

Lanikai Communications
Repeater Site

STATE OF HAWAII
Department of Land and Natural Resources
Land Division
Planning Branch
Honolulu, Hawaii

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August 20, 1998

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OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

REF:PB:LT

File No.: OA-2896

Mr. Gary Gill, Director
Office of Environmental Quality Control
236 S. Beretania St., Suite 702
Honolulu, Hawaii 96813

Dear Mr. Gill:

SUBJECT: Final Environmental Assessment and Finding of No Significant Impact (FONSI) for PrimeCo Personal Communications, L.P.; TMK: 4-3-05: 68, 70, and 77, Lanikai Communications Repeater Site, Koolaupoko, Oahu

The Department of Land and Natural Resources has reviewed the comments received during the thirty-day public comment period which began on June 23, 1998 and hereby issues a Finding of No Significant Impact (FONSI). Please publish this notice in the September 8, 1998 OEQC Bulletin.

Enclosed is a completed OEQC Bulletin Publication Form and four copies of the final environmental assessment. If you have questions, please call Lauren Tanaka at 587-0385.

Aloha,



Dean Uchida, Administrator

Enclosures

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1998-09-08-0A-~~FEA~~-Lanikai
Communications Repeater Site

SEP 8 1998

FILE COPY

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Final Environmental Assessment

OFF. OF LAND & NATURAL RESOURCES
QUALITY CONTROL

For

Project: PrimeCo Personal Communications, L.P.
Lanikai PCS Repeater Site
Lanikai, Kailua, Oahu, Hawaii
TMK: (1) 4-3-05: 68,70,77

Applicant: PrimeCo Personal Communications, L.P.
1132 Bishop Street, Suite 1105
Honolulu, Hawaii 96813

Agent: BLUEBERRY/Architecture
1765 Ala Moana Boulevard # 986
Honolulu, Hawaii 96815

Approving Agency: Department of Land and Natural Resources
State of Hawaii
1151 Punchbowl Street
Honolulu, Hawaii 96813

August, 1998

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PART 1 - PROJECT SUMMARY

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1. A. PROJECT DATA

Project Name: PrimeCo Personal Communications, L.P.
Lanikai PCS Repeater Site

Applicant: PrimeCo Personal Communications, L.P.
1132 Bishop Street, Suite 1105
Honolulu, HI 96813

Agent: BLUEBERRY/Architecture
1765 Ala Moana Boulevard #986
Honolulu, HI 96815

Approving Agency: Department of Land and Natural Resources
State of Hawaii
1151 Punchbowl Street, Rm. 220
Honolulu, HI 96813

Use Requested: Public Utility Communications Use (Telecommunications antenna
and equipment cabinet)

Project Location: 1160 Kooahoo Place, Lanikai, Kailua, Oahu, Hawaii

TMK: (1) 4-3-05: 68, 70 and 77

Zoning District: P-1
Preservation Use, Koolaupoko Development Plan Land Use Map

State Land Use: Conservation District, General Use Subzone

Special Management
Area: The project will be located within a designated Special
Management Area (SMA)

Zoning Lot Area: Parcel 4-3-05: 68 - 32,091 sq. ft.
Parcel 4-3-05: 70 - 5,141 sq. ft.
Parcel 4-3-05: 77 - 97,656 sq. ft.

Site Area: 20 sq. ft. for equipment cabinet
50 sq. ft. for donor antenna area
1 sq. ft. for coverage antenna area

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Land Fee Owner: Parcels 4-3-05: 68 and 70: Andrew Winer and Michele Varin
1160 Koohoo Place
Kailua, HI 96734

Parcel 4-3-05: 77: Randall N. and Madolyn A. Longfield
25 Lickton Lane
Navato, CA 94945

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1. B. AGENCIES AND CITIZEN GROUPS CONSULTED / CONTACTED

Department of Land and Natural Resources
State of Hawaii
1151 Punchbowl Street, Rm. 220
Honolulu, Hawaii 96813

Office of Environmental Quality Control
State of Hawaii
235 South Beretania, Rm. 702
Honolulu HI 96813

Department of Land and Natural Resources
Historic Preservation Office
State of Hawaii
33 South King Street, 6th Flr.
Honolulu, Hawaii 96813

Office of Planning
State of Hawaii
235 South Beretania, 6th floor
Honolulu, HI

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State of Hawaii
Dept of Health
Environmental Planning Office
919 Ala Moana Boulevard, Third Floor
Honolulu, HI 96813

City and County of Honolulu
Dept. of Land Utilization (Now called Dept. of Planning and Permitting)
Environmental Review Branch
650 South King Street, 8th floor
Honolulu, HI 96813

City and County of Honolulu
Dept of General Planning (Now called Dept. of Planning)
City and County of Honolulu
650 South King Street, 9th floor
Honolulu, HI 96813

Kailua Neighborhood Board No. 31
c/o Claudine Tomasa, Chair
1259 Mokapu Boulevard
Kailua, HI 96734

Life of the Land
1111 Bishop Street, Suite 511
Honolulu, HI 96813

Outdoor Circle
1110 University Avenue, Suite 406
Honolulu, HI 96826

Lanikai Community Association
c/o Mr. Bob Engelhardt, Ass. Mgr.
P.O. Box 481
Kailua, HI 96734

The Nature Conservancy
1116 Smith Street, Suite 201
Honolulu, HI 96817

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PART 2 - GENERAL DESCRIPTION OF THE PROJECT

2. A. TECHNICAL CHARACTERISTICS

DESCRIPTION OF PROPOSED USE.

Personal Communications Services, or PCS, represents the new digital generation of wireless communications which accommodates the transmission of voice, data, and video through small hand-held portable telephones. Operating in the 1.8 to 2.2 Gigahertz frequency range, PCS will serve the general public, as well as businesses and government agencies, by offering mobile services not currently available through other existing telecommunications providers.

The applicant proposes to construct a PCS antenna facility, as a public purpose use. The facility will include two (2) small antennas, to be situated on lower hillside locations, and a small equipment cabinet, to be situated in an unseen location below the hillside.

The proposed facility will not be a full cell site, but will be a small repeater facility that will allow PrimeCo to provide complete radio signal coverage for the Lanikai community. Currently, the Lanikai area is marginally serviced by the PrimeCo antenna at Puu Papaa ridge, north of Kailua. The proposed facility will extend PrimeCo's Puu Papaa coverage completely into Lanikai.

A major benefit of a repeater application is that it offers the residents of Lanikai an alternative telephone service source. Currently the Lanikai community has only marginal utility diversity (enters and exits through one route). If the main lines falter, utility service is cut. As PrimeCo is drawing signal from outside of Lanikai, PrimeCo's service will run independently from Lanikai's telephone system.

The proposed facility will not alter the character of the surrounding area in a manner that would substantially limit, impair, or preclude the use of the surrounding properties for the principal uses permitted in the underlying zoning district.

The proposed Lanikai antenna is intended to improve the applicant's Windward Oahu network in the Kaneohe-Kailua area. This general area includes existing PrimeCo antennas at Puu Papaa, Haiku Hale, Waimanalo Ridge, and the Castle Junction area.

The proposed project will allow the applicant to provide essential PCS service to the Lanikai community.

DESCRIPTION OF PROPOSED FACILITY.

The proposed Lanikai antenna facility will be situated on parcels under private ownership. The facility will include two (2) antennas, one called a coverage antenna, and one called a

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donor antenna. It will also include a small equipment cabinet, and a coaxial cable run to the antennas.

Coverage Antenna:

A panel type antenna, approximately 2'-0" high X 6" wide. The single coverage antenna will provide the radio signal coverage of the Lanikai area. The coverage antenna will be mounted to the vertical face of a rock outcropping on the lower hillside, directly mauka (west) of the central part of Lanikai. This location for the coverage antenna was carefully chosen, so that the antenna can cover all portions of Lanikai, while presenting the least visible impact. The coverage antenna will blend in with the face of the rock outcropping. It will not extend above the top of the rock, and will not be seen in silhouette against the sky. The coverage antenna will be situated on a privately owned parcel, TMK 4-3-5:77.

Donor Antenna:

A small line-of-site dish type antenna, approximately 2 feet in diameter, painted to match the surroundings. The donor antenna will be installed about 30 to 40 feet below the coverage antenna, on parcel TMK 4-3-5: 70. The donor antenna will send and receive signals from PrimeCo's primary cell site facility at Puu Papaa. The donor antenna will be mounted on a pipe mount approximately 8'-0" in height. The donor antenna will be situated in the heavy brush and bushes below the coverage antenna, and will not be seen from vantage points along the Aalapapaa-Mokulua Drive loop. If deemed necessary, a small 6 foot high chain link fence will be placed around the antenna.

Equipment Cabinet: A small weatherproof equipment cabinet, approximately 15 inches wide X 12 inches deep X 18 inches high, will be installed below the hillside, on TMK parcel 4-3-05:68. The equipment cabinet will be situated behind a private residence on this parcel, at the end of Koohoo Place. The cabinet will not be visible to the public. Electrical power to the cabinet will be provided from a nearby utility pole. No telephone service is required as the installation will be a small repeater application.

Coaxial cable run:

Coaxial cables inside two PVC conduit approximately 4 inches in diameter, will run from the equipment cabinet to the two antennas. The cable conduit run will roughly follow an existing footpath, and will require little or no clearing, grading or disturbance of the hillside. Once installed, the cable conduit run will not be visible to the public from any vantage point in the Lanikai community.

DESCRIPTION OF SITE AREA.

The proposed PrimeCo antenna will be situated on a lower hillside ridge directly mauka of the Lanikai community. The lower and upper portions of this particular ridge somewhat divides the community into two areas. The lower hillside antenna location is characterized by an outcropping of the basalt rock. Dense and tall shrub growth cover the lower slopes below the exposed basalt rock. Lower shrub growth cover the upper slopes above the

exposed rock line. The proposed coverage antenna will be situated on the rock outcropping.

The predominant zoning of the Lanikai community is R-10 residential. Most of the hillsides are zoned P-1 and P-2. The project parcels, TMK 4-3-05: 68, 70, and 77, are private residential lots that are zoned P-1, and lie within the Conservation District, General Use Subzone. A private dwelling occupies parcel 68. Immediately mauka of parcel 68 is another privately owned lot, parcel 69. Parcel 69 is currently vacant, but has existing cut rock walls, and foundation slabs of previous construction.

The Lanikai community currently has above ground utility service (utility poles); however the area is planned to receive underground service in the future.

The proposed project will fall within a designated Special Management Area (SMA).

PROJECT'S PUBLIC BENEFIT.

Personal Communications Services (PCS) will benefit the general public by offering digital transmission of voice, data and video through small hand-held portable telephones. PCS services can complement other telecommunications systems, and thereby improve residential, social, governmental, and emergency communications. The proposed project will serve the Lanikai community and the general public by providing essential PCS coverage in an area that is currently marginally serviced.

PROJECT SCHEDULE.

Assuming that all zoning and permitting approvals are secured, the applicant is currently planning for an August, 1998 project start date, with the completion to follow in about two weeks.

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2. B. ECONOMIC CHARACTERISTICS

ECONOMIC CHARACTERISTICS.

The proposed project will not have a significant impact on the immediate community or on the statewide economy. Construction of this project will foster jobs in the construction, telecommunications industry and related trades.

The proposed project will become part of a regional Personal Communication Services network. Increased competition among wireless carriers has resulted in reduced rates and increased types of services and features. The regional PCS network will foster economic growth by providing digital voice, data and paging services to the business community, vendors, consumers and the public at large.

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2. C. SOCIAL CHARACTERISTICS

SOCIAL CHARACTERISTICS.

The proposed project will have a positive impact on the community.

The proposed project will become part of a regional Personal Communication Services network which can contribute positively to the social fabric of the community, by fostering immediate communications between persons and organizations. Mobile telephones are carried for personal safety and for emergency situations. The proportion of the population using mobile telephones in Hawaii is one of the highest in the nation and illustrates the social need and desire for such services.

The applicant's PCS service will offer the residences of Lanikai an alternative telephone service. The applicant's service will operate independently from the telephone lines that currently serve Lanikai, and will therefore serve as a positive addition.

2. D. ENVIRONMENTAL CHARACTERISTICS

ENVIRONMENTAL CHARACTERISTICS.

The proposed project will not have an adverse impact on the surrounding area. The area's flora and fauna is limited to heavy brush, cactus, scrub brush, and hale koa. There are no known endangered plants or animals in the area.

- **SHORT TERM CONSTRUCTION OPERATIONS.** The actual construction operations on the project site will be of relatively small scale and of short duration. The project's small equipment cabinet will be installed on a raised platform in an existing residential back yard that is graded and landscaped. The project's coverage antenna will be installed in the lower hillside location on a rock outcropping. The donor antenna will be installed within the existing shrub growth below the rock outcropping. The coaxial cable conduit run to the antenna will be run on-grade (not buried, or elevated). Except in the area directly around the donor antenna, little or no clearing of existing shrub growth or grading will be required.

