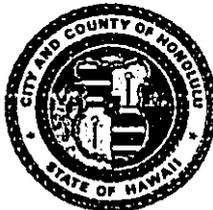


BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 92-847

RECEIVED

August 31, 1992

'92 AUG 31 P2:30

OFF. OF ENVIRONMENTAL
QUALITY CONTROL

Mr. Brian J. J. Choy, Director
Office of Environmental Quality Control
Central Pacific Plaza
220 S. King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Subject: Draft Environmental Assessment (EA)
for the Honolulu Police Department
Communications Facilities Upgrade Project
Various TMKs, Island of Oahu

Transmitted are four copies of the Draft Environmental Assessment for the subject project. We anticipate issuing a Negative Declaration for this project and request that notice of the Draft EA be published in the "OEQC Bulletin". Also attached is a completed "Document for Publication Form".

Should there be any questions, please contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6363).

Very truly yours,


FOR HERBERT K. MURAOKA
Director and Building Superintendent

Attach.

1993-01-08-0A-FAA-Honolulu Police Dept. Communications Facility Upgrade
JAN 18 1993

FINAL Environmental Assessment

FILE COPY

**Honolulu Police Department
Communications Facilities Upgrade**

Proposed by:
**City and County of Honolulu
Building Department
650 South King Street
Honolulu, Hawaii 96813**

Prepared by:
Lacayo Planning, Inc.

In association with:
**SCHEMA Systems, Inc.
Leach Mounce Architects**

December 1992

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Proposed by:
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Leach Mounce Architects

December 1992

SUMMARY
Development Profile

APPLICANT: City and County of Honolulu
Building Department
650 South King Street
Honolulu, Hawaii 96813

CONSULTED AGENCIES: City and County of Honolulu
Department of Parks and Recreation
Fire Department
Police Department
Board of Water Supply
Department of Public Works
State of Hawaii
Department of Land and Natural Resources
Department of Health

PROJECT NAME: City and County of Honolulu
Honolulu Police Department
Communications System Upgrade

- COMMUNICATIONS SITES:
1. Honolulu Municipal Building
 - 1A. Kalihi Police Station
 2. Makiki Roundtop
 - * 2A. Waikiki
 3. Diamond Head-Kaimuki
 4. Koko Head
 5. Waimanalo Ridge
 6. Kailua Police Station
 - 6A. Kapaa 272 Reservoir
 - 6B. Kaneohe Police Station
 7. Aikahi Sewage Treatment Plant
 8. Kaaawa Fire Station
 9. Kahuku Police Station
 - * 9A. Sunset Beach Neighborhood Park
 10. Kawela
 11. Mokuleia
 12. U.S. Navy-EASTPAC
 - 12A. Wahiawa Police Station
 13. Puu Manawahua
 - 13A. Waianae 242 Reservoir
 - 13B. Waianae Police Station
 - * 13C. Keaau Beach Park
 - 13D. Pearl City Police Station
 - * 14. Aliamanu 385 Reservoir
 - * 14A. HPD Telecom Service Section
 15. Sand Island Sewage Treatment Plant

* New sites. All other sites are existing

Note: Sites are numbered starting from downtown Honolulu and following the "backbone system," counter-clockwise around the Island. Backbone sites are indicated by numerals only; letters indicate spur sites (refer to System Map).

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Section I. Introduction and Project Description

Introduction

Background

Project Description

Alternatives

I. INTRODUCTION AND PROJECT DESCRIPTION

A. Introduction

The City and County of Honolulu is proposing to upgrade its existing public safety telecommunications system. The new upgraded system, described below, would be supported by facilities at 26 sites on the island of Oahu, 22 of which are existing sites. The project is being funded jointly by the City and County of Honolulu and the State of Hawaii.

Compliance with Hawaii Environmental Impact Statement Law

This Environmental Assessment (EA) was prepared in accordance with Chapter 343, Hawaii Revised Statutes, Environmental Impact Statements (EIS), and Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules. Under Hawaii's Environment Impact Statement rules, a group of actions proposed by an agency will be treated as a single action when an individual project is a necessary precedent for a larger project [§11-200-7 (1), Hawaii Administrative Rules]. Since each of the 26 facilities is an integral part of the Public Safety Telecommunications System, the EA addresses improvements at all sites.

