(OEQC Guidelines for Assessing Cultural Impacts, 1997).

For this assessment, the study area consisted mainly of the eleven acres of the Pu`u o Hulu Community Park. Archaeological studies within a 2 km radius were examined for information regarding prehistoric and historic land use and clues to Hawaiian traditional practices which may have formerly been associated with the area. Given the park's proximity to the coast (approximately 1 km), traditions relating to the coast were examined in a general sense. However, only the coastal area directly *makai* of the Pu`u o Hulu Community Park was included. The area known as Mā`ili Point, documented as having a rich cultural tradition, was not included in this study. In addition to the area *makai* of the park, Hawaiian traditions associated with the ridge to the south of the park, Pu`u o Hulu, were also documented.

E. Natural Setting

Lualualei is the largest leeward valley on O`ahu. Comprising of approximately 14,000 acres, Lualualei extends from the Wai`anae Range to the ocean. To the south is the *Ahupua`a* of Nānākuli and to the north is the *Ahupua`a* of Wai`anae. It's southern border includes a portion of Pu`u Heleakala and its northern boundary includes a portion of Pu`u Pahe`ehe`e.

Lualualei Valley, like the other valleys in the Wai`anae District is characterized by its dry, leeward climate. Most of the valley receives less than 30 inches of rain annually (Haun, 1991:5). In the study area, precipitation averages 20 inches annually or less (Juvik & Juvik 1998:56). The soils in the study area consists of Mokuleia clay, a poorly drained clay underlain by reef limestone (Foote *et. al*, 1972: 95). During the park construction, fill was added to smooth out the ground surface and provide topsoil for the grassed area.

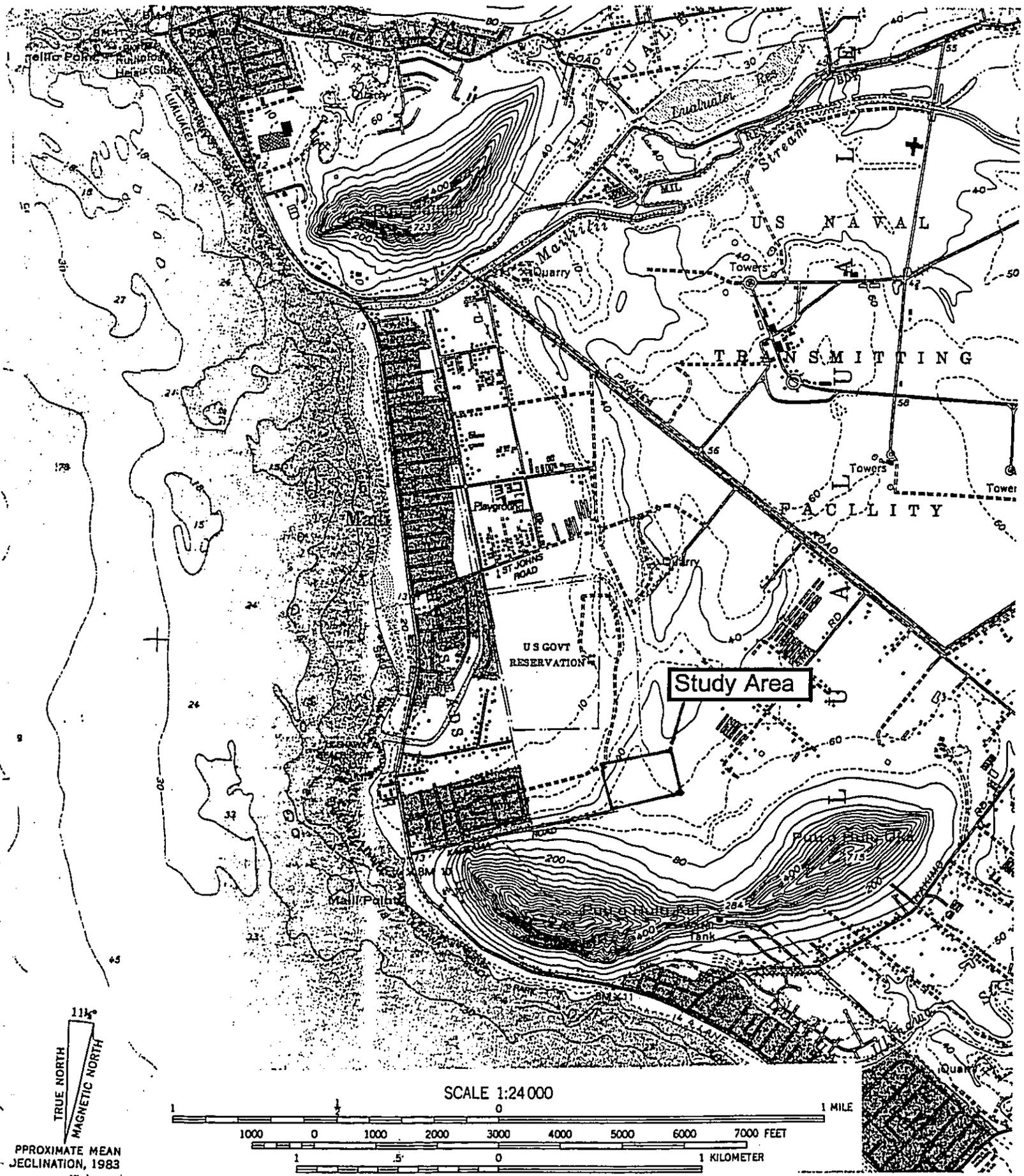


Figure 1 Portions of (1983) USGS Topographical Map (7.5 Minute Series), Waiannae Quad showing the location of the study area.

II. PREVIOUS ARCHAEOLOGY

A. Previous Archaeological Studies in Lualualei *Ahupua`a*

The earliest attempt to record archaeological sites in the nearby regions of Lualualei was in the 1930s by J. Gilbert McAllister. Sites located closest to the present study area include a large rock referred to as "Māui" (McAllister 1933:110). The large rock, referred to as "Māui", is located on the coast near Ulehawa Stream. Oral tradition identifies this rock as the place where the demi-god Māui "reposed and sunned himself" after first arriving in the Hawaiian islands from the south (McAllister 1933:110).

The majority of archaeological studies in the Lualualei *Ahupua`a* have been conducted in association with military lands in the *mauka* regions of Lualualei. An archaeological reconnaissance survey of the "Naval Magazine, Lualualei (NAVMAG LLL) and Naval Communications Area Master Station Eastern Pacific Radio Transmitting Facility, Lualualei (RTF LLL)" was accomplished during the mid-1980s. The survey encompassed more than 9000 acres, "the entire half of the large amphitheater-shaped valley, and approximately one-third of the coastal half" (Haun 1991:4).

A total of 131 sites consisting of 1,004 features was identified during the survey. Indigenous Hawaiian feature types recorded include alignments, C-shapes, L-shapes, U-shapes, walls, terraces, enclosures, mounds, platforms, walled terraces and paved terraces. The features recorded relate to activities including habitation, rituals, ceremonies, agriculture, the procurement of lithic raw material, and the manufacture of stone tools. Historical and recent structures associated with cattle ranching and military use of the area were also identified. Fourteen shovel probes provided datable materials (charcoal and volcanic glass), as well as cultural materials (artifacts and midden). Radiocarbon dates range from A.D. 1420 to 1950.

It is suggested that the interior of Lualualei Valley was initially occupied on a temporary basis by people cultivating the area. This may have begun as early as the mid 1400's, continuing up to the mid to late 1700's to early 1800's, permanent habitation sites were occupied and population of the valley evidently increased quite rapidly, based on the dense distribution of habitation and agricultural features (Haun 1991:vii).

A 1977 reconnaissance survey for the proposed Nānākuli landfill recorded no archaeological sites (Bordner, 1977). The survey area included land on both sides of Lualualei Naval Road, continuing up the slope to Pu`u Heleakalā, some two kilometers to the southeast of the present study area.

During excavation work associated with improvements of the Mā`ili water system, several burials were inadvertently discovered (Hammatt and Shideler 1990). In total, the watermain work uncovered seven burials found in calcareous beach sand. Five of the burials were removed and two were left *in situ*. The five sets of removed human remains

were examined to determine ethnicity and all were found to be Polynesian. The report concludes that the concentration of burials suggests a "specific burial ground for one or more Hawaiian families of the Mā`ili area during prehistoric or early historic times" (Hammatt and Shideler 1990:23). The inadvertent burials were located approximately 1.2 km northwest of the present study area.

During an archaeological study conducted on a five acre parcel, formerly a basil farm, no archaeological remains were documented (Chiogioji and Hammatt, 1993). The parcel was situated between Pu`u o Hulu and Ulehawa, south of the current study area.

An archaeological reconnaissance survey for the proposed Wai`anae Corp. Yard was completed in 1983 (Kennedy 1993). No archaeological sites were found in the project area which was on the coast along Mā`ili Point, approximately one kilometer from the present study area.

Eight archaeological sites were identified during an inventory survey of the proposed Lualualei Golf Course (Hammatt *et al.*, 1991). The project area consisted of 170 acres on the northern slope of Pu`u Heleakalā descending into the lower plains. Two of the eight sites were traditional Hawaiian sites with one being a habitation complex and the other a wall remnant. The remaining six sites were historic and included a cattle wall, a furnace, wells, a house lot, and cement foundation structure. The two traditional Hawaiian sites were interpreted as associated with recurrent habitation and water diversion for agriculture.

An archaeological survey of 260 acres of the Lualualei *Ahupua`a* Radio Transmission Facility was carried out to locate archaeological sites and incorporate them into a Cultural Resource Management Plan (Robins 1998). Three sites were located, 50-80-08-5591, -5592 and -1886. Site 5591 is composed of features that are associated with the sugarcane industry of the 19th and 20th centuries. Site 5592, a permanent habitation site and Site 1886, a rock mound are considered traditional Hawaiian sites. The report suggests that areas inland from the coast may once have been more heavily settled.

In the context of the traditional settlement pattern proposed for Lualualei *Ahupua`a*, Site 5592 permanent residence probably indicates a population expansion just inland of the coastal settlement, especially in proximity to streams (such as nearby Ma`ili`ili Stream) where vegetable crops were potentially cultivated (Robins 1998:57).

The traditional Hawaiian site recorded, Site -5592, is located approximately 1.5 km north of the present study area.

B. Previous Archaeological Studies in or near the Study Area

During the 1970s and 1980s, a series of studies was undertaken at Mā`ili on the northeast side of Pu`u o Hulu. The area encompassed by these studies would ultimately comprise 415 acres. In 1975, William Barrera conducted an archaeological site survey of approximately 80 acres at Mā`ili. The eighty acres were divided into two survey areas, one of which consisted of the land immediately to the west of the present study area, now developed with houses. Barrera recorded six sites: five stone configurations and a single midden scatter. Four of the stone structures were deemed by Barrera to be either of

modern origin or too amorphous to assess. However, one site Ch-Oa-1, was judged "quite probably an ancient religious structure" (Barrera 1975:9). In October of 1975, Ross Cordy conducted an archaeological excavation of Site Ch-Oa-1. Cordy's report on the excavation noted "no underlying cultural deposits were found" and Cordy concluded: "The results of the excavation indicate the structure was not an ancient religious structure, rather a quite recent structure (probably built no earlier than 1930-1940) of unknown function" (Cordy 1975).