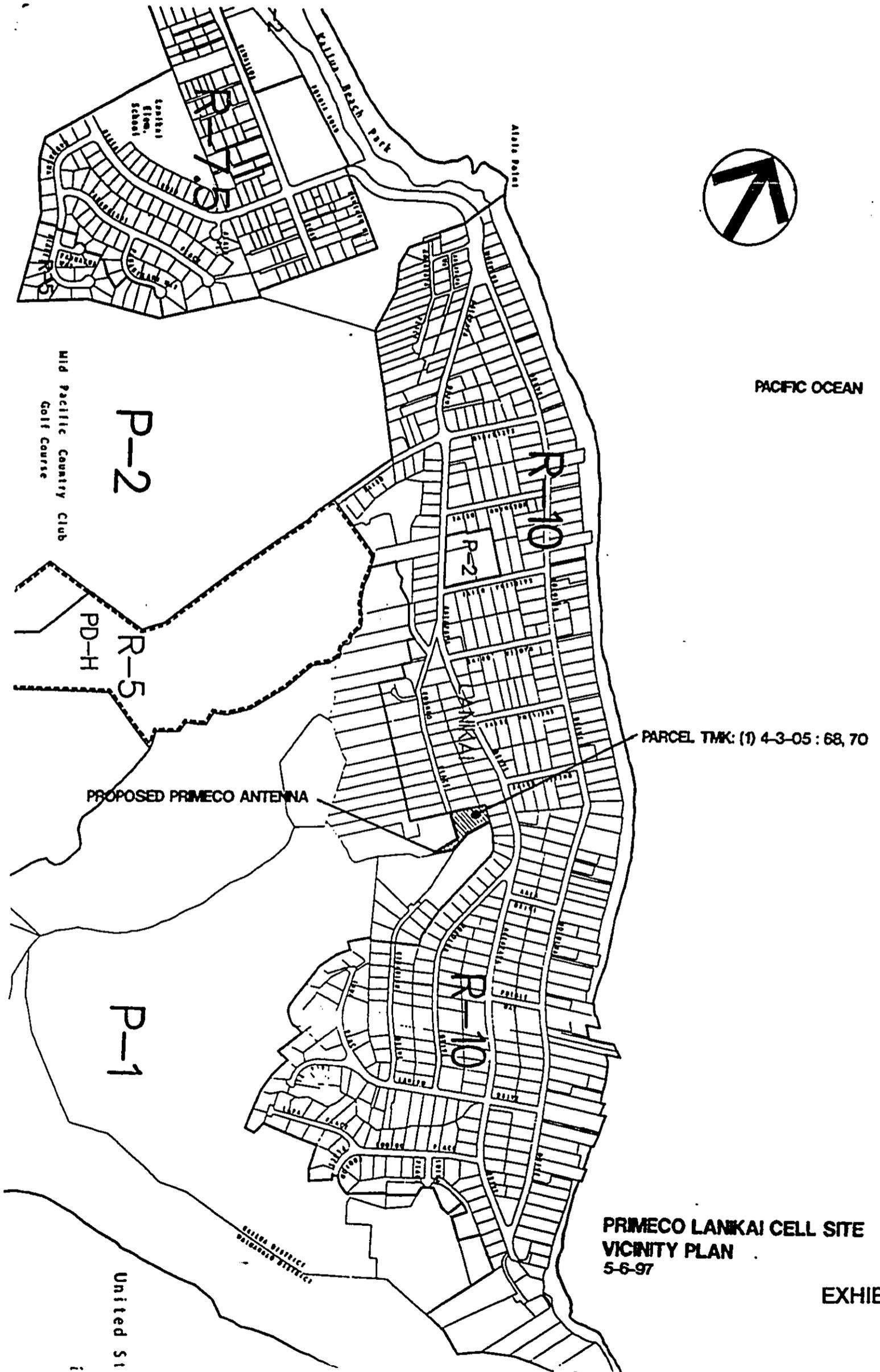
EFFECT ON THE VISUAL ENVIRONMENT - VISIBILITY OF THE ANTENNA.

The project's small coverage antenna will barely be visible from the Lanikai community. As the attached photographs reflect, the antenna will blend in well with the surroundings, making the proposed installation virtually unseen.

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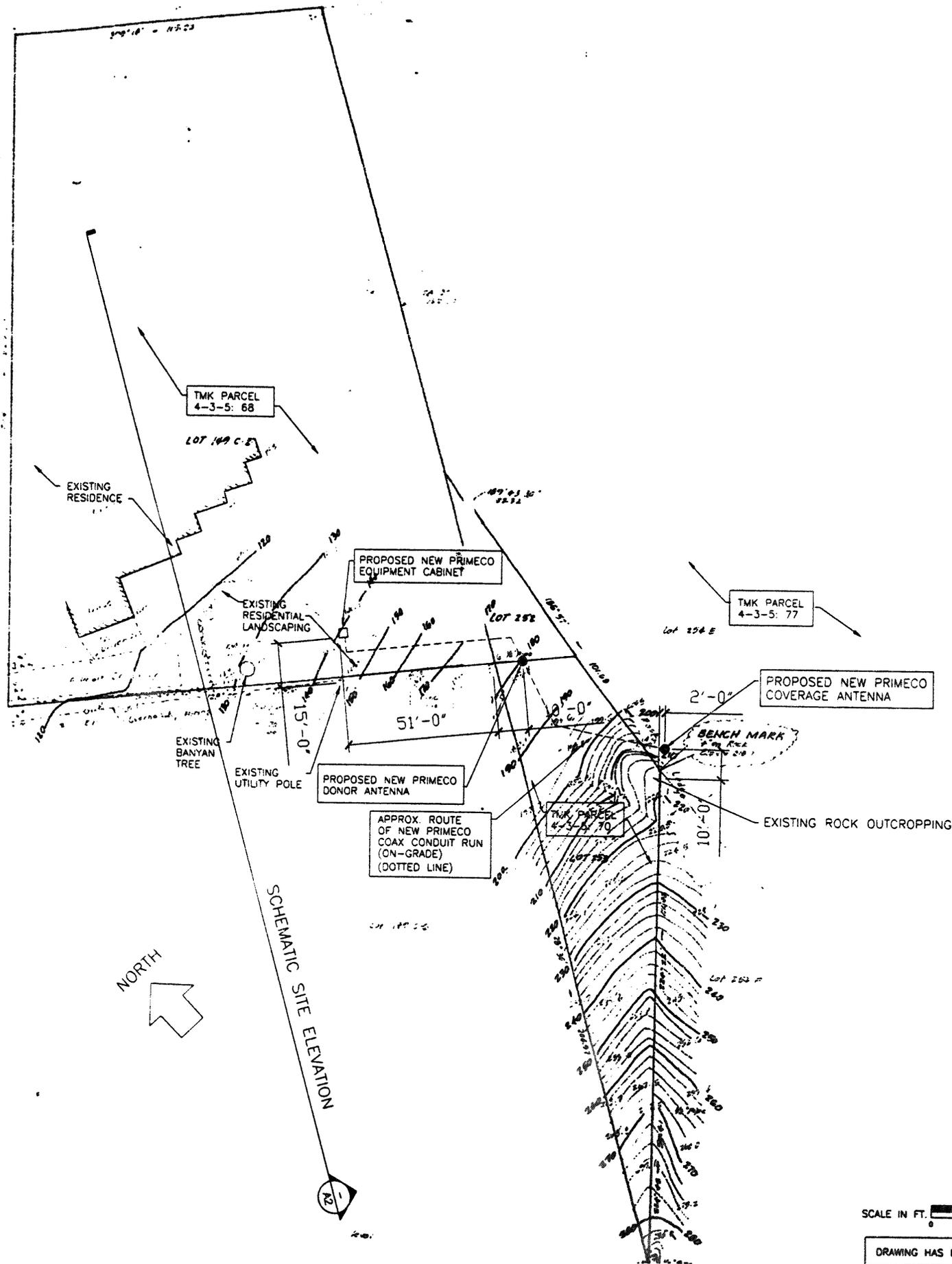
PART 3 - PROJECT DRAWINGS

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**PRIMECO LANKAI CELL SITE
VICINITY PLAN
5-6-97**

EXHIBIT A



PRIMECO
Personal Communications, L.P.

LANIKAI PCS SITE

LANIKAI, OAHU, HAWAII

SITE PLAN

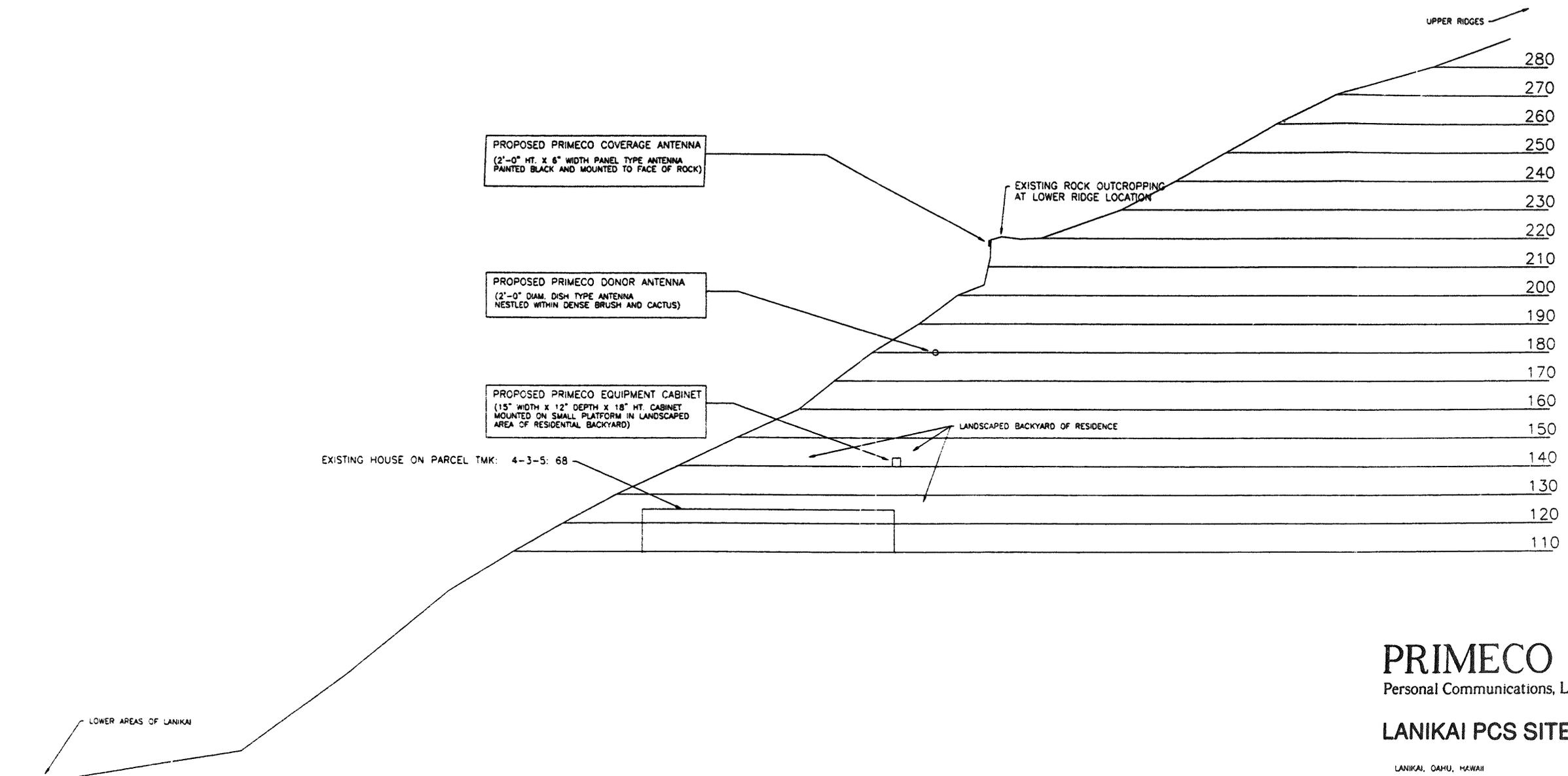
SCALE: 1" = 20'

DATE: 3-28-98



DRAWING HAS BEEN REDUCED TO 1/2 OF ORIGINAL SIZE

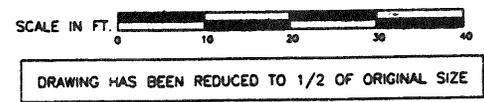
A1
EXHIBIT B



PRIMECO
 Personal Communications, L.P.
LANIKAI PCS SITE
 LANIKAI, OAHU, HAWAII

SCHEMATIC SITE ELEVATION

SCALE: 1" = 40'
 DATE 3-28-98



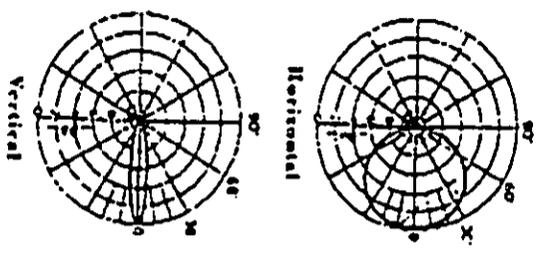
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EXHIBIT C

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PANEL ANTENNAS
DB974H90 -KL [1710-1880 MHz]
 -M [1850-1990 MHz]
 90°, 11.0 dBd Directional Antenna

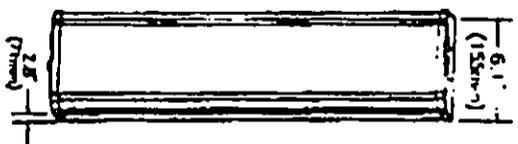
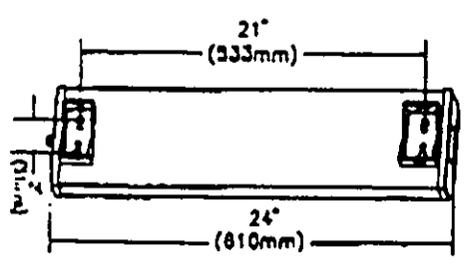
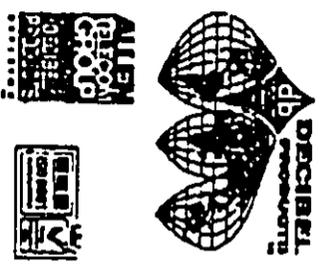
Radiation Patterns
 (Relative Field Strengths)



Hardware Specifications

Termination	N-Female or 7/16 Female
Frequency Range	KL 1710-1880 MHz M 1850-1990 MHz
Gain	11.0 dBd, 13.1 dBi
Null Fill	First lower null is less than 18 dB down from maximum First upper side lobe suppressed
VSWR	< 1.5:1
Beamwidth (3 dB from max)	Horizontal 90° ± 7.0° Vertical 14° ± 1.0°
Front to Back Ratio	> 25 dB
Polarization	Vertical
Max. Input Power	250 Watt
Application	PCN, PCS, DCS 1800
Other Information	Downlink brackets available: DB54095
Weight	3.5 lbs (1.6 kg)
Wind Area	1.2 ft ² (.12 M ²)
Wind Load	50 lb (222 N) 22.6 kp (at 200 km/h)
Max. Wind Speed	165 mph (260 km/h)
Material	Backplate: Passivated Aluminum Radiators: Brass Radome: PVC, UV Resistant Mounting Hardware: Stainless Steel
Color	Normal: Gray
Mounting	Band clamps provided to mount to a vertical pipe
Weather Protection	Fully protected by metal and radome
Lighting Protection	All metal parts grounded
Packing Size	29" x 7" x 6"
Shipping Weight	5.5 lbs (2.5 kg)

DECIDEL PRODUCTS
 P.O. Box 569610
 Dallas, Texas 75356-9610
 Order Hotline: 1.800.676.5332
 Order Fax: 1.800.229.4706
 PII 214.631.0310
 FAX: 214.631.4706
 A Division of
 Allen Telecom Group, Inc.