Report Organization

This report is divided into eight sections. Section I presents background information, a description of the project and a discussion of alternatives. Section II provides a discussion of general environmental impacts, including socio-economic, air quality, noise and radiation impacts. Because the improvements proposed for each of the 26 facilities vary and have varying EIS and land use permit requirements, the individual facilities are divided and detailed in the following three sections. Section III describes the 11 sites within the Conservation District and presents information required by both the Hawaii EIS regulations and the Department of Land and Natural Resources (DLNR). Section IV details the four sites subject only to the EIS rules, and Section V presents the 11 sites that are exempt from both DLNR and EIS requirements. The determination and findings of the EA are presented in Section VI and Section VII.

The notice of availability of the Draft EA was published in the *OEQC Bulletin* by the Office of Environmental Quality Control on September 8, 1992 and September 23, 1992. Copies of the Draft EA were distributed to interested public agencies and community organizations. In addition, representatives from the Building Department consulted with a number of these agencies and organizations. Various changes were made to the Draft EA as a result of these consultations and are indicated in this Final EA as underlined text. A list of consulted parties and copies of the correspondence are presented in Section VIII.

B. Background

The project to upgrade the public safety telecommunications system is based on a Master Plan prepared for the City and County of Honolulu during 1990-1991. The result of an extensive consultant study, the Master Plan identifies problems in the current telecommunications system and the current and future needs of the Honolulu Police Department. It also anticipates future use of the system by other City and County agencies. With the concurrence of the Police Department, the Building Department has adopted the Master Plan as the basis for the design, procurement, installation and implementation of the upgraded communications system.

The system consists essentially of two elements which share common towers and equipment rooms: (1) an islandwide microwave system, also referred to as the "backbone system", which relays signals around the island and to police stations; and (2) a land mobile two-way radio system, which provides coverage between fixed stations and mobile or portable radios.

The microwave relay and terminal stations transmit and receive microwave signals across relatively short distances using round, dish-shaped antennas usually mounted at or near the top of a supporting tower or occasionally on top of a building. The antenna height above ground level varies with the radio site, ranging from a low of about 25 feet to a high of 200 feet.

The mobile two-way radio system uses fixed stations at City and County communications sites to transmit and receive signals. The number of stations varies from 1-2 at minor sites to 5-10 at major sites, such as remote repeater locations. Antennas are typically the vertical "whip" type, mounted on towers and/or buildings at heights which are adequate to provide reliable coverage in the subject area. At sites where multiple frequencies are in use, transmitter combining and receiver multi-coupling techniques will be employed to minimize the number of antennas.

The problems and needs identified in the Master Plan are summarized below.

Microwave system

- Existing equipment aging and nearing end of useful life
- Need to change from the existing analog system to a digital system that will improve reliability, make more efficient use of equipment, reduce dispatch workload, and accommodate data transmission

Mobile two-way system

- Inadequate coverage in some areas
- Existing system uses channels in two different bands, each requiring different mobile radio equipment
- Congestion in the existing system
- Need for a trunked system to provide increased efficiency, flexibility and expansion capability
- Need for digital mobile radio system that can accommodate data transmission

Towers and equipment rooms

- Degradation of equipment being caused by poor condition of facilities and intrusion of pests
- Some towers are not high enough to provide adequate coverage

While the primary motivation of the project is to solve the pressing and serious needs of the Police Department, the Master Plan calls for implementing new communications technology that will have sufficient system capacity to address future communications needs of other City and County agencies. Rather than obtain separate, stand-alone mobile radio systems, other agencies will be able to utilize surplus capacity on the new trunked public safety system at substantially less cost. The microwave backbone system will continue to support other City and County users, as well as certain other users, including some State agencies.

C. Project Description

The Master Plan calls for implementation of the communications facilities upgrade project in four major phases: (1) facilities upgrading and new construction; (2) new microwave backbone system; (3) 800 MHz mobile voice system; and (4) 800 MHz mobile data system.

The first phase will entail the preparation of the radio facilities, including police station radio rooms, to house the new equipment. Most of the existing facilities will be upgraded to professional communications standards and a few new sites will be constructed as necessary to accomplish the desired radio coverage objective.

In the second phase, the existing analog microwave system will be replaced with a new digital backbone system. This phase will also include any new links in the backbone, plus the spur links to the police stations and other new locations, if constructed.

The third and fourth phases represent implementation of the two components of the new trunked mobile radio system: the mobile voice radio and mobile data systems. Though separable with regard to both procurement and installation, the two components are technically parts of the single integrated mobile system and can be implemented simultaneously, depending on funds.