Also in 1975, Cordy conducted an archaeological survey of an additional 130 acres at Mā'ili. Cordy identified nineteen sites including stone walls, mounds, enclosures, platforms, C-shapes, a trench with bridge, and a trail. Two rock platforms were recorded in what is now the proposed Pu'u o Hulu Community Park, Ch-Oa-28 (State Site No. -3757) and Ch-Oa-29 (State Site No. -3758). Site No. -3757 was described as a vertical-sided platform with a flat surface with dimensions of 6.2 m long by 4.9 m wide. Site No. -3758 was described as a rock platform with C-shaped enclosure with dimensions of 6m long, 5.5 meters wide and .8-1.0 m high. In interpreting the platforms, Cordy suggests that the "vertical, high well-made walls are almost always characteristic of recent era sites" (Cordy, 1976: 23). Cordy notes that much of the surveyed land had been recently impacted by bulldozing activity for quarrying purposes and concludes: "Most of the sites found in this survey are either walls, highly disturbed sites, or seemingly recent (ca AD 1890-1970) sites" (Cordy 1976:21). His conclusions are largely based on associated historic or modern surface artifacts. He recommended archaeological test excavations of a C-shape enclosure, five platforms, including the two pre-existing platforms in the present study area, and a rock enclosure.

The areas surveyed by Barrera and Cordy in the 1970s were subsumed in a 415-acre "Mā'ili Kai Property project area" (TMK 8-7-10:2,14) which was the subject of an archaeological reconnaissance survey conducted by Paul H. Rosendahl Inc. in December of 1987. The survey report (Mayberry and Rosendahl 1988) noted that "large scale ranching, land clearing, and quarrying from 1851 to the present have extensively altered" the project area (Mayberry and Rosendahl 1988:ii). The report also documented 12 new sites and the reinvestigation of 14 sites previously recorded by Barrera and Cordy. The report summarizes:

Land clearing and quarrying in particular have been destructive to the natural and cultural environments. One result of the destruction is that 24 of the 26 sites in the project area date to the 20th century. Two of the 24 sites date to the early to late 20th century and the other 22 sites date from 1930 to the present. Only two small sites, rock features without associated artifacts, may predate the 20th century (Mayberry and Rosendahl 1988:ii).

Five sites were recommended for subsurface testing including Site 3344, a platform located approximately 2500 ft north of Pu'u o Hulu Community Park, Site 3750, a C-shape enclosure located approximately 2500 ft north of the Pu'u o Hulu Park, Site 3755, a rock mound/platform located approximately 2000 ft north of Pu'u o Hulu Park, Site 3335, a sinkwell and wall located approximately 2000 ft makai of the Pu'u o Hulu Park, Site 3339, a stone enclosure and wall located on the northern base of Pu'u o Hulu Mauka. The two

platforms (Sites -3757 and -3758) recorded earlier by Cordy in the present study area were relocated during the Rosendahl survey and were interpreted as sites related to land clearing and ranching of the early twentieth century. Mayberry and Rosendahl (1994: 22) conclude:

None of the ovoid or rectangular rock mounds and platforms in this group exhibit indications of internal structuring in the form of walls or raised platforms. They are thought to be the result of land clearing and rock-gathering operations...The research potential and cultural significance of this second group of sites is minimal.

No further work was recommended for the rock platforms in the study area and these sites are thought to have been destroyed during the initial grading of the development.

Subsurface testing of the sites recommended for further testing during the Rosendahl study was carried out at the end of 1993 (Jimenez, 1994). The sinkwell and wall (Site 3335) had been destroyed during Phase I of the development so no further archaeological testing could be done on that site. Of the remaining sites tested, only one produced evidence of pre-contact use, Site 3750. This C-shaped enclosure yielded small amounts of lithics, midden and charcoal. Radiocarbon dates suggest the site was used as a temporary habitation during the late prehistoric period. Further data collection was recommended for this site. Based on the previous archaeological research, no archaeological sites remain within the present study area.

III. CULTURAL SETTING

A. Lualualei *Ahupua`a*

There are two traditional meanings given to the name Lualualei. One meaning, "flexible wreath" is attributed to a battle formation used by Mā`ilikūkahiki against four invading armies in the battle of Kīpapa in the early 15th century (Sterling and Summers, 1978: 68). A second, and perhaps more recent, meaning offered by John Papa `I`i is "beloved one spared". This meaning relates to a story of a relative who was suspected of wearing the king's *malo* (loincloth). The punishment was death by fire. `I`i writes:

The company, somewhat in the nature of prisoners spent a night at Lualualei. There was a fish pond there on the plain and that was where the night was spent . . .

After several days had passed, the proclamation from the king was given by Kula`inamoku, that there was no death and that Kalakua did not wear the king's loin cloth. Thus was the family of Lulukū spared a cruel death. For that reason, a child born in the family later was named Lualualei (1959:23).

Mary Pukui believed the first meaning, "flexible wreath" to be the more appropriate one for Lualualei (Sterling & Summers 1978:63). According to Marion Kelly, the fish pond on the plain is Puehu fish pond which is actually located just over the border in Wai`anae (*in* Haun 1991:317) The fish pond no longer exists today and was probably destroyed during the sugar plantation era. Perhaps, a third association to the name Lualualei is an older reference to one of Māui's sisters who went by the same name.

Numerous Hawaiian legends, in addition to archaeological evidence, reveal the Wai`anae coast and *mauka* interior to be an important center of Hawaiian history. It is here, in Wai`anae, that the famous exploits of Māuiakalana (Māui) are said to have originated. Traditional accounts of Lualualei focus on the mischievous adventures of the demi-god Māui. It was here that Māui learned the secret of making fire for mankind and perfected his fishing skills. Other famous accounts tell of the place where Māui's adzes were made, and of the magic fishhook, Mānaiakalani and the snare for catching the sun, and his kite-flying expedition. Pu`u Heleakalā is the ridge that separates Nānākuli from Lualualei. It was at Pu`u Heleakalā where Hina, Māui's mother, lived in a cave and made her *kapa* (Sterling and Summers, 1978:62).

Samuel Kamakau tells us that Māui's genealogy can be traced from the `Ulu line thru Nana`ie:

. . . Wawena lived with Hina-mahuia, and Akalana, a male, was born; Akalana lived with Hina-kawea, and Maui-mua, Maui-waena, Maui-ki`iki`i, and Maui-akalana, all males, were born.

Ulehawa and Kaolae, on the south side of Waianae, Oahu, was their birthplace. There may be seen the things left by Maui-akalana and other famous things: the *tapa*-beating cave of Hina, the fishhook called Manai-akalani, the snare for catching the sun, and the places where Maui's adzes were made and where he did his deeds. However, Maui-akalana went to Kahiki after the birth of his children in Hawai`i. (Kamakau 1991:135)

The Māui rock, Site 148 in McAllister's *Archaeology of O`ahu*, is located within the Garden Grove complex at 87-1550 Farrington Highway in Lualualei. In the 1930s when McAllister conducted his fieldwork he noted:

. . . it was here that Māui reposed and sunned himself . . . The large rock is now split in half and adorned with many small, oddly shaped rocks. It is said to be bad fortune to build one's house across a line drawn directly from the rock to the shore. (1933: 110)

The "small, oddly shaped rocks" McAllister speaks of are no longer present. The Māui rock is currently overgrown with young Chinese banyan saplings (*Ficus retusa*), grasses, and weeds.

In an interview with Fred Cachola (*in* Mc Guire & Hammatt 2000), he offers another explanation of the Māui rock as told to him by a Hawaiian *kūpuna* (elder). At sunrise, from the location of this rock, one can see the profile of Māui reposing in the mountain range behind. As Mr Cachola tells it, "It's a composition of different mountain ranges. But when the sun is coming up in the back of that, it looks like one silhouette. And it's just beautiful. But when the sun rises, then it disappears. You only see it early in the morning when you see that silhouette."

The Cachola interview also revealed that in relation to the Garden Grove residential complex is a known "night marchers" path leading to the beach. The same *kūpuna* indicated to Mr. Cachola that he was the seventh watchman to be hired on the job because the previous six night watchmen all quit in the middle of the night due to "strange" occurrences, ". . . things start flying around and things start moving and all this unusual events going on. And they see things too" (*Ibid.*).

B. Early Historic Period

Historical accounts are few and most attest to a sparse coastal population at Lualualei (Hunnewell 1909:19; Chamberlain 1957:38). In 1855, nine taxpayers were recorded for Mā`ili (McGrath, Brewer and Krauss, 1973: 29). Estimates are that more than 35 people lived along the Mā`ili coast. There is also evidence of an upland settlement in relation to a stream at Pūhāwai which was fed by underground springs. Extensive remnants of *lo`i* terraces have been recorded at Pūhāwai (Kelly *in* Haun 1991:310). Handy notes:

According to Mrs. Hanakahi, living on a Nanakuli Homestead, there is a place far up in Lualualei, "the Navy place," called Kapuhawai, where the sacred spring was used to water carefully tended terraces; she says that in these neglected terraces, taro still grows wild from the ancient plantings, thriving in the rainfall as there is, and people go up into the hills to gather it, as it is regarded as "fine eating". (1940:83)

As an indication of population, the 1855 tax records reveal there were a total of 11 adult taxpayers in Pūhāwai.

C. Mid-1800's: Land Commission Awards (LCAs)

During the *Māhele*, with the exception of the *kuleana* lands, Kamehameha III retained all the land in the *ahupua`a* of Wai`anae, Lualualei and Nānākuli as personal property (Land Indices, 1916) After the overthrow of the Hawaiian kingdom, these lands were called Crown Lands.

A total of twelve land claims were made in Lualualei, however only six were actually awarded. All six awards were located upland in the *ili* of Pūhāwai. From the claims it can be determined that at least eight families were living in Pūhāwai at the time of the *Māhele* in 1848. Together, they cultivated a minimum of 163 *lo`i*. In addition, dryland crops were grown on the *kula* (plains), *wauke* was being cultivated and one claimant was making salt. All six awards cluster along the only stream at Pūhāwai. The numerous *lo`i* mentioned in the claims indicate the land was ideal for growing wetland taro and that this livelihood was actively pursued by the awardees. No quiet land titles were claimed near the coast.

D. 1850 - 1900

In the latter half of the 19th century, ranching dominated the history of Lualualei as it was one of the first areas to be utilized for raising cattle on O`ahu. Bureau of Conveyance records indicate William Jarrett leased approximately 17,000 acres of land, mostly in Lualualei, from Kamehameha III in 1851 (B.C. Liber 4:616-618). This was the

beginnings of Lualualei Ranch. In 1864, Jarrett took on George Gailbraith as a partner. Five years later, he sold his son's half-interest in the ranch to James Dowsett. During the time that Jarrett was involved with the ranch, a race track for horses was built on the Mā`ili plains (McGrath 1973:31).