11.0 dBd (13.1 dBi)
 90° Directional Antenna with
 -KL: 1710-1880 MHz and
 -M: 1850-1990 MHz

ANTENNA WEIGHT (including mount)

The following summarizes the antenna weight with and without ice. The weight includes the reflector feed, mount and suggested side braces. Ice is assumed to be 1/2" radial at 56 lbs./cubic foot

STANDARD SOLID ANTENNAS

Antenna Diameter	Weight without ice		Weight with ice	
	lbs	N	lbs	N
2 Foot (0.6m)	30	134	45	200
4 Foot (1.2m)	109	485	158	703
6 Foot (1.8m)	170	757	254	1130
8 Foot (2.4m)	240	1068	411	1829
10 Foot (3.0m)	467	2078	701	3119
12 Foot (3.6m)	638	2839	988	4397
15 Foot (4.5m)	750	3336	1151	5120

STANDARD SOLID ANTENNAS WITH RADOMES

Antenna Diameter	Weight without ice		Weight with ice	
	lbs	N	lbs	N
2 Foot (0.6m)	37	165	64	285
4 Foot (1.2m)	127	565	176	783
6 Foot (1.8m)	202	899	301	1339
8 Foot (2.4m)	293	1304	445	1980
10 Foot (3.0m)	575	2559	809	3600
12 Foot (3.6m)	875	3894	1146	5100

GRID ANTENNAS 350-1000 MHz

Antenna Diameter	Weight without ice		Weight with ice	
	lbs	N	lbs	N
3 Foot (0.9m)	45	200	78	347
4 Foot (1.2m)	83	369	122	543
6 Foot (1.8m)	112	498	154	685
8 Foot (2.4m)	192	854	370	1647
10 Foot (3.0m)	240	1068	517	2301
12 Foot (3.6m)	450	2003	767	3413
15 Foot (4.5m)	650	2893	1186	5278

GRID ANTENNAS 1000-2700 MHz

Antenna Diameter	Weight without ice		Weight with ice	
	lbs	N	lbs	N
3 Foot (0.9m)	49	383	114	507
4 Foot (1.2m)	86	383	163	725
6 Foot (1.8m)	126	570	277	1233
6 Foot-Cat A (1.8m)	171	761	546	2430
8 Foot (2.4m)	216	961	570	2537
10 Foot (3.0m)	286	1273	646	2875
12 Foot (3.6m)	465	2069	1099	4891
15 Foot (4.5m)	750	3338	1966	8749

HIGH PERFORMANCE & MAXIMUM HIGH PERFORMANCE ANTENNAS

Antenna Diameter	Weight without ice		Weight with ice	
	lbs	N	lbs	N
1 Foot (0.3m)	12	53	14	62
1.5 Foot (0.45m)	16	71	23	102
2 Foot (0.6m)	40	173	84	374
2.5 Foot (0.75m)	56	249	95	423
4 Foot (1.2m)	165	734	275	1224
6 Foot (1.8m)	336	1495	566	2519
8 Foot (2.4m)	481	2185	809	3645
10 Foot (3.0m)	860	3827	1520	676
12 Foot (3.6m)	1150	5118	2030	9034
15 Foot (4.5m)	1438	6397	2538	11290

SHORT HAUL & SUPER SHORT HAUL ANTENNAS

Antenna Diameter	Weight without ice		Weight with ice	
	lbs	N	lbs	N
SH 6 Foot (1.8m)	42	187	77	343
SSH 6 Foot (1.8m)	53	245	130	579

TRUNCATED ANTENNAS

Antenna Diameter	Weight without ice		Weight with ice	
	lbs	N	lbs	N
4 x 8 Foot (1.2m x 2.4m)	134	596	470	2092
4 x 8 Foot w/Radome (1.2m x 2.4m)	221	983	446	1985

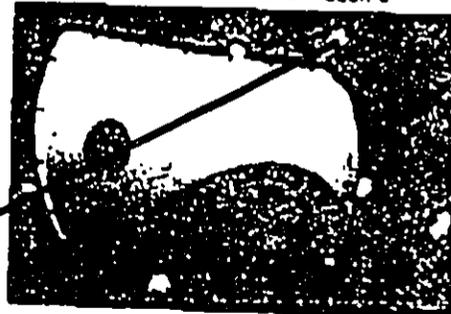
Diameter Ft.	(M)	Model Number	Part	Gain(dBi)			B/W Deg.	F/B Ratio (dB)	VSWR	Cross Pol. (dB)
				Low	Mid	High				
1.85-1.99 GHz										
Feed Input Flange: N Female or 7/8" EIA										
Standard Solid Antennas - Plane Polarized										
2	(0.6)	P-18A24	-	19.2	19.6	19.9				
4	(1.2)	P-18A48	B	25.2	25.5	25.8	17.3	30	1.50	24
6	(1.8)	P-18A72	B	28.8	29.1	29.4	9.0	36	1.30	25
8	(2.4)	P-18A96	A	31.3	31.6	31.9	5.6	37	1.20	34
10	(3.0)	P-18A120	A	33.2	33.5	33.8	4.3	41	1.10	30
12	(3.7)	P-18A144	A	34.4	34.7	35.1	3.5	43	1.10	27
							3.1	48	1.10	28
Standard Solid Antennas - Plane Polarized - Low VSWR										
2	(0.6)	P-18A24L	-	19.2	19.6	19.9				
4	(1.2)	P-18A48L	B	25.2	25.5	25.8	17.3	30	1.30	24
6	(1.8)	P-18A72L	B	28.8	29.1	29.4	9.0	36	1.15	25
8	(2.4)	P-18A96L	A	31.3	31.6	31.9	5.6	37	1.10	34
10	(3.0)	P-18A120L	A	33.2	33.5	33.8	4.3	41	1.08	30
12	(3.7)	P-18A144L	A	34.4	34.7	35.1	3.5	43	1.06	27
							3.1	48	1.06	28
High Performance Antennas - Plane Polarized										
4	(1.2)	HP-18A48	-	25.5	25.8	26.1	8.4	42	1.30	25
6	(1.8)	HP-18A72	B	28.8	29.1	29.4	5.6	46	1.20	32
8	(2.4)	HP-18A96	A	31.5	31.8	32.1	4.1	51	1.10	30
10	(3.0)	HP-18A120	A	33.2	33.5	33.8	3.5	58	1.10	30
12	(3.7)	HP-18A144	A	34.8	35.1	35.4	2.9	56	1.10	30
High Performance Antennas - Plane Polarized - Low VSWR										
4	(1.2)	HP-18A48L	-	25.5	25.8	26.1	8.4	42	1.15	25
6	(1.8)	HP-18A72L	B	28.8	29.1	29.4	5.6	46	1.10	32
8	(2.4)	HP-18A96L	A	31.5	31.8	32.1	4.1	51	1.06	30
10	(3.0)	HP-18A120L	A	33.2	33.5	33.8	3.5	58	1.06	30
12	(3.7)	HP-18A144L	A	34.8	35.1	35.4	2.9	56	1.06	30
Maximum High Performance Antennas - Plane Polarized - Low VSWR										
4	(1.2)	MHP-18B48L	B	25.5	25.8	26.1	9.1	52	1.15	30
6	(1.8)	MHP-18B72L	B	28.8	29.2	29.5	6.2	58	1.10	32
8	(2.4)	MHP-18B96L	A	31.7	32.0	32.3	4.8	60	1.06	33
10	(3.0)	MHP-18B120L	A	33.1	33.5	33.8	3.6	62	1.06	32
12	(3.7)	MHP-18B144L	A	34.4	34.7	35.1	3.1	65	1.06	30
Maximum High Performance Antennas - Dual Polarized										
8	(2.4)	MHP-18A96D	A	31.2	31.5	31.8	4.4	58	1.10	27
10	(3.0)	MHP-18A120D	A	33.1	33.4	33.7	3.5	60	1.08	27
12	(3.7)	MHP-18A144D	A	34.3	34.6	35.0	3.2	63	1.08	30

Notes: -When Ordering N Female Termination VSWR May Not Apply.
 -15 Foot Solid, High and Maximum High Performance specifications available upon request.

Truncated 8 Foot Antennas

- Meets FCC Category A Parts 21, 74, 94
- Windload No Greater Than A 6 Foot Solid
- Allows Upgrade Of Systems Without Increasing Tower Windloading Or Compromising Link Quality
- Pattern Performance Of An 8 Foot Solid

Truncated Antenna With Radome



1.85-1.99 GHz										
Feed Input Flange: N Female or 7/8" EIA										
Truncated Antennas - Plane Polarized										
4 x 8	(1.2 x 2.4)	PT-18A96 (7/8" EIA)	A	28.2	28.5	28.8				
4 x 8	(1.2 x 2.4)	PT-18A96N (N Female)	A	28.2	28.5	28.8	4.5	39	1.1	28
							4.5	39	1.2	28
1.99-2.11 GHz										
Truncated Antennas - Plane Polarized										
4 x 8	(1.2 x 2.4)	PT-18A96 (7/8" EIA)	A	28.6	28.9	29.1	4.25	39	1.1	28
4 x 8	(1.2 x 2.4)	PT-18A96N (N Female)	A	28.6	28.9	29.1	4.25	39	1.2	28
2.1-2.2 GHz										
Truncated Antennas - Plane Polarized										
4 x 8	(1.2 x 2.4)	PT-21A96 (7/8" EIA)	A	29.1	29.3	29.5	4.0	39	1.2	30
4 x 8	(1.2 x 2.4)	PT-21A96N (N Female)	A	29.1	29.3	29.5	4.0	39	1.2	30

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SOLID ANTENNAS

	Wind Angle	FA (lbs)	FA (N)	FA (lbs)	FA (N)	FS (lbs)	FS (N)	FS (lbs)	FS (N)	MT (ft lbs)	MT (Nm)	MT (ft lbs)	MT (Nm)
		with radome	with radome	without radome	without radome	with radome	with radome	without radome	without radome	with radome	with radome	without radome	without radome
1 Foot 0.3 Meters	0	109	485	195	868	0	0	0	0	72	98	130	176
	45	83	370	200	890	61	271	1	4	82	111	121	164
	90	17	76	-2	-9	51	227	43	191	88	119	57	77
	135	-37	-185	-59	-263	40	178	59	263	41	56	32	43
	max	109	485	209	930	67	297	59	263	89	120	157	213
2 Foot 0.6 Meters	0	170	757	305	1357	0	0	0	0	99	134	178	241
	45	130	579	313	1393	96	427	2	9	109	148	157	213
	90	26	116	-2	-9	80	356	68	303	150	203	102	138
	135	-58	-258	-92	-409	63	280	92	409	82	111	72	95
	max	170	757	327	1453	104	464	92	409	154	209	245	332
4 Foot 1.2 Meters	0	434	1931	780	3471	0	0	0	0	199	270	357	484
	45	334	1486	801	3564	245	1090	4	18	237	321	264	358
	90	67	298	-6	-27	204	908	173	770	541	733	434	586
	135	-147	-654	-236	-1050	161	716	236	1050	374	507	421	571
	max	434	1931	836	3721	267	1188	236	1050	541	733	567	769
6 Foot 1.8 Meters	0	976	4343	1754	7805	0	0	0	0	570	773	1023	1357
	45	751	3342	1803	8023	552	2456	9	40	631	856	697	945
	90	150	568	-13	-58	460	2047	389	1731	1734	2351	1272	1726
	135	-331	-1473	-530	-2359	362	1611	530	2359	1236	1676	1212	1643
	max	976	4343	1882	8372	601	2673	530	2359	1734	2351	1494	2025
8 Foot 2.4 Meters	0	1736	7725	3118	13675	0	0	0	0	1013	1373	1819	2466
	45	1336	5921	3201	14258	982	4370	16	71	1127	1528	1032	1399
	90	267	1198	-24	-197	817	3636	691	3075	3968	5380	3134	4249
	135	-589	-2621	-941	-1193	644	2666	943	4196	2973	4051	3214	4352
	max	1736	7725	3346	14863	1068	4731	943	4196	3968	5380	3214	4352
10 Foot 3 Meters	0	2712	12068	4872	21680	0	0	0	0	1582	2145	2842	3853
	45	2086	9283	5007	22281	1534	6826	25	111	1769	2398	1280	1735
	90	417	1856	-37	-165	1276	5678	1080	4806	7582	10280	5902	8002
	135	-920	-4094	-1473	-6353	1006	4477	1473	6553	5857	7911	6185	8382
	max	2712	12068	5220	23254	1669	7424	1473	6553	7582	10280	6185	8382
12 Foot 3.6 Meters	0	3905	17377	7016	31221	0	0	0	0	2278	3089	4092	5548
	45	3004	13368	7210	32085	2209	9830	35	156	2191	2971	1383	1875
	90	601	2674	-53	-236	1838	8179	155	690	12603	17087	9945	13483
	135	-1325	-5896	-2121	-9438	1449	6448	2121	9438	9937	13473	10582	14347
	max	3905	17377	7528	33486	2403	10690	2121	9438	12603	17087	10582	14347
15 Foot 4.5 Meters	0	.	.	10962	48781	.	.	0	0	.	.	6394	8669.
	45	.	.	11266	50134	.	.	55	245	.	.	1012	1372
	90	.	.	-83	-369	.	.	2430	10814	.	.	18930	25665
	135	.	.	-3313	-14743	.	.	3313	14743	.	.	20460	27740
	max	.	.	11763	52322	.	.	3313	14743	.	.	20460	27740

SOLID ANTENNAS

DONOR ANTEN

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PART 4 - SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT

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CORRECTION

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

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PART 4 - SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT

4. A. DESCRIPTION OF THE PROJECT ENVIRONMENT

THE LANIKAI AREA.