The voice radio system will consist of the fixed, mobile, and portable radios used for voice communications. The data radio system will consist of similar equipment but will also include vehicle-mounted computer devices and possibly portable units carried by individuals.

Following this section are a "HPD Communications System Map" showing the location of existing and proposed communications facilities and microwave links and a "Facility Improvement Summary"—a table showing the nature of facility improvements proposed at each site.

Facilities Upgrade and New Construction

Nearly all of the radio facilities, including some equipment rooms at district police stations, are in need of upgrading. Most lack air conditioning, and most buildings at the remote sites are subject to the intrusion of dust, blowing trash, leaves, small animal life (rodents and geckos) and, at some sites, vegetation growth. Over the long term, intrusion of foreign elements results in degradation of the costly electronic equipment, which in turn leads to unit failures, increased downtime, and escalated maintenance obligations.

The project goal is to upgrade the City and County's radio facilities, whether existing or new, to provide maximum protection to equipment and personnel. To meet professional communications standards, all sites will be environmentally controlled (air conditioned) and will have proper equipment grounding and appropriate emergency and uninterruptible power sources.

Improvements include upgrading existing facilities and constructing new sites as necessary to meet the coverage requirements.

Remote Site Upgrading

Each of the existing remote sites will receive some degree of upgrading. In addition to the installation of air conditioning, some facilities will require substantial repairs to roofs, walls (inside and out), ceilings, and doors, as well as painting and fencing. Others will require only air conditioning and minor repairs and maintenance.

Existing sites to be upgraded include the following:

| | |
|-------------------------------|------------------------------------|
| Honolulu Municipal Building | Kawela |
| Makiki Roundtop | Mokuleia |
| Koko Head | US Navy-EASTPAC |
| Waimanalo Ridge | Puu Manawahua |
| Aikahi Sewage Treatment Plant | Sand Island Sewage Treatment Plant |
| Kaaawa Fire Station | |

Smaller equipment buildings at Kawela and USN-EASTPAC sites will require expansion in order to house the new equipment. Existing towers will be analyzed to determine their structural capability to accommodate proposed height extensions and antenna loading and to meet wind stress specifications. Most have sufficient height and are of sufficiently heavy construction to meet requirements.

Due to age, type of construction, insufficient height, and lack of adequate surface mounting space, the existing tower at Koko Head is scheduled for replacement. Other towers will be replaced to accommodate height extensions. All replacement towers will be designed to withstand Category 5-Hurricane Forces. In addition, where required, new waveguide ladders and cable bridges will be installed on towers to allow for a clean routing of transmission lines.

Similar to the Koko Head site, the poles at the existing Diamond Head facility lack adequate surface mounting space and height, and require replacement. In 1992, however, the Hawaii State Legislature passed Act 313, expanding the boundaries of the Diamond Head State Monument to include the entire crater, its interior slopes and all state lands along the exterior slopes extending to Diamond Head Road. The Act also requires compliance with the Diamond Head State Monument Plan of 1979, which calls for reforestation of the crater slopes and phasing out of all facilities not related to park use. The Act 313 restricts expansion of buildings and other structures and construction activity within the boundaries of the Diamond Head State Monument unless consistent with park use according to the Plan.

As a result, and after consultation with the Diamond Head Neighborhood Board and the Department of Land and Natural Resources, the City and County has decided to explore alternative sites to its Diamond Head facility. A location will largely depend on its ability to relay signals between the Makiki Round Top and Koko Head sites, results of radio coverage surveys for the Kaimuki-Palolo-Waialae area, and land availability. The City and County will submit a supplemental Environmental Assessment for the Diamond Head-Kaimuki facility once a site has been selected and studies have been completed.

Police Station Radio Room Upgrading

Generally, the existing police station radio equipment rooms are of adequate size to house the new radio equipment. Each room will require some upgrading, which will generally include repair of ceilings, walls (inside and outside), painting, closing of outside vents, general cleanup, the installation or extension of air conditioning, and the installation of an adequate electrical grounding system for all radio and data equipment. Some of the rooms also house file servers for the data system. Special attention will be required to provide radio frequency isolation and filtering for co-located file servers or other data equipment.