In 1880, George Bowser traveled through Wai`anae and wrote about Lualualei in his journal:

Leaving Wai`anae, a ride of about two miles brought me to the Lualualei Valley, another romantic place opening to the sea and surrounded in every direction by high mountains. This valley is occupied as a grazing farm by Messrs. Dowsett & Galbraith, who lease some sixteen thousand acres from the Crown. Its dimensions do not differ materially from those of the Wai`anae Valley, except that it is broader – say, two miles in width by a length of six or seven miles. The hills which enclose it, however, are not so precipitous as those at Wai`anae, and have, therefore, more grazing land on their lower slopes, a circumstance which adds greatly to the value of the property as a stock farm. Although only occupied for grazing purposes at present, there is nothing in the nature of the soil to prevent the cultivation of the sugar cane, Indian corn, etc. Arrangements for irrigation, however, will be a necessary preliminary to cultivation. (Bowser 1880:493-494)

Bowser's comments imply that though water was still a problem, Lualualei seemed to have some potential for development.

An 1894 description of Lualualei by the Commissioner of Crown Lands described the land as "... one of the best and most valuable of the Crown lands on the Island of Oahu ... surpassing any of the other lands for richness and great fertility of the soil" (Commissioner of Crown Lands, 1894:36). By this time, Link McCandless had begun ranching 4,000 acres at Lualualei (McGrath 1973:31).

The sugar industry came to the Wai`anae coast in 1878 when the first sugar cane was planted in upper Wai`anae Valley. By 1892, at least 300 acres of cane was planted in Lualualei. A 1919 Fire Control Map of a portion of Lualualei shows the study area being cultivated in cane (Figure 3). This was confirmed by a *kūpuna* of the area who mentioned that cane lands also extended some distance *makai* of the study area (Personal communication, W. Kamana, September 24, 2001). According to the 1919 Fire Control Map the cane lands extended to the border of the coastal Lualualei Homesteads (Figure 3).

In addition to the cultivated lands, a railroad, irrigation ditches and flumes, reservoirs and plantation housing were constructed to support the sugar industry. This same *kūpuna* recalls the Wai`anae Plantation railroad which ran up to Mikilua Camp, a plantation camp located near the base of Pu`u o Hulu `Uka, approximately 1.3 km from the study area (Figures 3 & 5). The cane from the *mauka* areas of Lualualei was loaded onto that railroad and transported to the mill at Wai`anae. Mr. Kamana remembers that portable track was used to harvest cane grown in the study area (personal communication W. Kamana, September 24, 2001). A second community member recalls seeing photographs of a railroad spur which ran along the northern base of Pu`u o Hulu and believes the spur was used when sand mining operations were occurring in the vicinity of the study area in the 1930s (personal communication C. Rezentes, September 21, 2001).

E. Early 1900's to Present

By 1901, the Wai`anae Sugar Company had obtained a five-year lease on 3,332 acres of land at Lualualei, to be used for raising cane as well as for ranching (Commissioner of Public Lands 1902). Sugar and ranching continued to dominate the Lualualei landscape during the early years of the 20th century. The determining factor in the success of Lualualei for sugar production was always the water.

After the overthrow of the Hawaiian monarchy in 1893, the Crown Lands including Lualualei and the study area became Public Lands. In 1902, the Government ran ads in the local newspapers stating their intent to open up Public Lands in Lualualei for homesteads (Kelly *in* Haun, 1991: 328). The lots were sold between 1903 and 1912. Due to the lack of water, the lots were classified as second class pastoral land, rather than agricultural land. In 1903, lots 8 and 9, consisting of 2,629 acres, were awarded to Herman M. Von Holt for \$1.00 in exchange for other lands. The study area is in a portion of Lot 9 awarded to Von Holt in 1903 (Figure 4). By the early 1920s, about forty families had settled on homestead lots in Lualualei (Kelly *in* Haun 1991:331-332).

Another major influence in Lualualei, during the first half of the 20th century, was the military. By 1929, over 8,184 acres of the McCandless Cattle Ranch had been condemned and purchased by the U.S. Navy for the construction of a Naval Ammunition Depot for the ships of Pearl Harbor Naval Base. The construction of Naval Magazine - LLL and Radio Transmission Facility (RTF) took place in Lualualei between 1930 and 1935 (Kelly *in* Haun 1991:339-341). In 1971, the Navy began sub-leasing some of their lands for agricultural uses, mainly for grazing and bee keeping. The presence of the military at Lualualei has boosted the economy of Lualualei by providing jobs to residents over the years. The lower portions of Lualualei Valley were developed into residential lots after WWII. The study area lies outside of military lands.

Kaiser Pacific Properties Corporation acquired land in Mā`ili including the study area in the 1960s. Kaiser Corporation used the area to quarry limestone although quarrying operations were centered on land located north of the study area. In the early 1990s, Schuler Homes Inc. acquired the land and has been involved in the residential development of the area including the study parcel ever since.

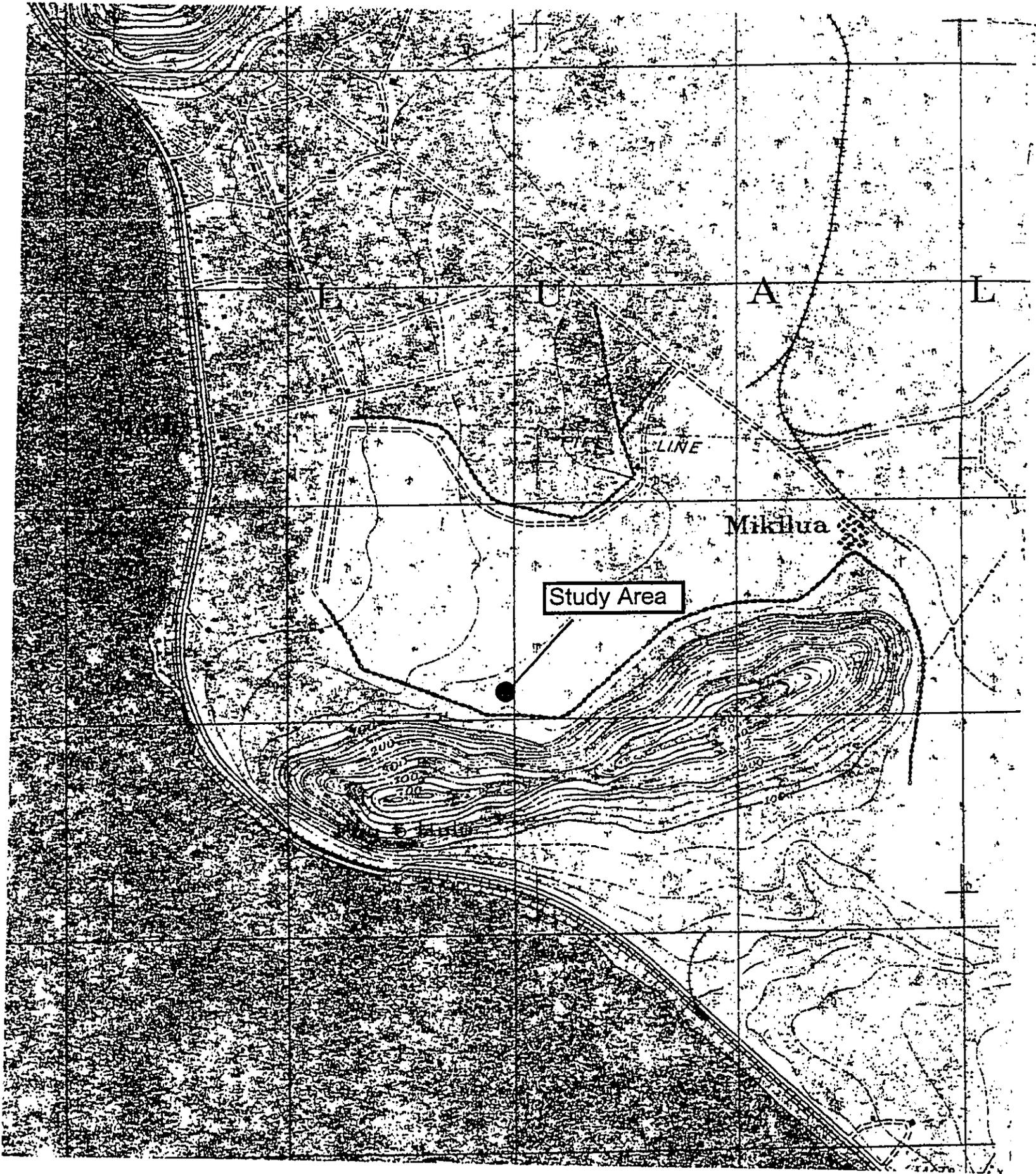


Figure 3 Portion of 1919 U.S. Army Fire Control Map, Nanakuli Quad, Showing sugar cane growing in the study area. S scale 1" = 20,000'



Figure 5 Portion of 1928-1929 U.S. Coast and Geodetic Survey and Air Corps US Army Map, Waianae Quad showing the location of the study area. Scale 1"=20,000'

IV SETTLEMENT PATTERN FOR STUDY AREA

Archaeological studies in the Lualualei area suggest pre-contact Hawaiians settled mainly in the wetter *mauka* regions and on the narrow coastal fringe, where they could exploit marine resources. Although evidence for occupation between the coastal fringe and the *mauka* settlements exists, it is sparse. Part of the reason for this is that the coastal plain was used historically for ranching and homesteading, followed later by sugar cane and other agricultural crops. Most likely, any pre-existing pre-historic sites would have been significantly altered by nineteenth and twentieth century ranching or agricultural pursuits.

The proximity of a late prehistoric temporary habitation site to the study area suggests the study area may have been used similarly for temporary occupation. Three limestone sinkwells within a one kilometer radius of the study area is one indication that water may have been more readily available in the study area than was previously thought. The study area is also known to be exposed to seasonal rains and periodic flooding (Personal communication, W. Kamana, September 24, 2001), a temporary source of water. The location of the study area, in a natural drainage area off of Pu`u o Hulu, may have been a good place for seasonal agricultural pursuits of the sweet potato, documented as growing in the coastal areas of Nānākuli and Lualualei (Handy, 1940: 156). The study area is situated close enough to the ocean, the main source of food, and yet far enough *mauka* to take advantage of the seasonal rains which may have been funneled down to the study area from Pu`u o Hulu.

It is thought that the study area was probably used as ranch lands in the mid 1800s. The study area probably continued as ranch lands into the twentieth century when H.M Von Holt acquired it along with several hundred more acres of homestead land. By 1919, the study area had been cultivated in sugar cane. Sugar cane was seen growing in the study area until some time in the 1940s. Following sugar cane, Japanese farmers used the area for growing vegetables. One *kūpuna* recalls taking a short cut from Wai`anae to Nānākuli, walking just *mauka* of the study area and eating fruits and vegetables grown by the farmers along the way. In the 1960s, the study area was acquired by Kaiser Cement Corporation who utilized the area for quarrying limestone. Schuler Development Corporation acquired the study area in the 1990s and has been developing the area since that time.