Lanikai is a small residential community, secluded because of its oceanside location, and the surrounding hills in the south and east (mauka) directions. The only way in is via Kawailoa Road from the Kailua side. Aalapapa Drive and Mokulua Drive provide a one-way ring road circulation within the community. A bike path runs along the ring road, and links up with the greater Kailua bike path system. Lanikai currently has above ground utility service (utility poles); however the area is planned to receive underground service in the future.

The predominate zoning is R-10 residential. There is a small community park, zoned P-2 preservation district, at the corner of Aalapapa Drive and Kaiolena Drive. There is a Board of Water Supply pumping station on Mokulua Drive.

SURROUNDING HILLS.

The hills along Kaiwa Ridge to the east (mauka) of Lanikai, are primarily zoned P-1 and P-2. Mokapu hill and the area directly mauka of the project site are zoned P-1. An old military bunker can be seen on Mokapu. Puu O hill and Bellows Air Force Station lie to the south. An antenna facility of another wireless telephone provider is situated atop Puu O.

PROJECT TMK PARCELS TMK: 4-3-05: 68,70.

The project parcels, TMK 4-3-05: 68 and 70, are under one ownership. The parcels represent a minority of the Lanikai hillside residential lots that are zoned P-1, State Conservation District, in the General Use Subzone.

The owner's dwelling occupies parcel 68. The project's small equipment cabinet will be installed in the back yard of this lot, and will not be visible to the public.

The proposed PrimeCo antenna will be situated on a lower hillside ridge, on parcel 70. The lower and upper portions of this particular ridge somewhat divides the community into two areas, and obstructs radio signals to and from the applicant's existing antenna on Puu Papaa on the Kalaheo Hillside, approximately 3.75 miles to the northwest. The proposed lower hillside antenna location is characterized by an outcropping of the basalt rock. Dense and tall shrub growth cover the lower slopes below the exposed basalt rock. Lower shrub growth cover the upper slopes above the exposed rock line. The proposed 2 foot height antenna will be situated on the rock outcropping.

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The proposed project will be situated on zoning lots within a designated Special Management Area (SMA).

ADJACENT PARCEL TMK: 4-3-05: 69.

Immediately mauka of parcel 68 is another privately owned residential lot, parcel 69, which is also zoned P-1. Parcel 69 is currently vacant, but has existing cut rock walls, and foundation slabs of previous construction. At one time, a private residence was apparently situated on the lot.

An existing narrow footpath leads through this private lot, up to the rock outcropping on the lower hillside, and continues up the ridge.

4. B. SHORT TERM CONSTRUCTION EFFECTS ON ENVIRONMENT.

DESCRIPTION OF CONSTRUCTION EFFECTS.

Construction of this project includes installation of the small equipment cabinet, the coaxial cable conduit run, and the two antennas on the lower hillside location.

The small pre-wired, weatherproof equipment cabinet will be installed on a small raised platform, in a backyard area that is currently landscaped.

The coaxial cable conduit run will be installed on-grade, and will involve little or no clearing of existing shrub growth, excavations, or effect on the lower hillside. Once installed, the conduit run will not be visible to the public from any vantage point in the Lanikai community.

The single coverage antenna will be installed directly to the vertical face of the rock cropping. The antenna will be bolted to the rock with drilled epoxy set anchor bolts. No other structure, cutting or grading will be involved in this installation.

The single donor antenna will be installed about 30 to 40 feet below the coverage antenna, and will be nestled within the bushes and cactus below the rock outcropping. Minor clearing will be involved directly around the antenna; however, the intent is to retain the surrounding bushes and vegetation around the donor antenna intact to shield the antenna from view.

A small chain link fence may be constructed around the donor antenna to block access. Due to the heavy underbrush and cactus plants in the area, the chain link fence may not be necessary.

The major portions of construction typically occur over a one to two week period. Because of the small scale of actual on-site construction involved, construction noise will be of relatively low level and of short duration.

Vehicular traffic in the lower community will not be affected because of the project location at the dead end of Koohoo Place.

4. C. VISUAL ENVIRONMENT.

AFFECTED VISUAL ENVIRONMENT.

The primary environmental impact of the proposed project is the effect on the visual environment. By nature of their functional requirements, telecommunications antennas must be elevated and therefore in some cases seen in the natural environment.

The applicant is sensitive to the community's concern of the visual effects of antennas in the natural environment. The applicant has therefore endeavored to maintain the lowest and smallest profile of antenna configuration possible, which would provide Lanikai with complete PCS coverage.

The primary visual impact will be presented by the single coverage (panel type) antenna to be mounted directly to the vertical face of the rock outcropping on the lower ridge location. This antenna will be painted black and will be virtually unseen from the Lanikai community below. The donor (1 foot diameter dish) antenna will be situated about 30 to 40 feet below the coverage antenna, and will be nestled within the dense brush and bushes. The donor antenna will not be seen from vantage points along the Aalapapa Drive - Mokulua Drive loop, and will not be seen from just about all other streets in the Lanikai area.

To accurately address the visual impact, the applicant provided on site a temporary mockup of the proposed coverage antenna. The mockup consisted of the following:

The actual coverage antenna, 24" height panel type antenna, with factory black finished, was utilized.

The panel antenna was secured to the vertical face of the rock outcropping, at the proposed antenna location.

Because the applicant believed it would be difficult to see or distinguish the small coverage antenna on the face of the rock, a wooden panel of similar dimensions was painted a bright yellow-orange, and placed about two feet to the left of the real antenna. It was intended that the orange panel would definitively spot the location of the proposed antenna from vantage points below. (The orange panel would not be installed in the real proposed project.)

The visual impact of the proposed coverage antenna is documented in the following sequence of site photographs. The photographs were taken with the antenna mockup in place. The major views of the site addressed in the photos, lie along:

- Mokulua Drive

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- Aalapapa Drive
- Koohoo Place
- Lanipo Drive

An index to site photograph locations is provided in Exhibit F. A commentary of the site photographs and visual impact is as follows:

PHOTO 1 - NORTH END OF AALAPAPA AND MOKULUA DRIVE, LOOKING SOUTH. The proposed antenna site on the rock outcropping on the lower ridge is visible; however, the proposed antennas will not be visible from this vantage point near the entrance to Lanikai.

PHOTO 2 - AALAPAPA DRIVE AT KELEPULU DRIVE, LOOKING SOUTH. The rock outcropping is visible, but the coverage antenna cannot be seen.

PHOTO 3 - KOOHOO PLACE, LOOKING SOUTHEAST. The coverage antenna, which is affixed to the southeast face of the rock, cannot be seen. The proposed donor antenna will be situated about 30 to 40 feet below and makai (west) of the rock outcropping, and will not be visible from this vantage point.

PHOTO 4 - AALAPAPA DRIVE AT ONEKEA PLACE, LOOKING SOUTH. The site is visible; however, the coverage antenna cannot be seen due to the brush and vegetation around the rock.

PHOTO 5 - AALAPAPA DRIVE AT MOKOLEA, LOOKING WEST. This is the closest and most direct view of the coverage antenna from a public way. It is therefore representative of the greatest visual impact that the antenna will present. The bright orange "spotter" panel can be plainly seen. The real coverage antenna which is situated two feet to the right of the bright orange, can barely be seen. The antenna with its factory black finish, does not project above the rock, and tends to blend in with the rock .

PHOTO 6 - TELEPHOTO SHOT FROM PHOTO 5 VANTAGE POINT. The same Photo 5 view is seen through a 90 millimeter lens.

PHOTO 7 - AALAPAPA DRIVE AT LANIPO DRIVE, LOOKING NORTHWEST. The site is not visible.

PHOTO 8 - LANIPO DRIVE AT LANI PLACE. The site is not visible.

PHOTO 9 - SOUTH END OF AALAPAPA AND MOKULUA DRIVE, LOOKING NORTHWEST. The site is not visible.

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PHOTO 10 - MOKULUA DRIVE AT POKOLE WAY, LOOKING NORTHWEST. The rock outcropping is visible. The orange panel is just barely discernible. The real antenna may be discernible. (The photographer could not see it.)

PHOTO 11 - MOKULUA DRIVE AT AALA DRIVE, LOOKING WEST. The coverage antenna can be seen on the face of the rock on the lower ridge side. The antenna is not seen in silhouette (as opposed to the bunker on the high ridge), and tends to blend in with the face of the rock.

PHOTO 12 - TELEPHOT SHOT FROM PHOTO 11 VANTAGE POINT. The same Photo 11 view is seen through a 90 millimeter lens.

PHOTO 13 - MOKULUA DRIVE AT ONEKEA DRIVE, LOOKING SOUTHWEST. The site cannot be seen.

PHOTO 14 - MOKULUA DRIVE BETWEEN ONEKEA AND KUALIMA, LOOKING SOUTHWEST. The coverage antennas is barely discernible on the side of the rock outcropping.

PHOTO 15 - TELEPHOTO SHOT FROM PHOTO 14 ANTAGE POINT. The same Photo 14 view seen through a 90 millimeter lens.

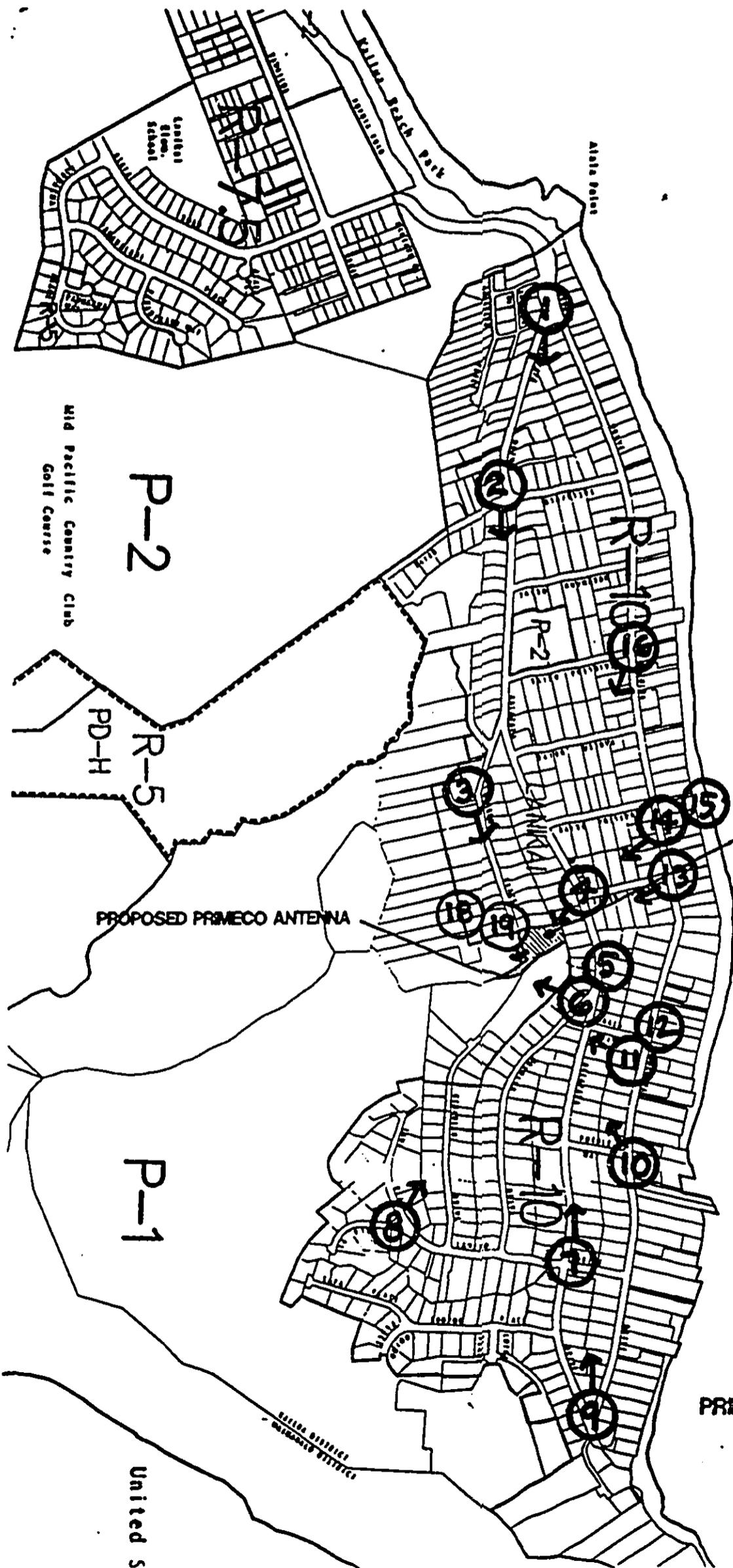
PHOTO 16 - MOKULUA DRIVE AT KAIOLENA DRIVE, LOOKING SOUTH. The site is not visible.

PHOTO 17 - ANTENNA MOCKUP. The orange painted panel and the real coverage antenna. (This photograph does not show the mockup in place on the face of the rock.)

PHOTO 18 - DONOR ANTENNA. The 2'-0" diameter donor antenna will be nestled within the dense bushes and cactus about 40 feet below the coverage antenna. The donor antennna only requires a line-of-site to the applicant's existing antenna on Puu Papaa, toward the north of Kailua, and does not require a prominent position above Lanikai.

PHOTO 19 - DONOR ANTENNA. The donor antenna will be virtually unseen from vantage points within Lanikai.