Existing police station radio rooms to be upgraded are as follows:

| | |
|---------------------------|------------------------|
| Pearl City Police Station | Kahuku Police Station |
| Kalihi Police Station | Wahiawa Police Station |
| Kailua Police Station | Waianae Police Station |
| Kaneohe Police Station | |

New Facilities to be Implemented or Constructed

In order to reconfigure the existing system to accommodate coverage requirements, four new remote sites have been selected based on the results of the field coverage surveys:

Aliamanu 385 Reservoir (new microwave backbone site)
Sunset Beach Park (new mobile receive site)
Keaau Beach Park (new mobile two way site)
HPD Telecommunications Service Section (new shop near Honolulu Airport)
Diamond Head-Kaimuki (replacement site for the existing Diamond Head facility, to be selected)

The "Facility Improvement Summary" table shows the type of improvements which will be constructed. In addition, the Kapaa 272 Reservoir site will be converted from a passive facility to an active microwave facility, with the addition of an equipment building and the replacement of one tower. Both new and replacement towers will be designed to withstand Category 5-Hurricane Forces.

Finally, the Waikiki site will be altered to improve hand-held radio coverage. The Waikiki site consists of three sub-sites, all on top of tall buildings. The existing mobile receive sub-site on top of the Outrigger Hobron would be retained and improved. The mobile two-way site at the Outrigger West would be abandoned and replaced with a new two-way site on top of the Outrigger Malia. The existing mobile receive site at the Honolulu Zoo would also be abandoned and replaced with a new receive site on top of the Prince Kuhio.

Microwave System Replacement

The present microwave system was installed in 1978. It is an analog system operating in the 6 GHz microwave band and is configured in a protected loop configuration with several spur links off the loop to police sub-stations. Including the spurs, there are 20 microwave station locations throughout the island. The majority of the microwave radio equipment is Motorola, Model MR-600, which is no longer in production. The age of this equipment is fast approaching its normal life span of roughly 15 years.

A new digital microwave system will be implemented to replace the older analog system. Digital microwave equipment is a more modern design that will provide superior performance and better support of modern communications requirements, particularly electronic data transmission and digital voice systems.

The new system will serve all the existing remote sites and police stations plus the new sites shown in the "HPD Communications System Map". It will support all two-way voice and mobile data systems and point-to-point data transmission for the Police Department and other City and County and State users. The system channel capacity will allow for the addition of new users in the future.

Types of communications will include two-way voice radio, telemetry, data, and telephone. With digital microwave, increased channel capacity can be obtained by various technical means, such as multiplexing more than one communications circuit per microwave channel. Pending selection of a

vendor, the specific number of individual communications channels that can be carried on the microwave cannot be firmly identified. At a minimum, however, the system should support 672 voice equivalent channels.

Two Way Voice Radio System Replacement

The existing police radio system uses channels in two different radio bands: VHF and UHF. The VHF system operates in the simplex mode (non-repeater) and is controlled from the police dispatch center. It is primarily used by police patrol units.

The UHF system operates in the repeater (mobile relay) mode and is controlled islandwide from the main offices of the Intelligence Unit (IEU), the Special Service Division (SSD), and the Vice Division. Islandwide radio access is over the microwave backbone system. Both systems have problems, which are briefly described below.

There is unreliable two way mobile and portable radio coverage in certain locations, particularly in the country districts. Areas with unreliable coverage include the Mokuleia-Kaena Point-Yokohama Bay area, Waimea Bay and Sunset Beach, the Helemano area, Waikakalaua and Kipapa gulches, Lanikai, Kahana Bay, and Sacred Falls.

Islandwide radio coverage is needed for all users throughout the system. The police dispatch center needs islandwide coverage with every patrol unit. In addition, certain specialized divisions or sections need system access directly from their offices for communicating with their own field units. There is a need to provide an adequate number of radio channels to support the varied police activities for both voice and digital communications.

Because of technical limitations, one single radio cannot transmit on both the VHF and UHF bands, so units that need to communicate with all units in the department, such as investigators, must carry two separate radios, one VHF and one UHF. Conversely, officers with only a single radio in one band cannot talk to officers with a radio in the other band.

The number of units on some radio channels result in an excessive congestion problem. There are too few radio channels, requiring the dispatch channels to be used for tasks that could otherwise be transferred to a different channel. This adds to the congestion problem.

To improve the Department's operation, the existing two-way radio network will be replaced with a modern, high-technology, 800 MHz trunked system. The new system will be integrated, permitting an officer to communicate with any other officer using a single radio. The new 800 MHz radio equipment will be installed at all the site locations shown on the system map.

Implementing an 800 MHz trunked system is inherently more costly and complex, but it offers several major technological and operational advantages. It provides low potential for radio interference, more privacy, flexibility for restructuring, protection from loss of an individual repeater, and multiple features, such as the ability to add a mobile data component. 800 MHz trunking offers frequency efficiency, and, if implemented on an islandwide basis, it will provide maximum flexibility for multiple users, operational applications, and expansion capability.