V. RESULTS OF COMMUNITY CONSULTATIONS

As partial fulfillment for the Scope of Work, consultations with agencies, Hawaiian organizations and the community-at-large were conducted to identify cultural concerns and potential cultural impacts which might be affected by the proposed changes to the Pu`u o Hulu Community Park. Initially, letters and maps describing the project and the park were sent to key agencies and officials, Hawaiian organizations, and people in the community. Individuals were asked to respond within two weeks. If no response was received, an attempt was made to contact individuals over the phone, when possible. Individuals contacted were asked about the following:

1. General history and land use of the park and the immediate vicinity
2. Knowledge of cultural sites which may be impacted by the project, e.g., historic sites, pre-historic sites, burials

3. Knowledge of traditional gathering practices in the study area – both past and present
4. Cultural associations with the study area through established traditions, legends, traditional use or otherwise
5. Referrals of knowledgeable *kūpuna* who might be willing to share their cultural expertise of the Mā`ili area in general and, especially, of the study area
6. Referrals of any other names of individuals who should be contacted
7. Any other cultural concerns the community might have related to Hawaiian cultural practices in or near the study area.

The following table shows the results of the community consultations which were conducted. The table has a key for the acronyms representing organizations which consulted individuals are affiliated with. The objective of this table is to document that a good faith attempt was made to contact individuals and organizations who may have information or cultural concerns associated with the study area.

TABLE I: Results of Community Consultations

Key:

Affiliation

DHHL = Department of Hawaiian Home Lands
HCC = Hawaiian Civic Club
HMINK=Hui Mālama o Nā Kūpuna o Hawai`i
HMM = Hui Mālama o Mākua
OHA = Office of Hawaiian Affairs

OIBC = O`ahu Island Burial Council
QLCC=Queen Lili`uokalani Children's Center
SHPD=State Historic Preservation Division
WCNB= Wai`anae Coast Neighborhood Board

Y = Yes

N = No

D = Declined to comment

A = Attempted (at least 3 attempts were made to contact individual, with no response)

S = Some knowledge

Name	Affiliation	Contacted (Y/N/A)	Knowledge of Area	Comments
Aila, William & Melva	HMINK, HMM	Y	S	Made Referral
Auwae, Rep. Emily	Hawai`i State Rep.	A	—	—
Cope, Agnes	Wai`anae Coast Culture & Arts	Y	Y	Made Referral
De Lude, Clarence	OIBC/ Koa Mana	Y	Y	—
De Soto, Frenchy	President, Wai`anae Coast Archaeology Preservation Commission	Y	Y	—
De Soto, John	Council Member	Y	N	Made Referrals

Name	Affiliation	Contacted (Y/N/A)	Knowledge of Area	Comments
Enos, Eric	Cultural Learning Center at Ka'ala	Y	N	Made Referral
Hanabusa, Senator Colleen	State Senate	Y	N	Made Referrals
Kahikina, Michael	Hi. State House Rep.	Y	N	Made Referrals
Kawelo, Gigi	Wai'anae HCC	Y	N	Made Referrals
Keamo, Maylene	Wai'anae Ahupua'a Council President	Y	S	Made Referrals
Kila, Glen	Koa Mana	Y	Y	—
King, Louella (Cuddles)	Lualualei Ahupua'a Council	Y	S	Made Referral
Kippen, Collin	OHA-Native Rights Div.	Y	N	Made Referrals
Armitage-Lapilio, Nettie	Wai'anae Coast Coalition	A	-	—
Mc Eldowney, Holly	SHPD, Culture & History	Y	N	—
Markell, Ka'iana	SHPD Burials Dir.	A	—	—
Napoka, Nathan	SHPD, History & Culture Branch Chief	Y	N	Made Referrals
Nunes, Keone	Lualualei Resident	Y	Y	Made Referral
Pelekai, Pikake	OIBC-Wai'anae	Y	S	Made Referral
Rezentes, Cynthia	WCNB #24	Y	N	Made Referrals
Rodrigues, Danny	WCNB #24	Y	S	Made Referral
Silva, Alikea	Koa Mana	Y	Y	—
Tavares, Lydia	Mā'ili Resident	Y	N	Made Referral
Tavares, Nalani	QLCC	Y	N	Made Referrals

VI. TRADITIONAL PRACTICES OF MĀ`ILI

A. Legends

One translation for Mā`ili is "pebbly" (Pukui, Elbert, and Mo`okini, 1974:139). Mā`ili is described as the land between Pu`u o Hulu and Pu`u Mā`ili`ili (V. Holt in Sterling and Summers, 1978:67). One community member consulted, who grew up in Mā`ili remembers when she was young, Mā`ili was always called Maile. The 1919 U.S. Army Fire Control Map shows the Mā`ili area as Maile (Figure 3). She recalls that there was a *kūpuna* who lived in the area and who spoke Hawaiian who once commented on how curious it was that several placenames in Mā`ili implied illness and sickness to the body (Personal communication, L. King, October 8, 2001).

Rising above the study area is Pu`u o Hulu. Pu`u o Hulu Kai, the hill nearest the ocean which rises to 860' is connected to Pu`u o Hulu `Uka (715') by a saddle which drops down to 284' in elevation. According to legend:

Puu o Hulu was said to be a chief who was in love with Ma`ililii, one of twin sisters, but he could never tell, whenever he saw them, which of the two was his beloved. A mo`o changed them all into mountains so he is still there watching and trying to distinguish his loved one (V. Holt in Sterling and Summers 1978:67).

Mo`o is another name for Pu`u o Hulu, described one *kūpuna*. According to this *kūpuna*, every *pu`u* or hill along the Wai`anae Coast has an animal name starting with the one at Ka`ena which is named *honu* or turtle (personal communication, W.Kamana, September 24, 2001).

As with most landmarks in Lualualei, the demigod Māui is also connected to Pu`u o Hulu. There is a cave on Pu`u o Hulu Kai which belonged to Māuiakamalu (also known as Māuiakalana)[personal communication, K. Nunes, October 12, 2001]. Māuiakamalu is also known to have frequented the Mā`ilikai area for fishing. He would spearfish on the extensive reef that once fringed Ka Lae o Mā`ili or what is now known as Mā`ili Point (K. Nunes, October 12, 2001).

Pu`u o Hulu was once used as a sign of wind direction. There used to be a rock with a hole in it on Pu`u o Hulu Kai. When the wind blew through the hole a certain way, a noise like a horn was heard. Apparently, a "no good chief" put the horn there and when the Lualualei mountain people were mad at the ocean people, they would make the horn blow. The way this happened was the wind would blow over Kumaipō, then hit Kolekole and head towards the side of Nānākuli then back around Pu`u o Hulu and through the hole where it would produce this horn sound. According to Mr. Kamana, depending on the direction of the *makani* or wind, the sound produced by the "horn" would change pitch or tone. Mr. Kamana said there were three winds, although he described four:

Ka`aimakani: "the eating wind"; name of a wind that blows from Kaua`i. So called because it "eats up" the coast.

Kaimakani: This was a cold, north wind that came from the directions of Mā`ili`ili and Wai`anae `Uka.

Kumaipō: Wind that comes from the Wai`anae Valley.

Nāpilikia: the "no troubles" wind; one name for the northeast tradewinds which were accompanied by calm and fair weather.

When Mr. Kamana was growing up, the old people would mistaken the horn at Pu`u o Hulu Kai for the train whistle (personal communication, W. Kamana, September 24, 2001).

A third legend pertaining to Pu`u o Hulu came forth during the consultation for this project. There was once a *kanemanō* (sharkman) who married a *wahine* from Wai`anae. The family of the *wahine* would often go fishing at Pōka`i and would always catch plenty of fish. The people of Mā`ili became very jealous. One day, the people of Mā`ili noticed the *kane* had gills and was actually a *kanemanō*. They killed him and the dark marks left on Pu`u o Hulu are vestiges of *kanemanō*'s thrashing and struggling (personal communication F. De Soto, September 2001).

The *manō* or shark also appears in the documented fishing traditions of Mā`ili. The demigod Māui was known to spend much of his time fishing in the waters of Lualualei. He and his brothers were known to catch sharks in these waters (Sterling and Summers, 1978: 65). During an archaeological inventory survey for Ulehawa Beach Park, *kūpuna* Kamana shared knowledge of several fishing grounds and their associated shrines or *ko`a*. He mentions one for Mā`ili.

Mā`ili had one ko`a, the one of the shark, the worst one. There was a shrine there as well, but it did not survive the World War II use of the area
(Interview with W. Kamana in McDermott and Hammatt, 2000:45).

Mr. Kamana pointed out the location of the shark *ko`a* as on the beach fronting Ho`okele Street near the mouth of what is now known as Mā`ili Stream (W. Kamana in McDermott and Hammatt 2000:Appendix D:7). This location is approximately 1 km *makai* of the Pu`u o Hulu Community Park. Another community member who grew up on Hakimo Road near Ulehawa in Lualualei remembers seeing *ko`a* at the beach at Mā`ilikai in the early sixties (Personal communication, K. Nunes, October 12, 2001). He also recalls seeing what he believed to be *ko`a* made of upright coral stone situated *mauka* of what used to be the swamp (present day Mā`ili Stream). Mr. Nunes felt that the coral *ko`a* in back of the swamp were related to the *ko`a* situated on the beach.

B. Placenames of Mā`ili

Mā`ili

The name of the area in which the Pu`u o Hulu Community Park is situated was once called Nanikai (Personal Communication, W. Kamana, September 24, 2001). Other individuals consulted who also grew up near the area recall that the area *makai* of Ka`ukama Road was referred to as Nanikai (personal communication, C. Rezentes, September 21, 2001 and M. Keamo, October 5, 2001). A *kūpuna* familiar with the Wai`anae Coast describes Nanikai as the area extending from Mā`ili Point to the present day Mā`ili Stream along the coast and reaching back to Lualualei `Uka. Mā`ili`ili or what used to be

called "Maile" extended from the Ma`ili Stream north to Mā`iliili Stream. On the south side of Pu`u o Hulu, from Mā`ili Point to Nānākuli was an area they used to call Makalualualei, referring to admiring beautiful girls (personal communication, W. Kamana, September 24, 2001).

Loko Nanikai/ Ma`ipalaoa Swamp

What is now known on the maps as Mā`ili Stream Drainage Channel did not formerly exist as a stream (personal communication, W. Kamana, September 24, 2001). The only drainage north of Pu`u o Hulu in Lualualei was Ma`ili`ili Stream, situated just south of Pu`u Ma`ili`ili. According to Mr. Kamana, prior to the formation of Mā`ili Drainage Channel, this area just *mauka* of the ocean used to be a swamp called Loko Nanikai. A 1902 map of the Lualualei Homesteads depicts a small pond *mauka* of the government road and just north of where today's Ka`ukama Road intersects with Farrington Highway (Figure 4). Approximately 116m north of the pond, the 1902 map shows Maipalaoa Stream which is depicted by a dashed line. The stream extends inland and in a northerly direction for approximately 771 m. There is no indication of the source of Maipalaoa Stream and the dashed line suggests the stream is intermittent or may be a swamp-like drainage. A second map, 1928-1929 U.S. Army Map of the Waianae Quad depicts a "Salt Pond" draining into the ocean where the Maipalaoa Stream is shown on the 1902 Lualualei Homestead map. Ma`ipalaoa is documented as a swamp in Lualualei, named after a chiefess (Sterling and Summers, 1978:67).