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PACIFIC OCEAN

PARCEL TMK: (1) 4-3-05 : 68, 70

PRIMECO LANKAI CELL SITE

KEY TO SITE PHOTO EXHIBIT

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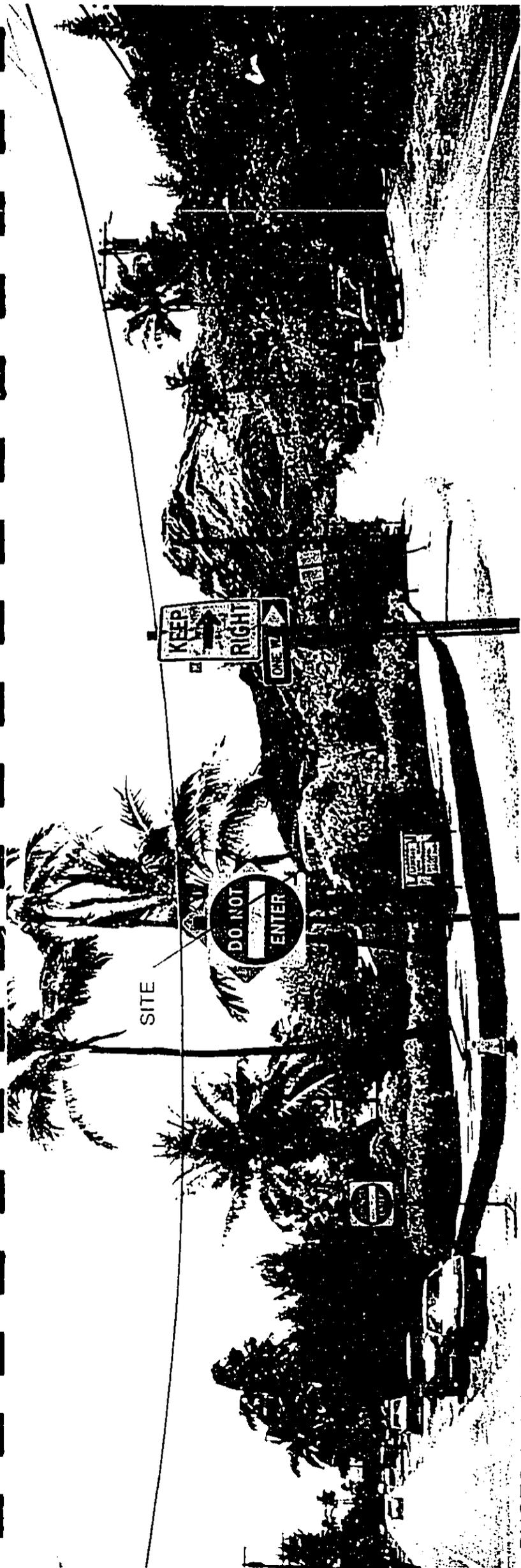


PHOTO 1 - NORTH END OF AALAPAPA & MOKULUA DR., LOOKING SOUTH (Antenna will not be visible)



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SITE

94 3 13

PHOTO 3 - KOOHOO PLACE, LOOKING SOUTHEAST (Antenna will not be visible)



PROPOSED COVERAGE ANTENNA
(NOT VISIBLE)

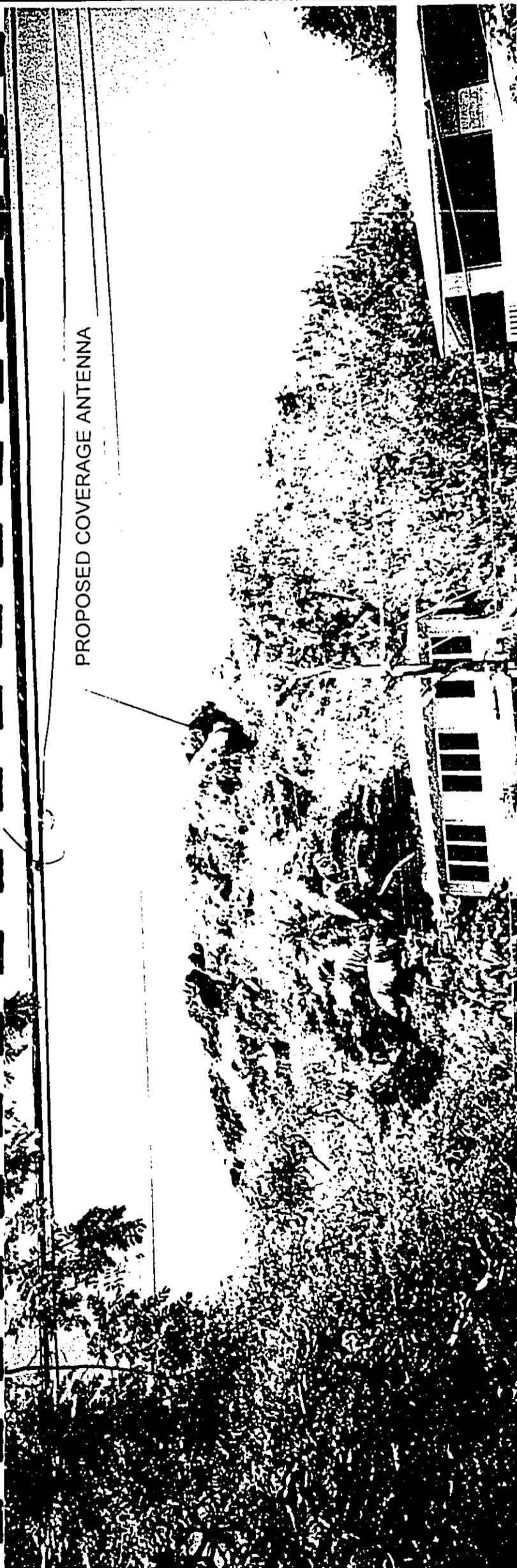
PROPOSED DONOR ANTENNA
(NOT VISIBLE)

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PROPOSED COVERAGE ANTENNA

PHOTO 5 - AALAPAPA DR. AT MOKOLEA, LOOKING WEST (Antenna will be visible)

PROPOSED COVERAGE ANTENNA
(THE ACTUAL ANTENNA MOCKUP
IS SITUATED TO THE RIGHT OF
THE ORANGE PAINTED PANEL.)



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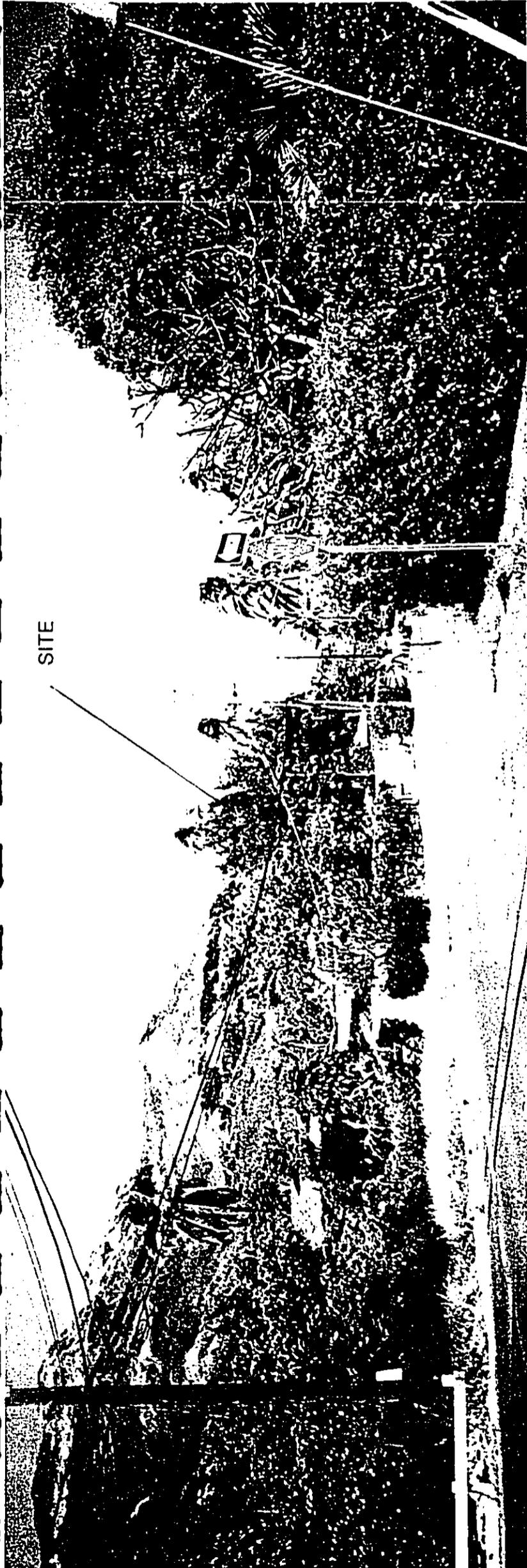
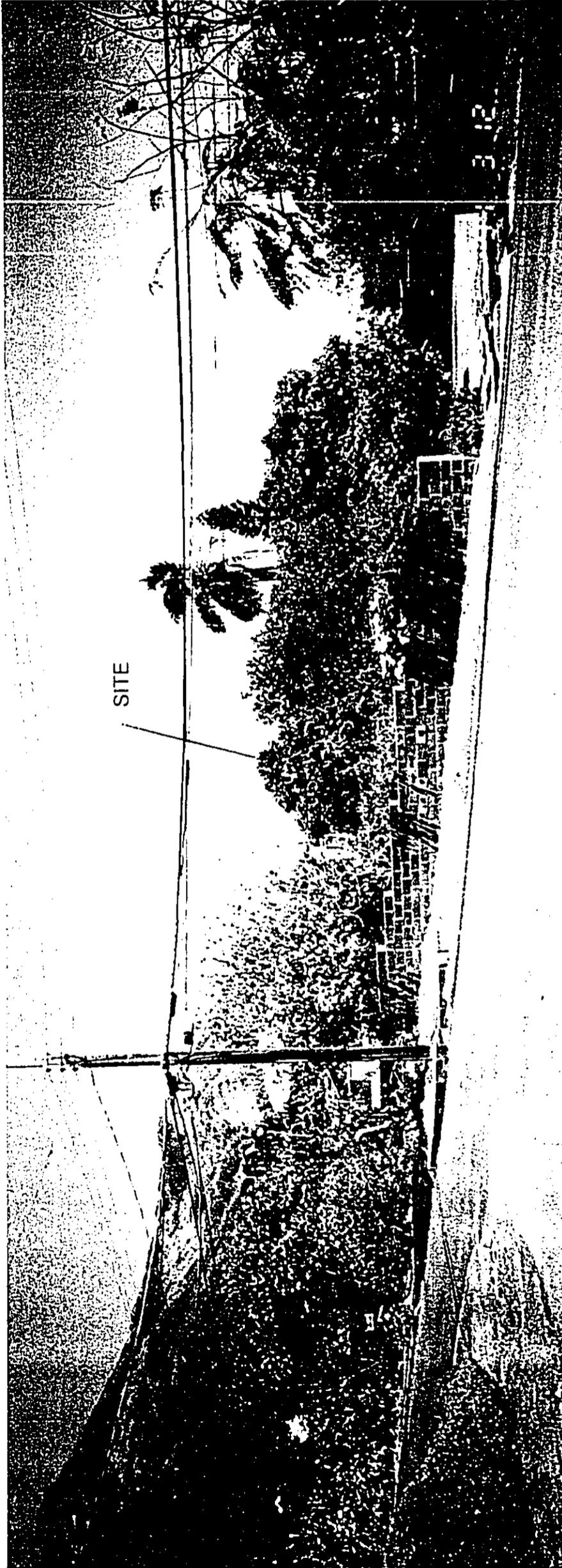


PHOTO 7 - AALAPAPA DR. AT LANIPO DR., LOOKING NORTHWEST (Antenna will not be visible)



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DOCUMENT CAPTURED AS RECEIVED