While HPD has a large number of radios, the islandwide trunked system will be capable of supporting a significantly larger number of field units. The initial capacity of the system will be sufficient to accommodate other government users who operate throughout the island. These users would only need to purchase their own mobile, portable, and control radio units, and they would essentially

become "subscribers" on the islandwide trunked backbone system. Adding new users will not require additional remote site equipment, such as new repeaters and antennas, until the new system reaches a very high threshold of new utilization.

Moreover, the cost of adding radio channels to an existing trunked system is *less* than a linear cost when compared to building the initial system. Thus, from a global view of government radio system needs, it is much less expensive to add a few channels in the future to a large trunked network than to build independent radio systems for each separate government user. With correct design, each user agency will perceive that it operates on its own network and will never know that the system resources are, in fact, shared.

Mobile Data Radio System Implementation

There is a need to automate certain field operations to improve the efficiency of field officers. Current needs include report writing and submittal, traffic citation issuance, gang contact documentation, and electronic mail. Future requirements include warrant information, mug image information and access to yet unbuilt automated data systems.

The use of mobile digital communications equipment will greatly reduce the amount of voice radio traffic and alleviate the operational problems that can be expected with a voice-only system.

The proposed new 800 MHz mobile data radio system will fully support data base access, computer aided dispatch access, mobile terminal-to-mobile terminal communications, and integration of field-initiated report writing with the records management system. The data radio units will utilize the same sites as the mobile voice radio units.

D. Alternatives

Do Nothing

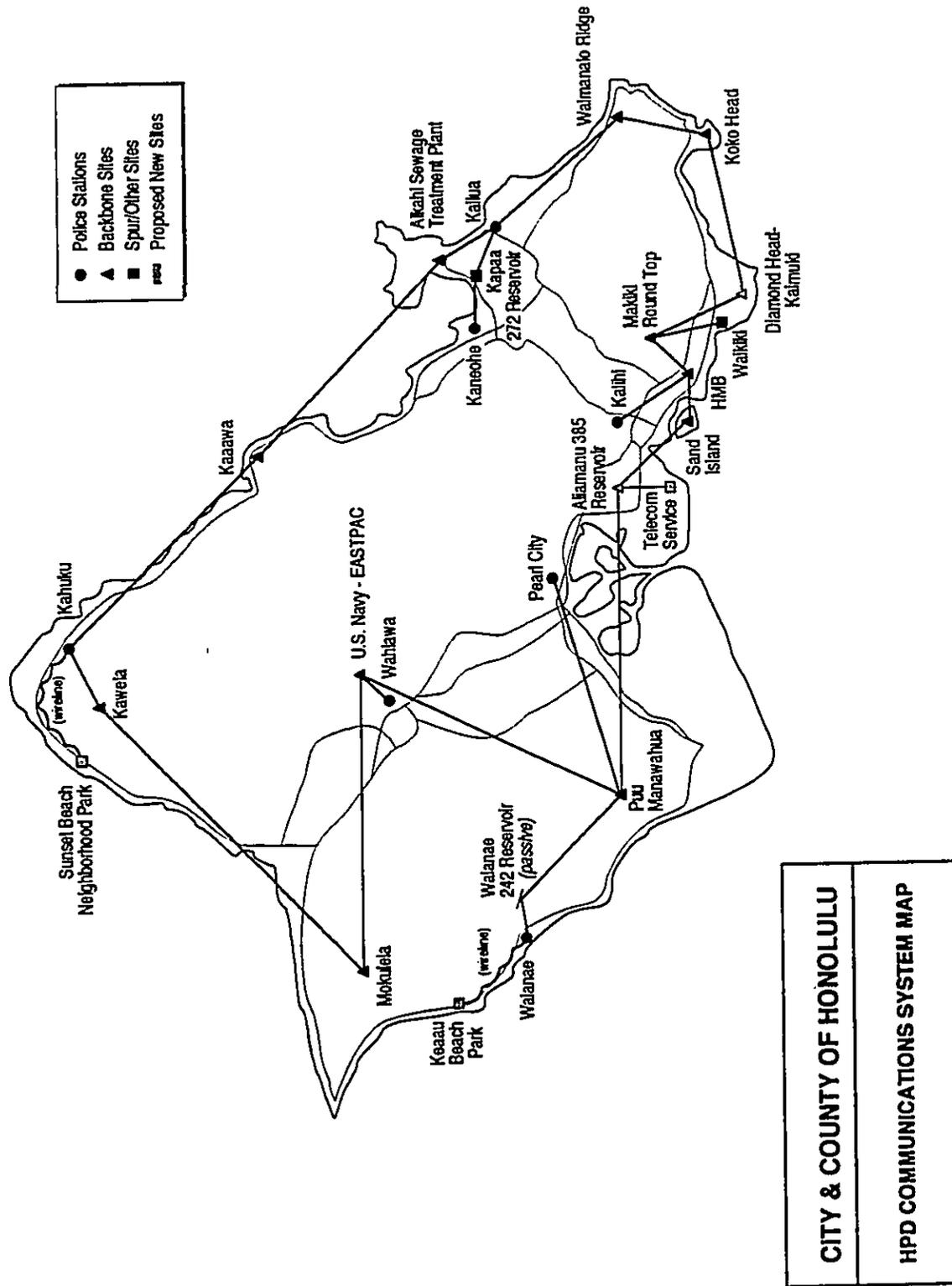
The "do nothing" alternative poses an unacceptable risk to public safety because existing radio facilities are deteriorating and need to be replaced or repaired. In addition, public safety is jeopardized by poor communications coverage in certain areas of the island. In addition, taking no action to improve the public safety communications system would mean forgoing significant gains in the effectiveness and efficiency of the system and of the police force itself.