One community member had fond memories of this swamp, as he refers to it, the "swamp at Mā`ilikai" (Personal communication, K. Nunes, October 12, 2001). Growing up near Mā`ilikai in the 1960s, the swamp was a favorite play spot. Back then, the swamp extended from where the Mā`ili Stream Channel is today to St. John's Road and *mauka* to the old Maipalaoa Road (today Meaulu Rd.). Mr. Nunes remembers that sometimes after big rains, people living on Maipalaoa Road would get flooded out. This suggests a fairly extensive wetland system. Mr. Nunes recalls putting together makeshift canoes and paddling around the swamp. There used to be *`ahu`awa* (*Mariscus javanicus*) growing at the mouth of the swamp prior to the construction of the channel. *`Ahu`awa* is an endemic sedge which is typically found in wetland environments. As a boy, Mr. Nunes and his friends used the *`ahu`awa* to catch *`ōpae lōlō* (*Penaeus marginatus*), a brackish-water shrimp with transparent bodies and red heads. They would gather many strands of *`ahu`awa* and fan them out and dip them in the swamp to scoop up the abundant *`ōpae lōlō*, which they would then eat. Other fish seen at the swamp during Mr. Nunes' time were *pao`o* (name of several varieties of *`o`opu*), introduced talapia, introduced crayfish and once in a while *kākū* (*Sphyræna barracuda*) and *`o`opu*.

Mr. Kamana feels the channelizing of the swamp has adversely affected the reef and the coastline fronting the swamp. An avid fisherman, Mr. Kamana has witnessed many detrimental effects of the channelizing of all the streams along the Wai`anae Coast. Mr. Nunes echoes Mr. Kamana's sentiments. During Mr. Nunes' childhood, the swamp was a brackish water swamp. After the swamp was channelized around 1967, more salt water seems to have entered the swamp changing the water quality and wetland ecosystem. The *`ahu`awa* which once grew at the mouth of the swamp, seemed to act as a filter to filter the

silt from draining into the ocean, thus protecting the reef and near shore marine life (Personal communication, K. Nunes, October 12, 2001). In addition to altering the water quality, the channelizing seems to have affected the currents in the area and thus impacted the reef (Personal Communication, W. Kamana, September 24, 2001).

C. Trails

John Papa ʻĪʻĪ described three trails accessing the Waiʻanae District during the early post contact period (ʻĪʻĪ, 1959: 97-99). The most popular was the coastal route which circled Oʻahu. The other two trails traversed the Waiʻanae Mountains into Lualualei. The northeast route traversed Kolekole Pass, followed the Pūhāwai Stream Valley down crossing into Waiʻanae Kai through the gap and finally to Pōkaʻī Bay (Green in Robins, 1994:22). According to ʻĪʻĪ, the second trail traverses the Waiʻanae Mountains at Pōhākea Pass and descends the stream valley below Pōhākea. On maps, this valley is shown as Hālonā. There is no indication where the Pōhākea trail continues after this however Robins (1994: 22) suggests the path "continued west to the Lualualei coast or intersected other *makai*-bound trails". One active member of the Waiʻanae Community mentioned the Pōhākea path may pass nearby the study area (personal communication, W. Aila, September 19, 2001).

Two trails were recorded during the archaeological survey work which included the proposed Puʻu o Hulu Community Park (Cordy, 1976: 16-17; Jimenez, 1994:13). In 1976, Cordy recorded an east-west trail which ran along the majority of the southernmost boundary of the survey area which encompassed the northern base of Puʻu o Hulu (The site was destroyed before the second archaeological survey was conducted). The trail was described as "1 meter wide with small, hand-sized stones bound on each side by larger stones" with a wooden post set in the middle of the trail (Cordy 1976:17). Although Cordy interprets this east-west running trail as a historic trail based on the associated historic wooden post, the trail may have been a pre-contact trail. Given its location along the northern base of Puʻu o Hulu, this trail may have served as a *mauka-makai* pre-contact trail, however there is no documentation of this being a traditional trail.

One of the few archaeological sites tested which produced evidence of pre-historic occupation was Site -3750, a C-shape enclosure (Jimenez, 1994). During the test excavations of the site, a plan view was drawn which depicts a trail running north-south. However, no physical description of the trail was given in the site description and no mention of the trail was made when the site was originally identified in 1975. There is no documentation that this trail served as a pre-contact trail, however, its proximity to a known habitation site (6 meters) and to potential sources of water (Site -3336, two sinkwells situated approximately 400 m to the north) suggest the trail may be associated with the site. Continuing in a southerly direction on this trail may have lead to the east-west trail running along the northern base of Puʻu o Hulu.

D. Native Gathering of Plants

There is no knowledge of traditional gathering in the study area. The native vegetation of the Lualualei coastal plains has been extensively altered for many years. Even by the end of the nineteenth century there is evidence of destruction of the native flora. During the initial years of homesteading in Lualualei (1902-1918), entitlement to a Land Patent conveying fee simple title to a lot was given only under the conditions that a

substantial building was constructed on the lot, a fence was put up and the land was entirely cleared of lantana after five years (Kelly in Haun, 1991: 329). This suggests that as early as the late 1800s, much of the homestead land was overgrown in lantana (*Lantana camara*).

Ranching, sugar cane cultivation and possible modern quarrying all have played a part in altering the natural landscape of the study area. Most recently, the area was graded for the first phases of the housing and park development. A recent inspection of the undeveloped portion of the proposed Pu`u o Hulu Community Park indicated that mostly weedy, exotic plant species were taking root. However, there were two native plants which were also beginning to sprout, the `uhaloa (*Waltheria americana* L.) and the `ilima (*Sida* spp.). The presence of these plants in such conditions suggests these plants may have once been more prolific in the study area and were probably once widely available for gathering. `Uhaloa and `ilima were also identified in a botanical survey of the study area and vicinity in 1988 (Linney and Char, 1988: 4).

`Uhaloa, also known as *hi`aloe*, *kanakaloe*, *`ala`alapiloe* and *hihialou* was used in conjunction with other plants as a general tonic for children and adults (Krauss, 1993:102). The root of the `uhaloa was commonly used to treat sore throats (Gutmanis, 1989:30). `Uhaloa is also indicated in treating women who had suffered from miscarriages (*Ibid*: 34). `Ilima was known for its use as an enema. It was also popular in preparing women for childbirth and treating sickly newborns (Gutmanis, 1989). Traditionally, `ilima has been a favored *lei* flower and continues to be today.

Mr. Nunes who played in the area of the Mā`ili Stream when it was still a swamp in the early 1960s, remembers observing people gathering `uhaloa and *pōpolo* berries at the back of the swamp. He feels these plants were used for medicinal purposes and that the *mauka* area of the swamp was used because that was the cleanest part of the swamp. Several indications of the `uhaloa have already been described. *Pōpolo* (*Solanum americanum*) was another popular plant which has many documented uses. The berries of the *pōpolo* were eaten as snack foods although they were primarily used during times of famine (Krauss, 1993:16). The berries also served for making dyes (*Ibid*: 103). The leaves were indicated to prevent bloating, treat coughs and as a general tonic for malaise (Krauss, 1993:103). *Pōpolo* leaves are also used in developing a mild purgative, in steambaths for cleansing, in treating eye problems, and in treating pregnant women and newborn infants (Gutmanis, 1989: 24, 26, 27, 35, 40).

E. Burials

No burial sites are known to exist in the 11 acre Pu`u o Hulu Community Park (Personal communication, E. Jourdane, SHPD O`ahu Archaeologist, September 21, 2001). However, there are recorded limestone sinkholes in the vicinity of the study area. The limestone sinkholes are geological remnants of a time period when sea level was much higher and much of the leeward coastal plain was a submerged reef. Archaeological and paleontological research on sinkholes identified on the `Ewa Plain have demonstrated the cultural and scientific significance of these types of features. Sinks on the `Ewa Plain contain cultural deposits related to prehistoric occupation, including midden deposits,

agricultural modifications, and human burials. Human burials have been found in association with sinkholes in the neighboring *ahupua`a* of Nānākuli (Mc Dermott, 2000:11). There is the possibility that sinkhole burials would be found in the excavation work during park construction, although unlikely based on previous grading of the parcel.

F. Discussion of Concerns Raised During Consultation

Concerns regarding potential impacts to burials was the primary issue raised during community consultation for the proposed Pu`u o Hulu Community Park. No *kūpuna* or individual consulted who was familiar with the area was aware of a specific burial within the proposed park parcel. However, many were concerned there may be burials. One community member shared that in the past, a *kūpuna* from Mā`ili had shown him the location of historic burials situated *makai* of the park. These burials were marked with basalt, waterworn stones. This community member was concerned there may be or may have been similar gravesites on the park parcel. Although two basalt rock platforms were identified in the 11 acre park area during a reconnaissance survey in the late 1980s, both sites were interpreted as remnants of field clearing associated with historic ranching and farming of the area and both were destroyed during initial phases of development. Based on the construction type of rock platforms, neither was thought to be associated with burials (Mayberry and Rosendahl, 1994: 22).

A *kūpuna* and another community member knew of the existence of sinkholes in the study area and were concerned there may be associated burials. This *kūpuna* expressed that if a burial were uncovered, it should be reburied nearby without too much fanfare. He felt that it was important not to move the burial too far from where it was originally interred. This may stem from the Hawaiian tradition of burying family members close to home or *kula iwi*, literally "land of bones" (Pukui , 1972:112).

Several individuals, including *kūpuna* voiced concern over known burials situated on Pu`u o Hulu. The Pu`u o Hulu Community Park is located at the base of Pu`u o Hulu and the proposed improvements to the park will have no affect on the burials on Pu`u o Hulu which are well outside of the park.

Two individuals consulted voiced concerns regarding the impact the park construction, maintenance and use would have on what used to be a coastal wetland, now called the Mā`ili Stream. Although the present Mā`ili Drainage Channel is located approximately 1 km northwest of the Pu`u o Hulu Community Park, the drainage system for the study area is connected to the Mā`ili Drainage Channel. The study area is part of a natural drainage and the water sources which originate in or run through the study area, both surface and subsurface, most likely terminate at Mā`ili Drainage Channel. The initial channelization of the swamp in the late 1960s has detrimentally affected the near shore marine environment and traditional fishing and gathering practices related to that environment. An artificial drainage channel excavated adjacent to and west of the Pu`u o Hulu Community Park will now serve to transport runoff from the park and the surrounding residential subdivision directly to the Mā`ili Drainage Channel System. The two concerned individuals worry that the increased use of the area, or increased run off and types of run off, will further adversely affect what remains of the coastal wetland and near shore marine environment.

The only other concern raised came from a *kūpuna* who was familiar with the area under many weather conditions. He felt the park may suffer periods of flooding, particularly during the rainy season and during Kona storms. Even though a drainage had been constructed on the west side of the park, this *kūpuna* felt that pooling may occur within the park itself.