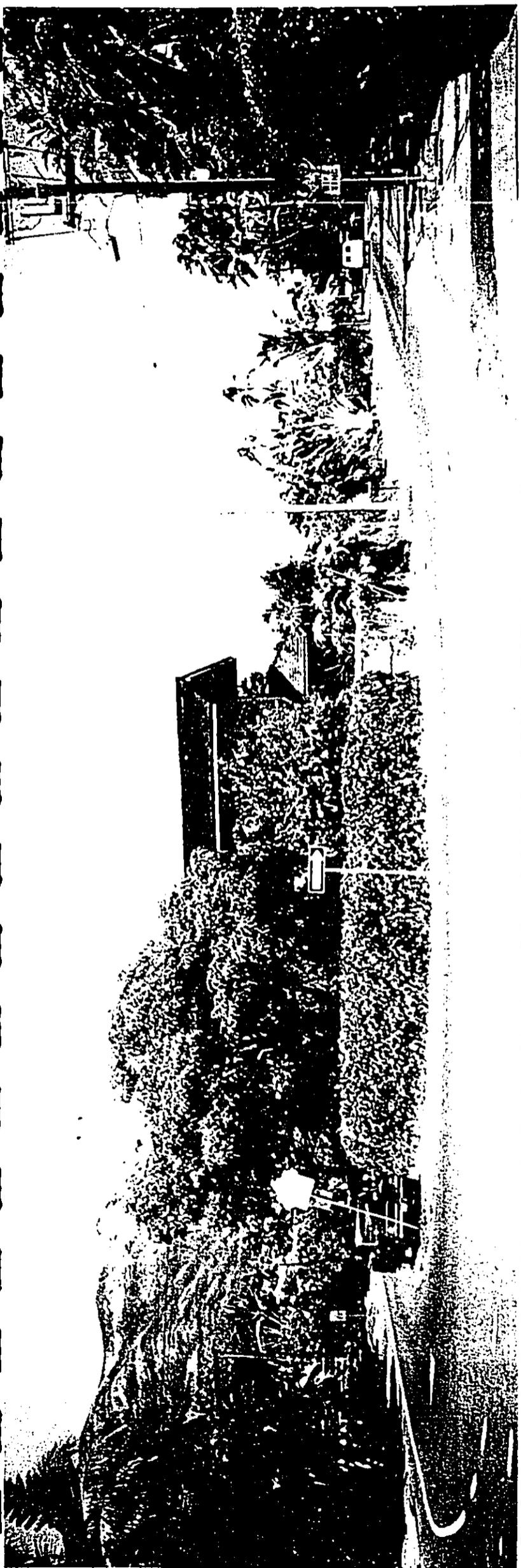
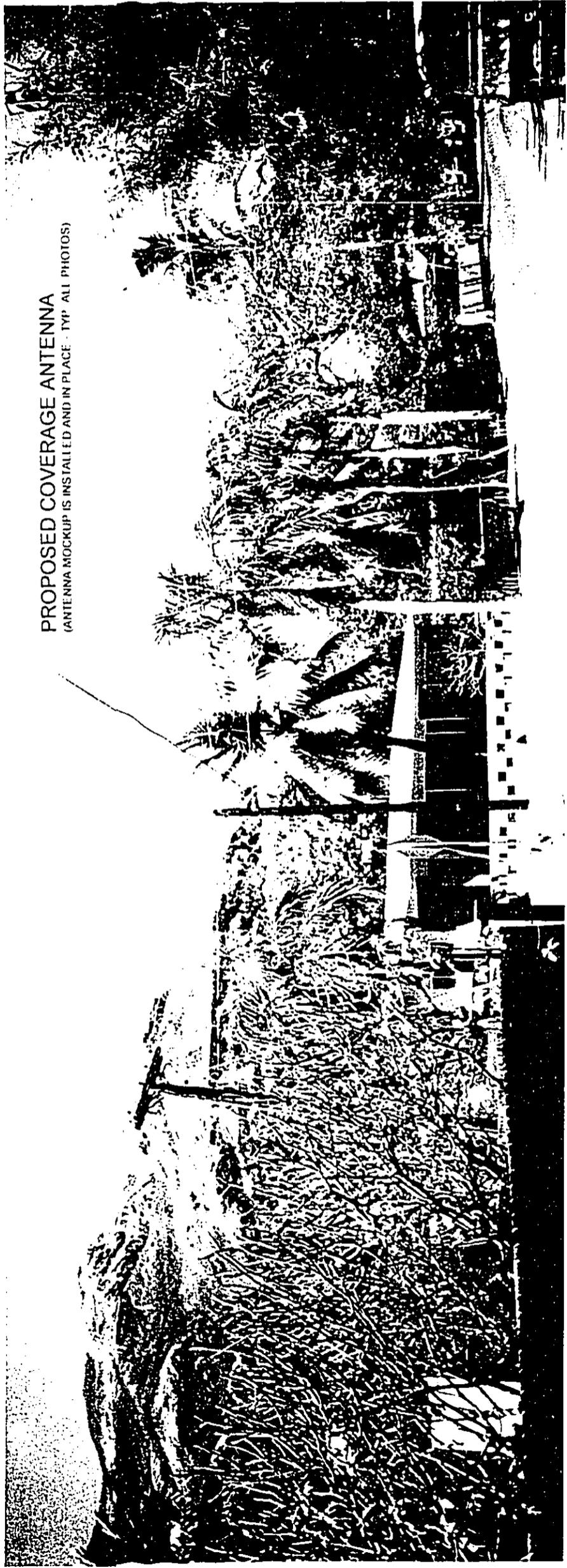


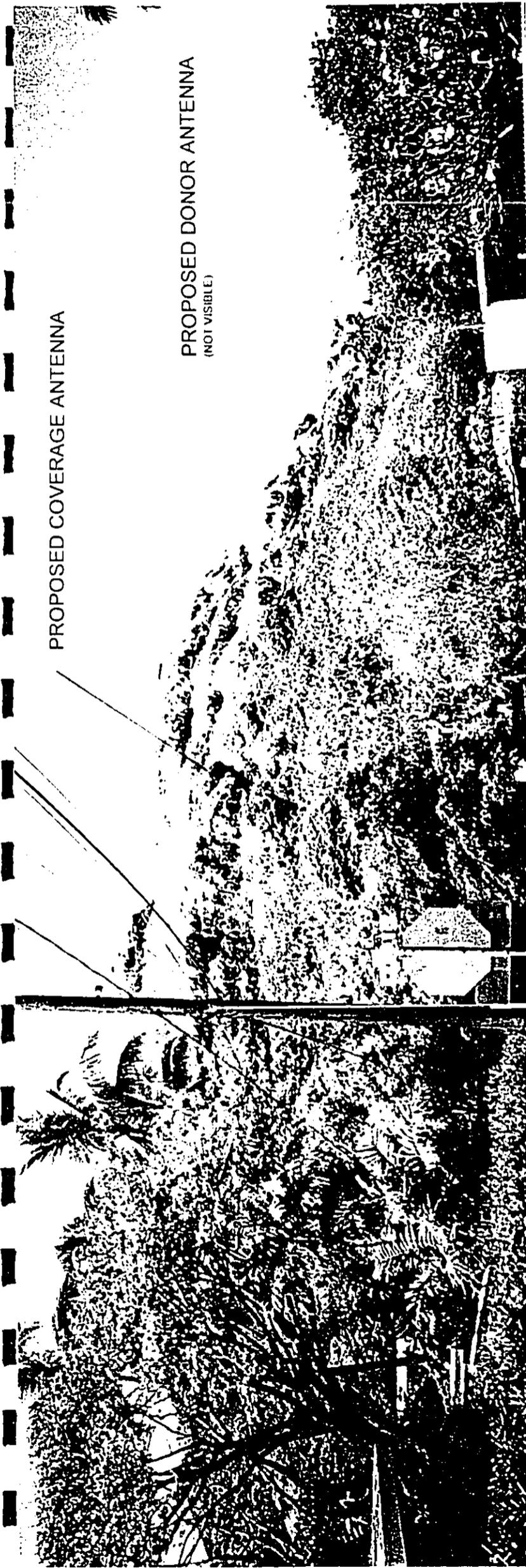
PHOTO 9 - SOUTH END OF AALAPAPA & MOKULUA DR., LOOKING NORTHWEST (Antenna will not be visible)



PROPOSED COVERAGE ANTENNA
(ANTENNA MOCKUP IS INSTALLED AND IN PLACE - TYP ALL PHOTOS)

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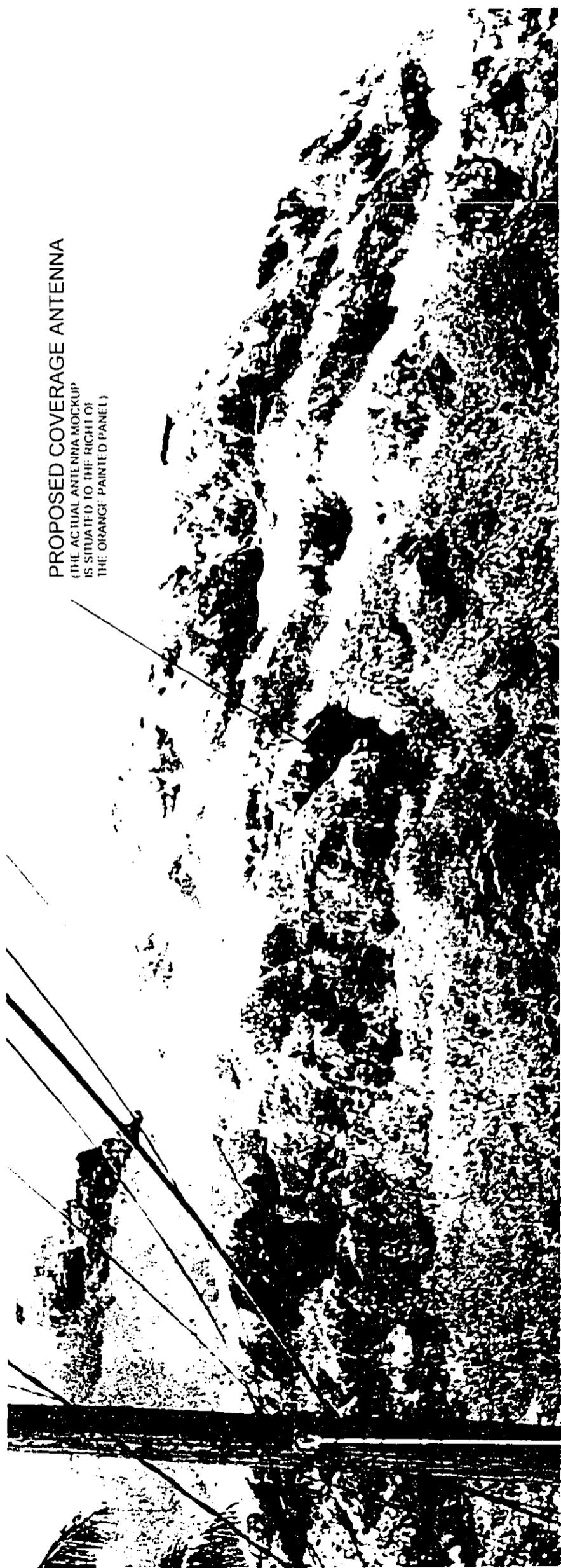
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PROPOSED COVERAGE ANTENNA

PROPOSED DONOR ANTENNA
(NOT VISIBLE)

PHOTO 11 - MOKULUA DR. AT AALA DR., LOOKING WEST (Antenna will be visible)



PROPOSED COVERAGE ANTENNA
(THE ACTUAL ANTENNA MOCKUP
IS SITUATED TO THE RIGHT OF
THE ORANGE PAINTED PANEL)

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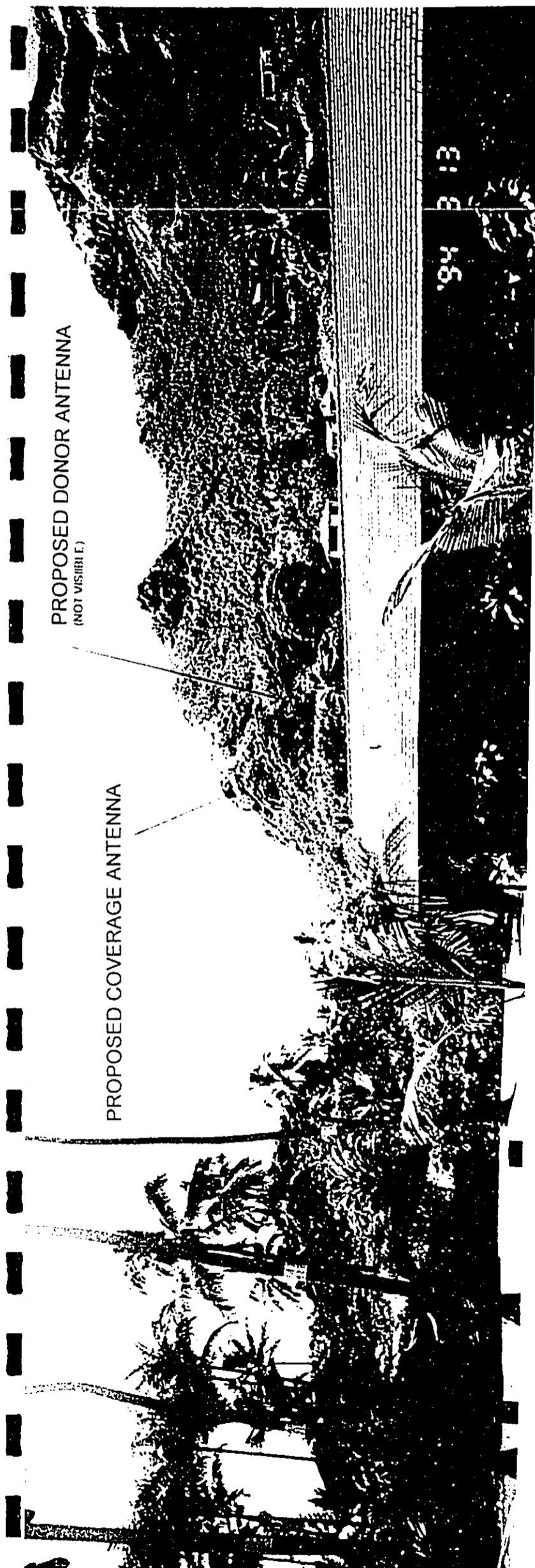
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PHOTO 13 - MOKULUA DR. AT ONEKEA DR., LOOKING SOUTHWEST (Antenna will not be visible)

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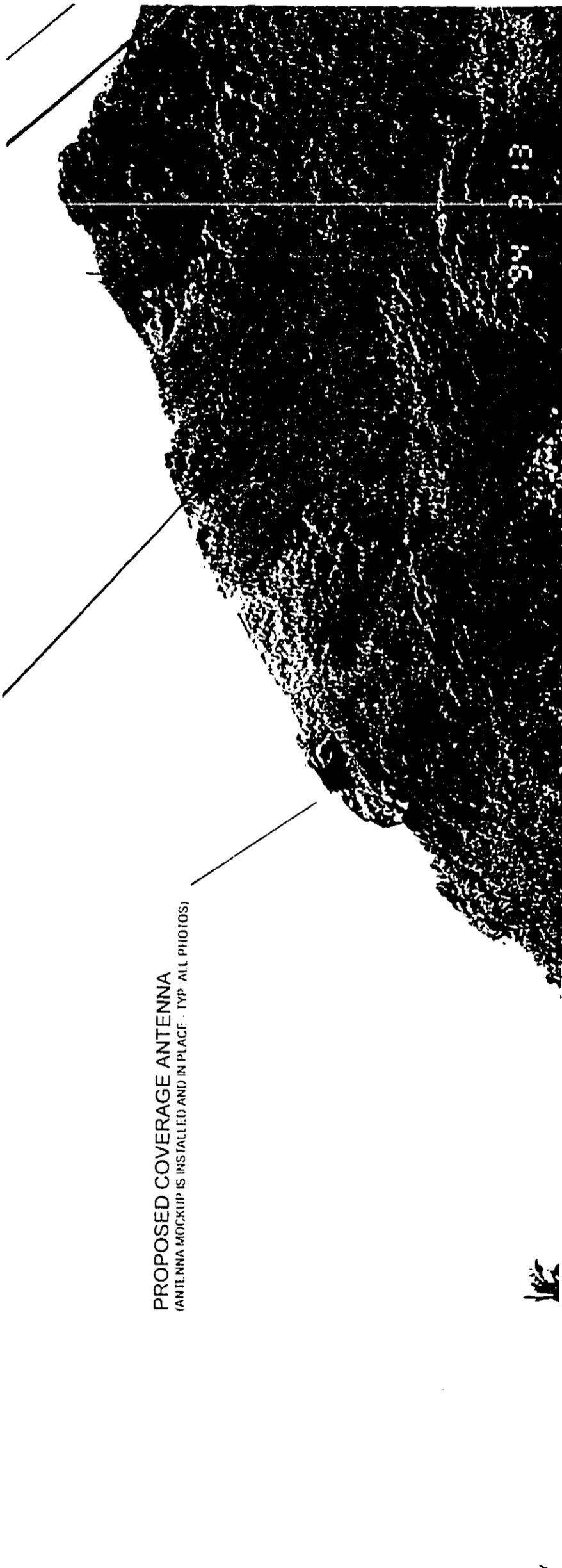
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PROPOSED DONOR ANTENNA
(NOT VISIBLE)