Alternative System Design

The Master Plan considered alternative system designs. Some alternatives would be less costly in the short-term but (1) would provide fewer opportunities for expansion of communications applications; (2) would not accommodate new users; and/or (3) would lead to long-term higher costs for system expansion.

Alternative Sites

All but five of the sites are existing and are planned for relatively minor modifications. New sites were selected on the basis of radio coverage surveys and land availability. In many cases, such as the Aliamanu 385 Reservoir site, the location was largely determined by topography. Unless sites at higher elevations are used, communications facilities will need tall towers to achieve similar radio coverage. All of the new sites (with the exception of Diamond Head-Kaimuki, which has yet to be decided) are on City and County-controlled property, which reduces costs and security problems.



| SITE | TMK | EIS/PERMIT REQUIREMENTS | | | BUILDING | | TOWER | |
|--|-------------|--------------------------|---------------|----------|----------|-----------|--------------|---------|
| | | ENVIRONMENTAL ASSESSMENT | MAJOR PERMITS | Addition | New | Extension | Replacement | New |
| 1. Honolulu Municipal Building | 2-1-033:010 | X | | | | | | |
| 1A. Kailahi Police Station | 1-3-024:006 | exempt | | | | | | |
| 2. Makiki Round Top | 2-5-019:011 | X | CDUA | | | | | |
| 2A. Waikiki: Outrigger Hobron | 2-6-012:047 | exempt | | | | | | |
| Outrigger Malla | 2-6-019:021 | exempt | | | | | | |
| Outrigger Prince Kuhio | 2-6-025:024 | exempt | | | | | | |
| 3. Diamond Head-Kaimuki | 3-1-042:014 | to be selected | | | | | | |
| 4. Koko Head | 3-9-012:004 | X | CDUA/SMA | | | | 40 to 50-ft. | |
| 5. Waimanalo Ridge | 3-9-009:001 | X | CDUA | | | | 70-ft. | |
| 6. Kailua Police Station | 4-3-058:008 | exempt | | | | | | |
| 6A. Kapaa Reservoir | 4-2-017:016 | X | CDUA/SMA | | X | | 50-ft. | |
| 6B. Kaneohe Police Station | 4-5-018:002 | exempt | | | | | | |
| 7. Alkali Sewage Treatment Plant | 4-4-011:081 | exempt | | | | | | |
| 8. Kaawawa Fire Station | 5-1-011:051 | X | | | | | | |
| 9. Kahuku Police Station | 5-6-006:020 | exempt | | | | | | |
| 9A. Sunset Beach Neighborhood Park | 5-9-005:070 | X | | X | | | | |
| 10. Kawela | 5-7-004:002 | X | CDUA | | | | | |
| 11. Mokuia | 6-8-001:001 | X | CDUA | | | | 70-ft. | |
| 12. U.S. Navy-EASTPAC | 7-1-002:007 | exempt | | X | | | | |
| 12A. Waihana Police Station | 7-4-007:008 | exempt | | | | | | |
| 13. Puu Manawahua | 9-2-005:014 | X | CDUA | | | | | |
| 13A. Puu Pahaehoe | 6-6-001:048 | X | CDUA | | | | | |
| 13B. Waianae Police Station | 8-5-008:051 | X | | | | | 50-ft. | 25-ft.* |
| 13C. Keau Beach Park | 8-3-001:001 | X | CDUA/SMA | | | X | | |
| 13D. Pearl City Police Station | 9-7-094:022 | exempt | | | | | | |
| 14. Salt Lake Reservoir | 1-1-063:010 | X | CDUA | | | X | | 50-ft. |
| 14A. HPD Telecom Service Section | 1-1-015:013 | exempt | | | | | 20-ft. | |
| 15. Sand Island Sewage Treatment Plant | 1-5-041:005 | X | | | | | | |