VII. SUMMARY AND RECOMMENDATIONS

A Hawaiian traditional cultural practices assessment has been conducted for the proposed 11 acre Pu`u o Hulu Community Park in Mā`ili, Lualualei. Numerous parties were contacted regarding this project. Two site visits were made, one of which was made to meet a knowledgeable *kūpuna*. Further research was carried out on related archaeological sites in Mā`ili and other documented traditions of Lualualei, particularly in the vicinity of the study area.

Based on the investigation of archaeological studies conducted in the study area and in the coastal portions of Lualualei, there is evidence of prehistoric use of the area in the vicinity of the study area. A temporary habitation feature dated to the late prehistoric period found near the study area suggests the area in the vicinity may have been used for temporary habitation, perhaps seasonal camping. The presence of sinkwells in the area and the exposure to seasonal rains may have been incentives to occupy this area seasonally.

Documented traditions of the area *makai* of the proposed Pu`u o Hulu Community Park depict an area with a rich cultural past. Many types of *limu* and fish were gathered along the coast. A former *ko`a* dedicated to the shark is known to have existed on the shoreline *makai* of the study area. During consultation for this project, it was found that the shark is also associated with Pu`u o Hulu, the ridge that towers over the park.

The primary concern raised during consultation with community members was the potential impacts to burial. Although no specific burials were identified within the proposed park boundaries, many community members and *kūpuna* were concerned that subsurface trenching may disturb burials. The presence of nearby limestone sinkholes and the known Hawaiian burial practice of utilizing sinkholes for interment presents the possibility of burials in the park area. Because the 11-acre park has already been graded, the chances for finding any burials is slight. Cultural Surveys Hawaii recommends the following based on community concerns raised for the potential of burial disturbance and appropriate handling and disposition of burials:

1) In the event a burial is inadvertently disturbed during excavation operations, all work in the immediate area should be stopped.

2) The appropriate parties should be contacted regarding the disturbed burial. These include:

a) DLNR/SHPD: Department of Land and Natural Resources/State Historic Preservation Division, Burials Program

b) Koa Mana: Koa Mana is very involved in the Wai`anae Community and is particularly concerned with locating lineal descendants of disturbed *`iwi* in

order to facilitate culturally appropriate handling and disposition of the burial. Koa Mana has specifically requested that they be notified in case a burial is inadvertently disturbed.

During the consultation for this project, it was learned the study area was once called Nanikai. Many still call the area *makai* of the study area Nanikai. Cultural practices associated with a swamp near the study area were identified during the community consultation. The swamp, known as Loko Nanikai to one *kūpuna* and possibly also called the Ma`ipalaoa Swamp, was once a thriving coastal wetland. Prior to the construction of the Mā`ili Drainage Channel, the swamp was used to gather the brackish water shrimp, `ōpae lōlō, and the medicinal plants, `uhaloa and pōpolo. Although the wetland no longer exists as it once did, some community members are concerned that the development of the park and adjoining residential areas will impact the water quality in the drainage and further degrade what remains of the wetland ecosystem and the marine environment fronting the drainage. Based on the concern for traditional practices association with the Mā`ili Stream and the Nanikai reefs and near shore environment, Cultural Surveys Hawaii makes the following recommendation:

- 1) Consideration should be taken to undertake studies on the effects of erosion and run off on the related ecosystems; in this case, on the present day Mā`ili Stream and the marine ecosystem fronting the Mā`ili Stream.

V. REFERENCES

- Barrera, W. Jr.
1975 *Archaeological Site Survey at Maili, O`ahu*, Chiniago, Inc., Honolulu.
- Bordner, Richard M.
1977 *Archaeological Reconnaissance of the Proposed Nanakuli Landfill Site, Wai`anae, O`ahu Island*, ARCHI#14, Lawai, Kauai, HI.
- Bowser, George
1880 *The Hawaiian Kingdom: Statistical and Commercial Directory and Tourist Guide, 1880-1881*. Honolulu and San Francisco: G. Bowser & Co.
- Condé, Jesse and Gerald M. Best
1973 *Sugar Trains: Narrow Gauge Rails of Hawaii*. Glenwood Publishers: Felton, CA.
- Cordy, Ross
1975 *Archaeological Excavation at CH-Oa-1, Maili, O`ahu*. Manuscript on file; Department of Land and Natural Resources--Historic Sites Section.
- 1976 *An Archaeological Survey of Kaiser Pacific Properties' Land, Maili Kai, O`ahu*. Manuscript on file; Department of Land and Natural Resources--Historic Sites Section.
- Department of Land and Natural Resources
1845-1903 *Liber. (Land Record Books)*. Territory of Hawai`i: Commissioner of Public Lands.
- Foote, Donald E., E.L. Hill, S. Nakamura and F. Stephens
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawai`i*. Washington, D.C: U.S. Dept. of Agriculture, U.S. Government Printing Office.
- Gutmanis, June
1976 *Kahuna La`au Lapa`au*, An Island Heritage Book, Aiea, HI.
- Hammatt, Hallett H. and Rodney Chiogioji
1993 *Archaeological Investigations of a 5-Acre Parcel in the Ahupua`a of Lualualei, Island of O`ahu (TMK 8-7-21:17)*, Cultural Surveys Hawaii, Kailua, HI.
- Hammatt, Hallett H., Jennifer Robins and Mark Stride
1991 *An Archaeological Inventory Survey for the Proposed Lualualei Golf Course, Lualualei, Wai`anae, O`ahu*, Cultural Surveys Hawaii, Kailua, HI.

- Hammatt, Hallett H. and David W. Shideler
1990 *Archaeological Monitoring at Liopolo Street, Ma`ili 8" Water System, Part III, Ma`ili, Wai`anae, O`ahu (With a Discussion of Burials S.S. No. 50-80-07-4244)*, Cultural Surveys Hawaii, Kailua, HI.
- Handy, E.S. Craighill
1940 *The Hawaiian Planter, Volume I, His Plants, Methods and Areas of Cultivation*. Bernice P. Bishop Museum Bulletin 161. Honolulu: Bishop Museum.
- Handy, E. S. Craighill and Elizabeth Green Handy
1972 *Native Planters in Old Hawai`i: Their Life, Lore, and Environment*. Bishop Museum Press: Honolulu, Hawai`i.
- Haun, Alan E.
1991 *An Archaeological Survey of the Naval Magazine and Naval Communications Area Transmission Facility, Lualualei, Oahu, Hawaii*. Applied Research Group, Bishop Museum, Honolulu, HI.
- ʻĪ, John Papa
1959 *Fragments of Hawaiian History*. Bishop Museum Press: Honolulu.
- Jimenez, J.A.
Additional Archaeological Inventory Survey, Maili Kai Project Area, Land of Lualualei, Waianae District, Island of O`ahu. Paul H. Rosendahl Inc., Hilo.
- Juvik, Sonia P. and James O. Juvik, Eds.
1998 *Atlas of Hawaii*. Third Edition. Department of Geography, University of Hawai`i at Hilo. Honolulu: University of Hawai`i Press.
- Kamakau, Samuel Manaiakalani
1992 *Ruling Chiefs of Hawai`i (Revised Edition)*. Honolulu: Kamehameha Schools Press.
1991 *Tales and Traditions of the People of Old, Nā Mo`olelo o Ka Po`e Kahiko*: The Bishop Museum, sp.
1961 *Ruling Chiefs of Hawai`i*. Honolulu: Kamehameha Schools Press.
- Kennedy, Joseph
1983 *A Walk-Through Surface Survey of the Proposed Waianae Corporation Yard (TMK:8-7-06:32) at Lualualei, Island of Oahu*. Archaeological Consultants of Hawaii, Inc. Honolulu.
- Kepler, Angela
1983 *Hawaiian Heritage Plants*. Taipei: China Color Printing Co., Inc.
- Krauss, Beatrice
1993 *Plants in Hawaiian Culture*. Honolulu: University of Hawai`i.

- Linney, George K. and Winona P. Char
1988 *Botanical Survey, Maili Kai Property, Maili, Waianae District, O`ahu,*
Char & Associates, Honolulu, HI.
- Malo, David
1951 *Hawaiian Antiquities.* Honolulu: Bishop Museum Press.
- Mayberry, J.D. and P.H. Rosendahl
1988 *Archaeological Reconnaissance Survey for Environmental Impact
Statement (EIS) Maile Kai Property, Land of Lualualei, Waianae
District, Island of O`ahu (TMK: 8-7-10:2, 14).* Paul H. Rosendahl,
Ph.D. Inc., Hilo.
- Mc Allister, J. Gilbert
1933 *Archaeology of Oahu.* Bulletin 104. Bishop Museum: Honolulu.
- Mc Bride, L. R.
1975 *Practical Folk Medicine of Hawai`i.* Hilo, Hawai`i: Petroglyph Press.
- Mc Dermott, Matt and Hallett H. Hammatt
2000 *Archaeological Inventory Survey of the 57.65 Acre `Ulehawa Beach
Park Parcel, Ahupua`a of Lualualei, Wai`anae District, Island of
O`ahu (TMK: 8-7-05:01, 03 and 05; 8-7-06:03; 8-7-07:01, 8-7-08:26; 8-
7-08:26),* Cultural Surveys Hawaii, Kailua, HI.
- Mc Grath, Edward J., Kenneth M. Brewer & Bob Krauss
1973 *Historic Wai`anae, A Place of Kings.* Norfolk Island, Australia: Island
Heritage Limited.
- Mc Guire, Ka`ohulani and Hallett H. Hammatt
2000 *A Traditional Practices Assessment for the Proposed Nānākuli IV
Elementary School Site, Nānākuli, Wai`anae District, Island of O`ahu
(TMK: 8-9-02: 65, 23, por 1).* Cultural Surveys Hawai`i, Kailua, HI.
- Neal, Marie C.
1965 *In Gardens of Hawaii.* Honolulu: Bishop Museum Press.
- Office of the Commissioner of Public Lands of the Territory of Hawai`i
1929 *Indices of Awards Made By The Board of Commissioners to Quiet
Land Titles in the Hawaiian Islands.*
- Pukui, Mary Kawena, Samuel H. Elbert and Esther T. Mookini
1974 *Place Names of Hawai`i.* Honolulu: University of Hawai`i Press.
- Pukui, Mary Kawena, E.W. Haertig and Catherine A. Lee
1986 *Nānā I.Ke Kumu (Look to the Source).* Volume I, Hui Hānai: Honolulu.

- Robins, Jennifer
1998 *Final Archaeological Report, Phase I Reconnaissance Survey, Naval Radio Transmitter Facility Lualualei (RTF Lualualei), Oahu, Hawaii, Ogden Environmental and Energy Services Co., Inc.*
- Schmitt, Robert C.
1973 *The Missionary Census of Hawaii.* Bishop Museum: Honolulu.
- Sterling, Elspeth P. and Catherine C. Summers
1978 *Sites of Oahu.* Honolulu: Bishop Museum Press.
- Waihona `Āina Corporation
2000 *The Māhele Database, <waihona.com>.*

APPENDIX B

COMMENT LETTERS AND RESPONSES

CITY AND COUNTY OF HONOLULU
3175 KOAVALA STREET, SUITE 1425 • HONOLULU, HAWAII 96819-1945
TELEPHONE: (808) 831-7771 • FAX: (808) 831-7770 • INTERNET: WWW.HONOLULU.HI.US

JEREMY HARRIS
MAYOR



ATTILIO K. LEONARDI
FIRE CHIEF
JOHN CLARK
DEPUTY FIRE CHIEF

March 11, 2002

Received
3.14.02

Mr. Gerald Park
Gerald Park Urban Planner
1400 Rycroft Street, Suite 876
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Puu O Hulu Community Park Master Plan
Tax Map Keys: 8-7-010: 021
Mauii, Waianae District, Oahu

We received your letter dated February 26, 2002, regarding the Draft Environmental Assessment for the Puu O Hulu Community Park Master Plan. The proposed project will not have an adverse impact on services provided by the Honolulu Fire Department.