PROPOSED COVERAGE ANTENNA

PHOTO 14 - MOKULUA DR. BETWEEN ONEKEA & KUALIMA, LOOKING SOUTHWEST (Antenna will be barely discernible)



PROPOSED COVERAGE ANTENNA
(ANTENNA MOCKUP IS INSTALLED AND IN PLACE - TYP ALL PHOTOS)

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DOCUMENT CAPTURED AS RECEIVED

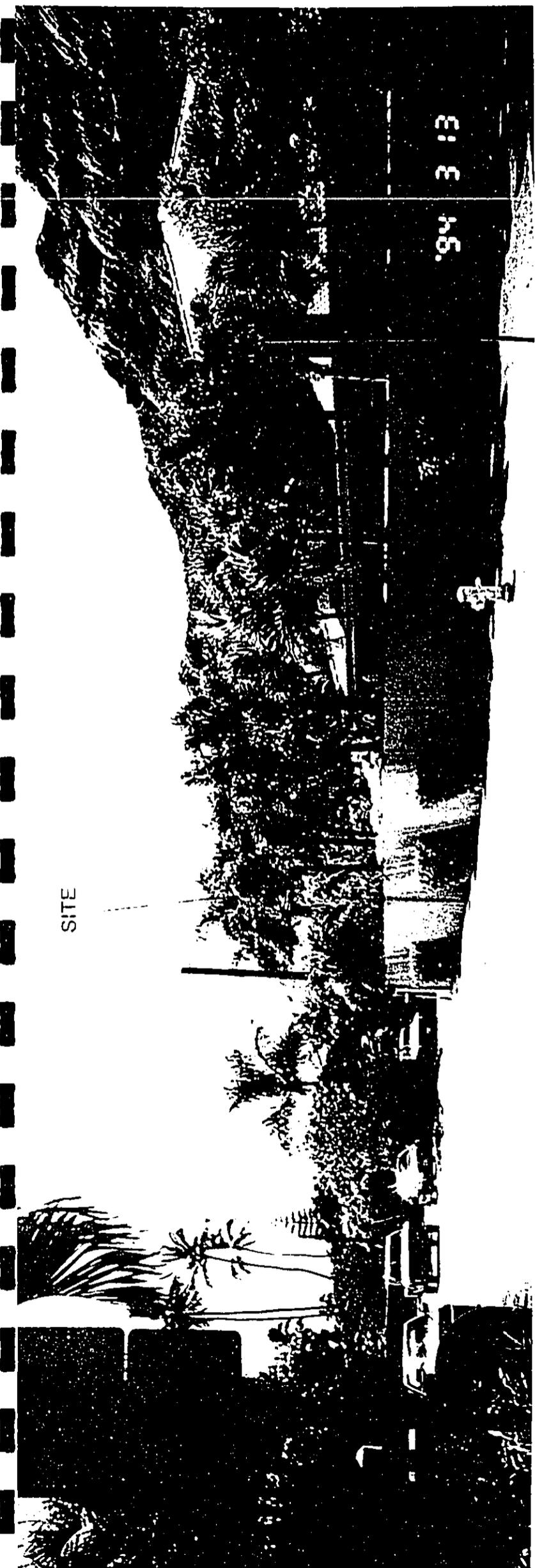


PHOTO 16 - MOKULUA DR. AT KAIOLENA DR., LOOKING SOUTH (Antenna will not be visible)



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PHOTO 18 - DONOR ANTENNA (To be located in heavy brush and cactus below the coverage antenna)



PHOTO 19 - DONOR ANTENNA (The donor antenna will be virtually unseen by the community)

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PART 5 - IDENTIFICATION AND SUMMARY OF IMPACTS AND
ALTERNATIVES CONSIDERED

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5. A. VISUAL IMPACTS

The proposed coverage antenna to be installed on the face of the rock outcropping, will be virtually unseen within the Lanikai community. The most direct view of the antenna will be from Aalapapa Drive near Mokolea Drive.

Where visible, however, the antenna will blend in with the face of the rock. The antenna will not project above the top of the rock, and will not be seen in silhouette against the sky.

The donor antenna will be nestled within the dense shrub growths below the rock outcropping. The donor antenna requires a line of sight toward the Primeco antenna on Puu Papaa, to the north of of Kailua. Apart from this requirement, the donor antenna does not need to be elevated like the coverage antenna. The donor antenna therefore can be shielded from view within the existing shrub growth.

5. B. ALTERNATIVES CONSIDERED

The applicant has considered numerous alternative antenna sites in the area. The alternative sites were evaluated on the basis of proper and adequate radio signal coverage, feasibility and construction cost, accessibility and ease of maintenance, and visibility and visual impact.

Location of an acceptable site in the area is required for provision of adequate PCS to the Lanikai community. The evaluation of alternative sites is considered by the applicant to be proprietary information. This information is listed here to emphasize the difficulties of securing sites that are both functional as well as acceptable from environmental perspectives.

A key map to alternatives sites considered is included in this section.

ALTERNATIVE SITE 1 - LANIKAI COMMUNITY ASSOCIATION PARK.

The community association owns and maintains a community park at the corner of Aalapapa Drive and Kaiolena Drive. The park has a flat open grassed field, a paved court, and two one story community buildings. The applicant considered an antenna site at this location, but rejected it because it required an antenna pole of approximately 100 foot height. Radio tests of the site indicated difficulty in providing adequate coverage to the southwest corner of the community, due to the obstruction of the lower hillside (where the preferred antenna site would be located). The required antenna height would also make this site more visible to the community, than the preferred lower hillside location.

ALTERNATIVE SITE 2 - BOARD OF WATER SUPPLY SITE.

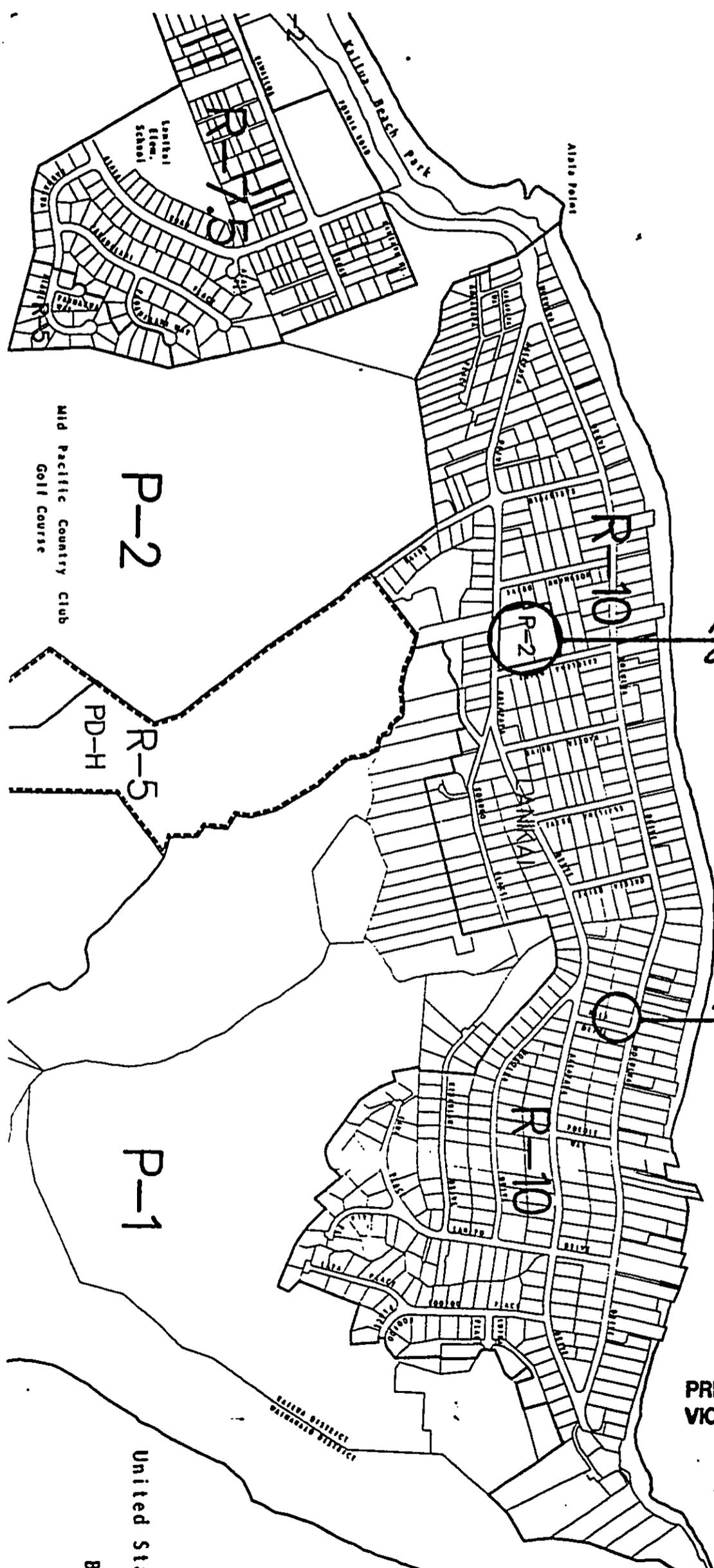
This site offered a slightly better location than the community park site from the standpoint of radio coverage of the southwest corner of the community. However this site was rejected because the BWS site on Mokulua Drive Drive would result in a more prominently visible site than the community park. The antenna would also be situated closer to the coastline.

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NO BUILD ALTERNATIVE.

Denial of the project will impose a severe hardship on the applicant's ability to provide the public and community residents with reliable and affordable Personal Communication Services in the Lanikai area. Denial of the project will result in an inadequate coverage of the Lanikai community.

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PACIFIC OCEAN

ALTERNATIVE SITE 1
COMMUNITY PARK

PARCEL TMK: (1) 4-3-05 : 68, 70

ALTERNATIVE SITE 2
BWS SITE

PRIMECO LANKAI CELL SITE
VICINITY PLAN

**ALTERNATIVE
SITES CONSIDERED
EXHIBIT Q**

Mid Pacific Country Club
Golf Course

P-2

R-5
PD-H

P-1

United Sta

Be

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PART 6 - PROPOSED MITIGATION MEASURES

6. A. PROPOSED MITIGATION MEASURES - VISUAL IMPACTS

The applicant has selected the proposed antenna site with the intent of minimizing its visual impact. As stated previously, the visual impact of the proposed antenna site is mitigated by the following:

- The applicant has therefore endeavored to maintain the lowest and smallest profile of antenna configuration possible, which would provide Lanikai with complete PCS coverage. The small coverage antenna will be installed on the vertical face of the rock outcropping on the lower ridge, such that the antenna will not project above the rock. The antenna will not be seen in silhouette against the sky, but will tend to blend in with the face of the rock. The visual impact of the antenna can be assessed by the antenna mockup in the project site photographs.
- The proposed antenna has been located at the lowest possible height at the lower hillside location, that will still provide adequate coverage to all areas of the Lanikai community.
- The antenna although located on a lower hillside, will not be situated on the top of a hill or summit.
- The small equipment cabinet located below will not be visible to the public from any vantage point. The coaxial cable conduit run will not be visible to the public from any vantage point.
- The antenna will not be visible from Kailua Beach Park, or from any other public vantage point outside of the Lanikai area.

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6. B. PROPOSED MITIGATION MEASURES - OTHER IMPACTS

The project will produce some relatively minor short term environmental impacts. Some construction noise may be produced at times over a short construction period, typically within a two week period. The noise is anticipated to be far less than the noise associated with residential construction. Construction hours will be restricted to normal work week days.

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PART 7 - FINDINGS AND REASONS SUPPORTING AN ANTICIPATED
FINDING OF NO SIGNIFICANT IMPACT

The proposed project is not expected to cause significant impacts to the environment, as addressed in the Hawaii Administrative Rules, Title 11, Chapter 200.

7.A. THE PROPOSED PROJECT WILL NOT INVOLVE AN IRREVOCABLE COMMITMENT TO LOSS OR DESTRUCTION OF ANY NATURAL OR CULTURAL RESOURCES.

- The project's telecommunications antenna will be situated on a lower hillside location.. No known significant natural or cultural resource exists on the project site.

7.B. THE PROPOSED PROJECT WILL NOT CURTAIL THE RANGE OF BENEFICIAL USES OF THE ENVIRONMENT.

- The project will not significantly impact the uses and enjoyment of the natural environment.

7.C. THE PROPOSED PROJECT WILL NOT CONFLICT WITH THE STATE'S LONG - TERM ENVIRONMENTAL POLICIES OR GOALS AND GUIDELINES AS EXPRESSED IN CHAPTER 344, HRS, AND ANY REVISIONS THEREOF.

- The proposed project will not conflict with the State's environmental policies and the State Plan. The project will have no significant impact on natural and cultural resources. The project will emit no noise or pollutants.