*antenna pole

HONOLULU POLICE DEPARTMENT 9 COMMUNICATIONS FACILITIES UPGRADE

Facility Improvement Summary
HPD Communications Facilities

Section II. General Environmental Impacts

Economic Impacts

Public Services and Utilities

Air Quality and Noise

Radio Frequency (RF) Radiation

II. GENERAL ENVIRONMENTAL IMPACTS

This section discusses environmental impacts common to all sites, including socio-economic impacts, radiation impacts, and impacts on public services, air quality and noise. Sections 3 and 4 discuss physical impacts to specific sites within the State Conservation District and other sites which will receive significant improvements.

A. Economic Impacts

Construction of the proposed improvements will generate some short-term employment opportunities and will likely involve the temporary mobilization of existing labor. Following completion, the facilities will be operated and maintained by existing Police Department and Building Department personnel.

Appropriations for planning, architecture and engineering, construction and equipment procurement total \$21.3 million to date, with a total project budget of \$36.4 million. Total project cost will be equally shared between the State and the City and County. High initial facility costs will be offset by the low cost of future expansion to accommodate the communications needs of not only the Police Department but also other government agencies.

B. Public Services and Utilities

All sites require electrical power, except for the Waianae 242 Reservoir site (passive reflector). Power is currently provided to the existing sites and is available at the new sites. No water, wastewater disposal, solid waste disposal, or other public services are required.

The project to upgrade the communications system will have a direct, positive impact on police services, as described above. In the future, it is also expected to have a positive impact on other agencies, as they discontinue their individual systems and are added to the upgraded public safety system. Other City agencies which could take advantage of the upgraded system include the Fire Department, the Department of Public Works, the Oahu Civil Defense Agency, the Department of Parks and Recreation (Water Safety Division), and the Transit Authority. The enhanced coverage and reliability offered by the upgraded system will benefit all new users.

C. Air Quality and Noise

Construction of the proposed improvements may temporarily impact existing air quality and noise levels. Construction at some sites may increase the amount of dust in the air; and construction machinery may raise noise levels. These impacts are expected to be minimal, since most of the sites where exterior construction will occur are remote from populated areas. Construction activities will comply with State Department of Health regulations requiring mitigation of potential impacts to air quality and noise levels.

D. Radio Frequency (RF) Radiation

Within the last several decades, the proliferation of radio frequency (RF) emitters in the environment has spurred extensive and ongoing research efforts to investigate the biological and public health effects of low-level non-ionizing radiation. In addition to increases in radio and television broadcast stations and in police and other public agency radio systems, there has been substantial growth in

private sector development and use of land mobile radio systems. These include fast-growing new technologies, such as cellular telephone.

It should be emphasized that environmental levels of RF radiation routinely encountered by the public are well below hazardous levels. The U.S. Environmental Protection Agency has estimated that 98-99 percent of the population in seven U.S. urban areas studied is exposed to less than 0.001 milliwatts per centimeter squared (mW/cm^2).¹

By far the greatest amounts of RF radiation affecting populated areas are emitted by the more than 11,000 AM, FM, and TV stations operating in the United States today. These stations broadcast on various RF frequencies, ranging from 550-1,600 kilohertz (kHz) for AM, 88-106 megahertz (MHz) for FM, and 56-800 MHz for VHF and UHF television stations. In contrast to two-way radio systems which broadcast intermittently, broadcast stations operate at much higher magnitudes of radiated power, and they typically broadcast *continuously* up to 24 hours per day. Radiated power, including antenna gain, from these stations can range from a several hundred watts upwards to several thousand watts.