Should you have any questions, please call Battalion Chief Kenneth Silva of our Fire Prevention Bureau at 831-7778.

Sincerely,

ATTILIO K. LEONARDI
Fire Chief

AKL/KB:hh

CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII 96813 - AREA CODE (808) 829-3111
<http://www.honolulu.gov>

JEREMY HARRIS
MAYOR



LEE D. DONOHUE
CHIEF
MICHAEL CARVALDO
ROBERT AU
DEPUTY CHIEF

March 14, 2002

OUR REFERENCE
CS-KP

Mr. Gerald Park
Gerald Park Urban Planner
1400 Rycroft Street, Suite 876
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Thank you for the opportunity to review and comment on the Environmental Assessment for the Puu O Hulu Community Park Master Plan.

As the proposed project is located in District 8, Kapolei, officers assigned to the Waianae Substation will be patrolling and responding to calls for service to the area. At this time, we believe that it will not have a significant impact on the services or facilities of this department.

If there are any questions, please call Ms. Carol Sodevani of the Support Services Bureau at 529-3658.

Sincerely,

LEE D. DONOHUE
Chief of Police

By **KARL GODSEY**
Acting Assistant Chief of Police
Support Services Bureau

Received
3.17.02



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
HAWAIIANA BUILDING, ROOM 205
601 KALANIANA'OLELE AVENUE
HONOLULU, HAWAII 96813

DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

ASSISTANT DIRECTOR
HEALTH AND CONSERVATION
COMMISSION ON WATER RESOURCES
MANAGEMENT
CONSERVATION AND RESOURCES
DIVISION
CONSERVATION AND RESOURCES
COMMISSION ON WATER RESOURCES
MANAGEMENT
HEALTH AND CONSERVATION
COMMISSION ON WATER RESOURCES
MANAGEMENT

received
3-19-02

HAWAII HISTORIC PRESERVATION
DIVISION REVIEW

Log #: 29440
Doc #: 0203EJ15

Applicant/Agency:

Gerald Park
Gerald Park Urban Planner
1400 Kuylenstierna Street, Suite 876
Honolulu, Hawaii 96814-3021
Chapter 6E-3 Historic Preservation Review - City & County of
Honolulu, Department of Design and Construction Pu'u o Hala
Community Park Master Plan

Address:

SUBJECT:

Abupus'a: Maili
District, Island: Waialae, O'ahu
TMK: (1) 8-7-010-021

1. We believe there are no historic properties present, because:

- a) intensive cultivation has altered the land
- b) residential development/urbanization has altered the land
- c) previous grubbing/grading has altered the land
- d) an acceptable archaeological assessment or inventory survey found no historic properties
- e) other:

2. This project has already gone through the historic preservation review process, and mitigation has been completed.

Thus, we believe that "no historic properties will be affected" by this undertaking

Staff: Elaine Jourdauc Date: 3-19-02

Title: Elaine Jourdauc, Assistant Archaeologist O'ahu Phone (808) 692-8027

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

215 SOUTH KING STREET
HONOLULU, HAWAII 96813
TELEPHONE: (808) 534-1141
FACSIMILE: (808) 534-1146

April 1, 2002

received
4-1-02

Rae Loui, Director
Department of Design & Construction
650 South King Street
Honolulu, Hawaii 96813

Attention: George Coates

Dear Ms. Loui:

Subject: Draft Environmental Assessment (EA) for Puu O Hala Community Park
Master Plan

We have the following comments to offer:

Contact: Were any contacts made during the pre-consultation phase? If so, document them and include copies of any correspondence in the final EA.

Landscaping and Irrigation: Will reclaimed water be used to irrigate the park? University plants are recommended in addition to the requirements in HRS §§103D-408. These landscaping guidelines can be accessed at <http://www.state.hi.us/health/oeq/guidance/index.html>.

Paving materials: Please follow the guidelines entitled "Use of Recycled Glass in Paving Materials" set forth in HRS §§103D-407, which you can find at the same website address.

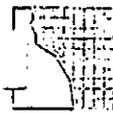
Hours of operation: Since installation of lights is planned because the park may be open at night, consult the US Fish & Wildlife Service for guidelines on light orientation and shielding that will prevent bird strikes during night hours.

If you have any questions, call Nancy Heinrich at 585-4185

Sincerely,

Genevieve Salmonson
GENEVIEVE SALMONSON
Director

c: Gerald Park



GERALD PARK
Urban Planner

Planning
Land Use
Research
Environmental
Studies

1400 Konoct Street
Suite 876
Honolulu, Hawaii
96814-3021

Telephone:
(808) 942-7484
Facsimile:
(808) 942-7485
e-mail:
gerald@gerald.com

April 24, 2002

Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813
Honolulu, Hawaii 96822

Dear Ms. Salmonson:

Subject: Puu O Huhu Community Park Master Plan
TMK: 8-7-10; 021
Maui, Waianae District, Oahu

Thank you for reviewing and offering comments on the Draft Environmental Assessment for the subject project. We offer the following responses to your comments in the order presented.

1) Contacts

Contact was initiated to gather information about the park site and its environs during the pre-consultation phase. There is no correspondence resulting from these contacts to include in the assessment.

2) Landscaping and Irrigation

Reclaimed water will not be used to irrigate the park. There are no existing water reclamation facilities in the Waianae District at this time.

3) Paving Materials

The paving design for the parking lot and access road does not include asphalt treated base in which recycled glass material could be used. Only a 2" asphalt concrete layer is required on top of the aggregate subbase for this project.

City and County of Honolulu Standard Specifications do not currently include provisions for recycled glass pavement in Section 34-Asphalt Concrete Paving or Section 31-Aggregate Base Course.

4) Hours of Operation

In general, the field and court lights at City parks are automatically turned off at 10:00 PM. Outdoor lights will be oriented to properly light the play fields and courts and equipped with cut off fixtures to prevent direct illumination to adjoining residential areas.

Your comment regarding birds flying into lights was discussed with parks and recreation staff at Waianae District Park and Piliha Community Park. Both parks are located in the Waianae area and both have lights for night use. Staff indicated that they do not know of incidents where birds have flown into the field lights or cases where such strikes have damaged the light fixtures at either park. In the absence of hard data on this subject, local knowledge indicates that bird strikes are not a problem at parks in the area.

Genevieve Salmonson
Page 2
April 24, 2002

Your comments and our responses will be included in the Final Environmental Assessment. We appreciate the participation of the Office of Environmental Quality Control in the environmental assessment process.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: G. Coates, DDC

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

1000 ULUKOHA STREET, SUITE 300, KAPOLEI, HAWAII 96707
PHONE: (808) 902-5551 • FAX: 902-5131 • INTERNET: www.co.honolulu.hi.us



JEFFREY HARRIS
Mayor

WILLIAM D. BALFOUR, JR.
DIRECTOR

EDWARD T. "BOBBY" DAZ
DEPUTY DIRECTOR

March 20, 2002

MEMORANDUM

TO: RAE M. LOUI, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: WILLIAM D. BALFOUR, JR., DIRECTOR

SUBJECT: PU'U O HULU COMMUNITY PARK MASTER PLAN
DRAFT ENVIRONMENTAL ASSESSMENT.

Thank you for the opportunity to review and comment on the Pu'u O Hulu Community Park Master Plan Draft Environment Assessment.

The Department of Parks and Recreation supports the proposed master plan.

Should you have any questions, please contact Mr. John Reid, Planner, at 692-5454.

W.D. Balfour

WILLIAM D. BALFOUR, JR.
Director

WDB:cu (8942/9096)

cc: Mr. Gerald Park, Gerald Park Urban Planner
Mr. Don Griffin, Department of Design and Construction

received
7. 27. 02

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



April 2, 2002

Mr. Gerald Park
Gerald Park Urban Planner
1400 Ryeroft Street
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Your Letter of February 26, 2002 on the Environmental Assessment for the Puu O Hulu Community Park Master Plan, TMK: 8-7-40: 21

Thank you for the opportunity to review the proposed Puu O Hulu Community Park Master Plan.

The existing water system is presently adequate to accommodate the proposed park.

The availability of water will be confirmed when the building permit is submitted for our review and approval. When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

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

If you have any questions, please contact Joseph Kaakua at 527-6123.

Very truly yours,

K. Clifford

for CLIFFORD S. JAMILE
Manager and Chief Engineer

received
4. 02. 02

BY HARRIS
EDDIE FLORES, JR., Chairman
CHARLES A. STED, Vice-Chairman
JAN KELLY, AME
HERBERT S.K. KAPOUA, SR.
BARBARA NIM STANTON
BRYAN K. MINAAL, Esq., Clerk
ROSS E. SASAMURA, Esq., Clerk
CLIFFORD S. JAMILE
Manager and Chief Engineer



University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resource Research Center
Krauss Annex 10 • 2500 Dole Street • Honolulu, Hawaii 96813
Telephone: (808) 956-7561 • Fax: (808) 956-4880

April 8, 2002
EA: 02E2

Mr. George Coates
Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Coates:

Draft Environmental Assessment Pu'u O Huihu Community Park Master Plan Maliu, Waianae, Oahu

The Department of Design and Construction, City and County of Honolulu, proposes to construct site improvements at Pu'u O Huihu Community Park located at Maliu, Waianae District, City and County of Honolulu. Recreation and support facilities proposed for the park are based in part on City facility standards for community parks and from input from members of the Maliu Kai community.

Planned recreation facilities include a regulation softball field, little league baseball field, two soccer fields, skateboard park, a recreation center building, children's play apparatus, two outdoor basketball and a volleyball courts. Ancillary facilities include a walkway around the perimeter of the park for walking and jogging, picnic tables, 78-stall parking lot, and landscaping. Water and electrical hook-ups will be made to existing systems in Kamekama Road or utility stub-outs to the park. Wastewater from the comfort station will be piped to an existing sewer line just beyond the west end of the park. Permanent drainage structures are not proposed.

The construction cost of all improvements proposed in the Master Plan is estimated at \$3.5 million and will be funded by the City and County of Honolulu. The project will be built in 4 phases and improvements constructed as funding is made available through the City and County of Honolulu budgeting and capital improvements project process. Phase 1 construction is scheduled to commence in late 2001 and Phase 2 by April 2002.

Paul Ekern of Agronomy and Soil Science, Thomas Giambelluca of Geography, Raymond Baker of the Lyon Arboretum and Kevin Pollot of the Environmental Center participated in the review of this document.