7.D. THE PROPOSED PROJECT WILL NOT ADVERSELY AFFECT THE ECONOMIC WELFARE, SOCIAL WELFARE, OR PUBLIC HEALTH OF THE COMMUNITY OR STATE.

- The proposed project will benefit the economic and social life of the community, by fostering better communications between people, businesses and social groups. Public health will not be impacted.

7.E. THE PROPOSED PROJECT WILL NOT INVOLVE SUBSTANTIAL SECONDARY IMPACTS, SUCH AS POPULATION CHANGES OR EFFECTS ON PUBLIC FACILITIES.

- The project will not increase the population. It will not place significant demands on other public facilities.

7.F. THE PROPOSED PROJECT WILL NOT INVOLVE A SUBSTANTIAL DEGRADATION OF ENVIRONMENTAL QUALITY.

- The project will not introduce pollutants into the air, water or soil.

7.G. THE PROPOSED PROJECT WILL NOT HAVE SIGNIFICANT CUMULATIVE IMPACTS OR INVOLVE A COMMITMENT FOR LARGER ACTIONS.

- The proposed project will be a part of a wireless telephone communications system. The antenna sites that serve the larger Kaneohe-Kailua area as described in the Environmental Assessment. The system as described, including other antenna sites, will not have a significant cumulative detrimental impact on the environment.

7.H. THE PROPOSED PROJECT WILL NOT SUBSTANTIALLY AFFECT ANY RARE, THREATENED OR ENDANGERED SPECIES OF FLORA OR FAUNA OR HABITAT.

- *The proposed project will have no significant impact on any rare, threatened or endangered species of flora or fauna or habitat. The proposed project is very minimal in size and unmanned; thus impact on flora and fauna will be negligible if any at all. The U.S. Department of the Interior has indicated that wedgetailed shearwaters (*Puffinus pacificus*) are sighted frequently in the proximity of the project, but also comments that "no significant adverse impacts to fish and wildlife resources are expected to result from the proposed antenna installation."*

7.I. THE PROPOSED PROJECT WILL NOT DETRIMENTALLY AFFECT AIR OR WATER QUALITY OR AMBIENT NOISE LEVELS.

- The project will not introduce pollutants into the air, water or soil. The project will not have any impact on ambient noise levels. The project will comply with all Department of Health rules and regulations regarding noise and emissions.

7.J. THE PROPOSED PROJECT IS NOT 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 project site is not located in a flood plain, or an area that is erosion-prone.

7.K. THE PROPOSED PROJECT WILL NOT WILL NOT SUBSTANTIALLY AFFECT SCENIC VISTAS AND VIEWPLANES IDENTIFIED IN COUNTY OR STATE PLANS OR STUDIES.

- The project will not obstruct any view planes identified by the County or State.

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7.L. THE PROPOSED PROJECT WILL NOT REQUIRE SUBSTANTIAL ENERGY CONSUMPTION.

- The project's telecommunications equipment will not require substantial energy consumption.

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With relevance to the State Conservation District goals:

THE PROPOSED LAND USE IS CONSISTENT WITH THE PURPOSE OF THE CONSERVATION DISTRICT.

- The proposed land use is consistent with the purpose of conserving the important natural resources of the State. One of these vital resources is the serenity and visual beauty of the natural environment.
- The project's telecommunications antenna location has been carefully selected so as to not be virtually unseen in the environment.

THE PROPOSED LAND USE IS CONSISTENT WITH THE OBJECTIVES OF THE SUBZONE OF THE LAND ON WHICH THE USE WILL OCCUR.

- The project is located in the General (G) subzone. The project is an allowable use as a Public Purpose Use, providing communications systems which will benefit the public.
- PCS service will benefit the general public by offering wireless digital transmission of voice, data, and video through small hand-held portable telephones. PCS services can complement other telecommunications systems, and thereby improve business, social, governmental, and emergency communications. This proposed site will serve the Lanikai community as well as the general public.

THE PROPOSED LAND USE WILL NOT CAUSE SUBSTANTIAL ADVERSE IMPACT TO EXISTING NATURAL RESOURCES WITHIN THE SURROUNDING AREA.

- No significant natural resource will be consumed or depleted by the proposed project.
- The primary impact will be the visual impact of the project's antenna, which will be painted out to blend in with the hillside.

THE PROPOSED LAND USE WILL BE COMPATIBLE WITH THE LOCALITY AND SURROUNDING AREAS.

- The project's antenna will be located on private property, and will not impact the use of the surrounding areas.

THE INTENSITY OF LAND USES IN THE CONSERVATION DISTRICT WILL NOT BE INCREASED.

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- The project is an un-manned antenna facility, generating no other private, public or business use. Maintenance visits will occur twice a month. There will be no impact on water or sewer facilities.

THE PROPOSED LAND USE WILL NOT BE MATERIALLY
DETRIMENTAL TO THE PUBLIC HEALTH, SAFETY OR WELFARE.

- The project's antenna will be located on private property, in an area removed from existing houses or structures.

THE EXISTING PHYSICAL AND ENVIRONMENTAL ASPECTS OF THE
LAND, SUCH AS NATURAL BEAUTY AND OPEN SPACE
CHARACTERISTICS, WILL BE PRESERVED.

- The project's antenna will be located on a lower hillside, and will be virtually unseen. The views of the much taller hillsides of Kaiwa Ridge will be preserved.

THE PROPOSED LAND USE COMPLIES WITH PROVISIONS AND
GUIDELINES CONTAINED IN CHAPTER 205A, HAWAII REVISED
STATUTES, ENTITLED "COASTAL ZONE MANAGEMENT.

- The project is located in a Special Management Area (SMA). The proposed use complies with Chapter 205A. The project's visual impact will be negligible because the project's antenna will be virtually unseen.

*THE PROJECT IS IN COMPLIANCE WITH THE OBJECTIVES AND POLICIES OF
CHAPTER 205A, COASTAL ZONE MANAGEMENT, AS FOLLOWS:*

Coastal Zone Management Objectives.

- (1) *Recreational resources - provide coastal recreational opportunities to the public.*

The project will not be located in any area providing public recreation. The project will be located on private property and away from the public beaches.

- (2) *Historic resources - Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*

There are no known sites that are significant in Hawaiian and American history and culture in the project area. The project's physical effect on the natural resources will be negligible. The project's antenna mounts can be

easily removed in the future with no lasting impact on historic resources. The project's small equipment cabinet will be situated in the landscaped backyard of a private residence. The project will involve little or no grading.

- (3) *Scenic and open space resources - Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.*

The project's antennas will be virtually unseen from the surrounding coastal areas. The quality of coastal scenic and open space resources will therefore be preserved.

- (4) *Coastal ecosystems - Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

The project will have no adverse impacts on coastal ecosystems, including reefs.

- (5) *Economic uses - Provide public or private facilities and improvements to the State's economy in suitable locations.*

The project will provide for wireless communications in an area that is currently marginally serviced. The project's antennas have been situated away from the public beaches and parks, and below prominent ridgelines.

- (6) *Coastal hazards - Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*

In conjunction with other communications systems, wireless telephones can provide the public with valuable aids in tsunami warnings, hurricanes and other natural disasters. Construction of the project will result in no erosion, subsidence or pollution.

- (7) *Managing development - Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

The project's applicant has endeavored to inform the public about the project's scope, intent and impact on coastal resources.

- (8) *Public participation - Stimulate public awareness, education, and participation in coastal management.*

The project's applicant has endeavored to inform the public about the project's scope, intent and impact relative to coastal management.

- (9) *Beach protection - Protect beaches for public use and recreation.*

The project has been situated away from the public beaches and areas of public recreation.

- (10) *Marine resources - Implement the State's ocean resources management plan.*

The project will have no impact on marine or ocean resources.

Coastal Management Policies. *Relevant policies are as follows:*

- (1) *Recreational resources - Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area.*

The project has been situated away from significant recreational sites such as surfing sites, fishponds, and sand beaches.

The project will have no impact on public access to the shoreline or recreational areas.

The project will not contribute to any point or nonpoint sources of pollution.

- (2) *Historic resources - Identify and analyze significant archaeological resources.*

The project will have no impact on significant archaeological resources.

- (3) *Scenic and open space resources - Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.*

The project has been situated away from the shoreline and public beaches. The project's antennas have been situated as low and unobtrusively as possible, and below the prominent ridges. Construction of the project will entail negligible alteration of natural landforms.

- (4) *Coastal ecosystems - Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance. Minimize disruption or degradation of coastal water ecosystems.*

The project will have no adverse impacts on coastal ecosystems, including reefs. The project will not contribute to any pollution or degradation of water ecosystems.

- (5) *Economic uses - Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry*

facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area.

The project will provide desirable wireless communications in an area that is marginally serviced, with positive economic benefits to the public. The project's antenna site has been designed and situated to present the least possible social, visual and environmental impact.

- (6) *Coastal hazards - Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and onpoint source pollution hazards.*

The project has been situated away from tsunami or inundation zones. The project is not located in any flood zone, and will not contribute to any flooding, erosion or subsidence.

- (9) *Beach protection - Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion.*

The project has been situated away from the shoreline setback and beaches.

- (10) *Marine resources - Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial.*

The project will have no impact on marine or ocean resources. The project has been designed to present the least possible ecological and environmental impact. The project can have positive economic benefit to the public.

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**PART 8 - LIST OF PROJECT PERMITS
AND APPROVALS REQUIRED**

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The proposed project will require the following permits and approvals:

- Environmental Assessment
Department of Land and Natural Resources
State of Hawaii
- Conservation District Use Permit
(Board Permit or other permit as determined by DLNR)
Department of Land and Natural Resources
State of Hawaii
- Building Permit
Department of Planning and Permitting
City and County of Honolulu
- Special Management Area Permit
Department of Planning and Permitting
City and County of Honolulu

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PART 9 - COMMENTS TO THE DRAFT ENVIRONMENTAL
ASSESSMENT

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LAND MANAGEMENT DIV.

ID:808-587-0455

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**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

OFFICE OF PLANNING

235 South Beretania Street, 6th Flr., Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2358, Honolulu, Hawaii 96804

BENJAMIN J. GAYETANO
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DIRECTOR, OFFICE OF PLANNING

Tel.: (808) 587-2848

Fax: (808) 587-2824

Ref. No. P-7542

July 1, 1998

Jul 1 3 26 PM '98

MEMORANDUM

TO: Michael D. Wilson, Chairperson
Department of Land and Natural Resources

ATTN: Lauren Tanaka
Planning Branch, Land Division

FROM: Rick Egged *Mary Lou Koyayoshi for*
Director, Office of Planning

SUBJECT: Conservation District Use Permit Application #OA-2896 for a Small Repeater
Facility at Lanikai, Oahu, TMK 4-3-5: 68, 70 & 77

As noted in the draft environmental assessment (DEA), the project is located in the Special Management Area (SMA). We have two comments relative to information provided about the SMA.

The project's compliance with the Coastal Zone Management (CZM) objectives and policies should be explicitly addressed since it is situated within the SMA. We do not agree that a statement that the project complies with Chapter 205A alone as provided in Part 7 is adequate. A discussion should support the conclusion.

Additionally, Part 8 mistakenly identifies the Department of Land and Natural Resources as the agency responsible for administering SMA permits. The correct agency is the City and County of Honolulu's Department of Land Utilization.

If there are any questions, please contact Howard Fujimoto of our CZM Program at 587-2898.

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STATE OF HAWAII

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LAND MANAGEMENT DIV.

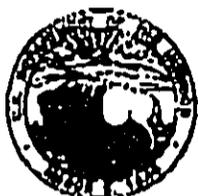
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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Ecoregion
300 Ala Moana Blvd, Rm 3-122
Box 50088
Honolulu, HI 96850

DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII

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In Reply Refer To: EAS

Michael D. Wilson
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

JUL 5 1 23 PM '98

RE: Conservation District Use Permit Application for the Construction of a Small Repeater Facility at Lanikai, Oahu

Dear Mr. Wilson:

Thank you for the opportunity to review and comment on your letter dated June 12, 1998, concerning Conservation District Use Permit Application #OA-2896 for the construction of a small repeater facility for personal communications services on private property; TMK:4-3-05: 68,70, &77 at Lanikai, Oahu.

The repeater facility will consist of a coverage antenna on parcel 77 and a donor antenna on parcel 70. The coverage antenna, a panel type antenna, about 2 feet high by 6 inches wide will be mounted to the vertical face of a rock outcropping. A donor antenna, a small line-of-site dish type antenna, about 2 feet in diameter and mounted on an 8 feet high pipe mount will be installed 30 to 40 feet below the coverage antenna. In addition, a small weatherproof equipment cabinet approximately 15 inches wide by 18 inches high will be installed on parcel 68 with coaxial cables connecting the cabinet with the two antennas.

No significant adverse impacts to fish and wildlife resources are expected to result from the proposed antenna installation. However, the U.S. Fish and Wildlife Service (Service) would like you to be aware that wedgc-tailed shearwaters (*Puffinus pacificus*) are sighted frequently in the proximity of the proposed project.

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To	Calverton	From	Lawson		
Co/Dept.	Prime Co	Co.	DWR		
Phone #	3717432	Phone #	5870385		
Fax #	5669580	Fax #	5870455		

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LAND MANAGEMENT DIV. ID:808-587-0455

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The Service appreciates the opportunity to comment on the proposed antenna installation. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Elizabeth Sharpe by telephone at 808/541-3441 or by facsimile transmission at 808/541-3470.

Sincerely,

for/ 
Brooks Harper
Field Supervisor
Ecological Services

cc: NMFS-PAO, Honolulu
USEPA-Region IX, San Francisco

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PART 10 - PROJECT RESPONSE TO COMMENTS

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Comment: Department of Business, Economic Development & Tourism memorandum dated July 1, 1998:

“The project’s compliance with the Coastal Zone Management (CZM) objectives and policies should be explicitly addressed since it is situated within the SMA.” -

Project Response to Comment:

Part 7 has been revised to include discussion of supporting project’s compliance with the CZM objectives and policies.