General Comments

Native flora for landscaping & maintenance

The Environmental Center has a concern regarding the non-utilization of native flora for use as shade trees. Native species like the Lomones (*Sapindus obtusatus*) and the Wiliwili would be potential candidates for shade provision. The Polynesian Kou nes (*Cordia subcordata*) Waiamee's dry weather conditions. Furthermore, these trees are well adapted for Waiamee's dry weather conditions.

The Monkeypod tree proposed for the project would require intensive irrigation and would add to the water demands for the project. The shower trees, while providing beautiful flowers would entail constant maintenance as the flowers eventually fall.

Irrigation

Waianae's climate also raises concerns in regards to the irrigation system for the park. The document did not address the type of irrigation system that will be utilized. A sprinkler system would not be the most optimal system in this area as it allows a large loss of water through wind and evaporation. Careful consideration of irrigation systems must be performed.

The typical evapotranspiration rate of the Waianae area is between 6 and 8 mm/day. Using the rate of 7 mm/day, this roughly translates to the requirement of 7,500 gallons of water per acre per day for irrigation. Multiplying this volume of water to the total 11-acre area of the park would result in the demand of 82,500 gallons of water to irrigate each day. While there would be places in the park that will not require irrigation, this estimate just shows the potential water demand and the need for careful considerations before construction of the park begins.

Wastewater recycling

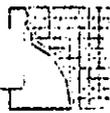
There is a wastewater treatment plant in the Waianae district. Are plans under consideration for establishment of a secondary wastewater recovery and reuse facility in Waianae?

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

Sincerely,

Joseph T. Harrison, Ph.D.
Environmental Coordinator

Cc: OEQC
Gerald Park Urban Planner
James Moncur
Kevin Pollot



April 24, 2002

GERALD PARK
Urban Planner

John T. Harrison, Ph.D.
Environmental Coordinator
University of Hawaii at Manoa Environmental Center
Krauss Annex 19
2500 Dole Street
Honolulu, Hawaii 96822

Planning
Land Use
Research
Environmental
Studies

Dear Dr. Harrison:

1401 Byroni Street
Suite 876
Honolulu, Hawaii
96814-3021

Subject: Puu O Hula Community Park Master Plan
TMK: 8-7-10: 021
Maui, Waianae District, Oahu

Telephone:
808 942-7484
Facsimile:
808 942-7485
e-mail:
geraldpark@aol.com

Thank you for reviewing and offering comments on the Draft Environmental Assessment for the subject project. We offer the following responses to your comments in the order presented.

1) Native Flora

The Department of Parks and Recreation has determined that monkey pod and shower trees are the desired tree types for landscaping Puu O Hula Park. Other types of trees, including the three native trees suggested in your letter, may be considered and included in landscape plans to be prepared for Phases 3 and 4.

2) Irrigation

Most of the park site, particularly the field areas, will be irrigated. An underground sprinkler system will be constructed. The system has been designed in consideration of water loss through wind and evaporation. It is anticipated that irrigating the grass areas will take place in the early evening or late night hours to minimize water loss through wind and evaporation. Maintenance personnel can also adjust the irrigation times based on the irrigation needs.

3) Wastewater Recycling

This question should be directed to the Department of Design and Construction, Facilities Design Branch.

Your comments and our responses will be included in the Final Environmental Assessment. We appreciate the participation of the Environmental Center in the environmental assessment process.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: G. Coates, DDC



WAI'ANAЕ COAST NEIGHBORHOOD BOARD NO. 24

610 NEIGHBORHOOD COMMISSION • 630 SOUTH KING STREET, ROOM 400 • HONOLULU, HAWAII 96813
PHONE: (808) 537-5719 • FAX: (808) 537-5760 • INTERNET: www.co.honolulu.hi.us

April 8, 2002

City and County of Honolulu
Department of Design and Construction
650 S. King Street
Honolulu, HI 96813



Dear Mr. Coates:

SUBJECT: Puu O Huhu Community Park Master Plan Draft Environmental Assessment

At the regularly scheduled Wai'anae Coast Neighborhood Board No. 24 meeting held on April 2, 2002, the board entertained a motion to support the proposed Puu O Huhu Community Park Master Plan Draft EA with the exception of the landscaping material identified (the community and Board are not in support of high maintenance plantings such as the rainbow shower trees identified and do not support the monkey pod trees identified as landscape materials) and request adding additional contacts for traditional and cultural practices as well as contacts for disturbed burials found during excavation on the site. The contacts identified include: 'Ohana Luahualai Ahupua'a, Wai'anae Archaeological Preservation Council and Wai'anae Coast Culture and Arts. The motion, with these exceptions, was passed 20-0-1 (Ayes-Nays-Abstentions).

After many years of waiting for this park to be designed and constructed, the community and board applaud the efforts of your team to expedite this project to help meet the needs of the Wai'anae community.

If you have any questions please contact me at 696-0131 or at rezentesc@aol.com.

Sincerely,

Cynthia K. L. Rezendes, Chair
Wai'anae Coast Neighborhood Board No. 24

cc: Neighborhood Commission Office
Council Chair John DeSoto
Senator Colleen Hanabusa
Representative Michael Kahikina
Representative Emily Auwae
Gerald Park Urban Planner
OEQC, State of Hawaii

wrcs-420211



April 24, 2002

Cynthia K.L. Rezendes, Chair
Wai'anae Coast Neighborhood Board No. 24
C/o Neighborhood Commission
530 South King Street, Room 400
Honolulu, Hawaii 96813

Dear Ms. Rezendes:

Subject: Puu O Huhu Community Park Master Plan
TMK: E-7-16: 021
Maui, Wainane District, Oahu

Thank you for reviewing and offering comments on the Draft Environmental Assessment for the subject project. We offer the following responses to your comments in the order presented.

1) Landscaping Material

The Department of Parks and Recreation has determined that monkey pod and shower trees are the desired tree types for landscaping Puu O Huhu Park. Other types of trees may be considered and included in landscape plans to be prepared during the design stages of Phases 3 and 4.

2) Traditional Cultural Practices

The Traditional Cultural Practices assessment prepared for the project is completed. Should subsurface archaeological or cultural features including burials be encountered during park construction, in addition to notifying the appropriate authorities for disposition of the finds, the Department of Design and Construction or the site work contractor will also contact 'Ohana Luahualai Ahupua'a, Wai'anae Archaeological Preservation Council, and the Wai'anae Coast Culture and Arts.

Your comments and our responses will be included in the Final Environmental Assessment. We appreciate the participation of the Wai'anae Neighborhood Board in the environmental assessment process.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: G. Coates, DDC

GERALD PARK
Urban Planner

Honolulu
Land Use
Records
Environmental
Studies

1400 Keeaunui Street
Suite 876
Honolulu, Hawaii
96814-3021

Telephone:
(808) 942-7404

Facsimile:
(808) 942-7485

email:
geraldpark@aol.com

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

850 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4114 • FAX: (808) 527-9743 • INTERNET: www.cc.honolulu.gov



RANDALL K. FURUKI, MA
DIRECTOR
LORETTA K.C. CHIE
DEPUTY DIRECTOR

MH-2002/ELOG-621

April 15, 2002

Mr. Gerald Park
Gerald Park Urban Planner
1400 Rycroft Street, Suite 876
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Draft Environmental Assessment
Puu O Huhu Community Park Master Plan
IMK: 8-7-010: 021, Ma'ili, Waianae District, Oahu, Hawaii

In response to your request for comments of February 26, 2002, we have reviewed the subject DEA, and have the following comments to offer:

1. Development of the proposed Pu'u O Huhu Community Park (formerly known as Ma'ili Kai Community Park) is consistent with Section 3.1.1.1 "Overview of Existing Parks and Recreational Areas" of the Waianae Sustainable Communities Plan (SCP) since the Waianae District has a shortfall of one Community Park and seven or eight neighborhood parks. As stated in the Waianae SCP, "The City's planned development of Ma'ili Kai Community Park will fulfill the need for a fourth community park in the District."
2. The project site is zoned P-2 General Preservation District. The park is considered a public use, which is permitted within the P-2 zoning district.
3. The project is subject to the P-2 zoning district development standards. Based on the conceptual master plan, it appears that several of the light poles are located within the required yards.
4. The required off-street parking should be provided, in accordance with LUO standards, for each phase of development. The parking on Kaulaama Road cannot be used to fulfill off-street parking requirements.



Mr. Gerald Park
Gerald Park Urban Planner
April 15, 2002
Page 2

5. A zoning waiver from LUO development or design standards may be requested provided the waiver does not adversely affect the health or safety of persons, and shall not be materially detrimental to the public welfare or injurious to nearby property improvements.

6. The exterior lighting, located throughout the park, should be shielded to prevent glare and light spillage on surrounding land uses.

Should you have any questions, please contact Matthew Higashida at 527-6056.

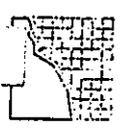
Sincerely yours,

RANDALL K. FUJIKI, AIA
Director of Planning and Permitting

RKF:js

cc: George Coates, Department of Design and Construction

#PlanningDirFunction/Ea-sci/2002/Pu-OHuhu DEA



GERALD PARK
Urban Planner

1400 Keeaou Street
Suite 876
Honolulu, Hawaii
96814-3221

Telephone:
808 942-7484
Facsimile:
808 942-7485
e-mail:
geraldpark@aol.com

April 24, 2002

Randall K. Fujiki, AIA, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Puu O Hulu Community Park Master Plan
TMK: 8-7-10-021
Maui, Waianae District, Oahu

Thank you for reviewing and offering comments on the Draft Environmental Assessment for the subject project. We offer the following responses to your comments in the order presented.

- 1) This comment will be included in the Final Environmental Assessment.
- 2) Response not required.
- 3) If several light poles are located within required yards, their location can be adjusted to be placed outside the required yards during the design stage. Alternatively, as pointed out in your Comment 5, zoning waivers may be sought to place the light poles in the required yards.
- 4) Off-street parking will be provided in accordance with the LUO standards for each development phase. Alternatively, as pointed out in your Comment 5, zoning waivers may be sought from the LUO parking standards.
- 5) Response not required.
- 6) Outdoor lights will be oriented to properly light the play fields and courts and equipped with cut off fixtures to prevent direct illumination to adjoining residential areas.

Your comments and our responses will be included in the Final Environmental Assessment. We appreciate the participation of the Department of Planning and Permitting in the environmental assessment process.

Sincerely,
GERALD PARK URBAN PLANNER
Gerald Park
Gerald Park

c: G. Coates, DDC

FAKED TO G. PARK
4-19-02
942-7485



April 17, 2002

Mr. George Coates
Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Coates:

Subject: Puu O Hulu Community Master Plan

Thank you for the opportunity to comment on the February 2002 Draft EA for the Puu O Hulu Community Master Plan, as proposed by the Department of Design and Construction, City and County of Honolulu. We have reviewed the subject document and have no comments at this time.

HECO shall reserve further comments pertaining to the protection of existing powerlines bordering the project area until construction plans are finalized. Again, thank you for the opportunity to comment on this draft EIS.

Sincerely,
Kirk Tomita
Kirk Tomita
Senior Environmental Scientist

cc: OECC