RF Radiation Exposure Guidelines

In the United States, there is presently no mandatory federal standard for protection of the public or workers from potentially hazardous exposure to RF radiation. Nonetheless, several federal agencies and non-government organizations have adopted general guidelines. The Occupational Safety and Health Administration (OSHA) generated a guideline for workers in 1971, but it was later ruled to be advisory only. The National Institute for Occupational Safety and Health (NIOSH) has been working on a recommended worker standard for some time. However, there is no evidence that NIOSH will issue a recommendation in the near future.

The Center for Devices and Radiological Health (CDRH), a part of the U. S. Food and Drug Administration, has regulated radiation from microwave ovens since 1971. CDRH has established a radiation performance standard for microwave ovens that allows leakage (measured at five centimeters from the oven surface) of $1.0 \text{ mW}/\text{cm}^2$ at the time of manufacture and a maximum level of $5.0 \text{ mW}/\text{cm}^2$ during the lifetime of the oven.

By far the most widely-used guideline is that issued by the American National Standards Institute (ANSI), a non-profit organization that develops recommended standards for a variety of applications. In 1982, ANSI issued revised RF protection standards (C-95.1, 1982) which were based on data regarding the interaction of RF radiation with the human body.

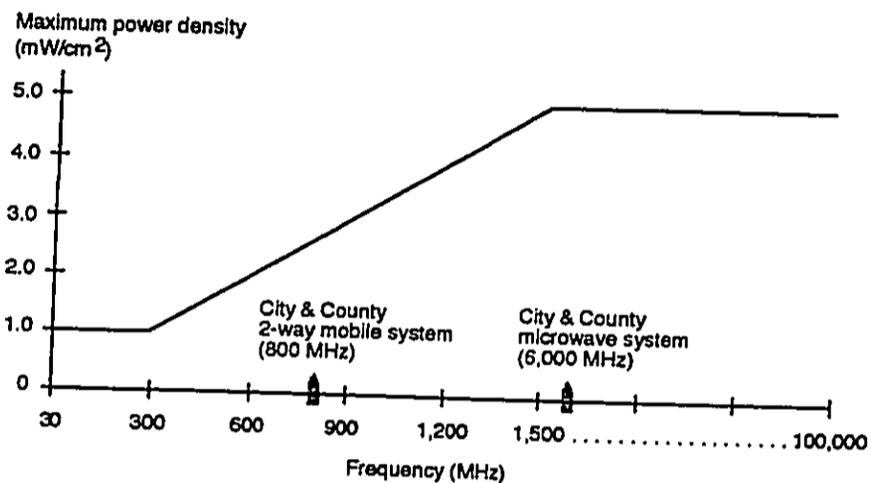
The standards are intended to apply to non-occupational as well as to occupational exposures. Compliance with the ANSI standards is voluntary but they are widely used by federal, state, and local authorities. The FCC uses the 1982 ANSI standards for purposes of evaluating the environmental impacts of the RF transmitters it regulates.

The 1982 ANSI standard shows that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits apply to the frequency range of 30-300 MHz, where a maximum level of 1 milliwatt (mW) per centimeter squared (cm^2), as averaged over any six-minute period of exposure, is recommended. At frequencies between 300-1,500 MHz, the levels are calculated

¹ Athey, et. al., "Radio Frequency Radiations Levels and Population Exposure in Urban Areas of the Eastern United States", Technical Report EPA-520/2077-008, 1978.

by dividing the frequency by a factor of 300 (freq/300). Thus, the levels range from 2.6 mW/cm² at 800 MHz to 3.0 mW/cm² at 900 MHz. Frequencies between 1,500-100,000 have a maximum power density of 5.0 mW/cm² (see figure below).

ANSI Exposure Standards and City and County Proposed Frequencies



ANSI has been in the process of revising its 1982 standard, and in early 1992, a new proposed standard (C-95.1, 1990) was released from committee. The new proposal differentiates between occupational standards for workers and standards for the general public. The proposed occupational standard is 1.0 mW/cm² for a six-minute exposure (no change from the 1982). The proposed general public standard is 0.2 mW/cm² for a 30-minute exposure. It should be noted that the new standards have not yet been accepted by the FCC or other regulatory agencies.

The intensity of the radiation depends on the source, the distance from the source, and the radiation pattern. Given the source level and any given distance, the field intensity can be calculated fairly accurately, usually in fractions of a watt (milliwatts or microwatts) that pass through the standard unit area of one square centimeter.

Radiated RF energy from a given source decreases rapidly as distance is increased. In fact, the level decreases according to the inverse square law—i.e., it is inversely proportional to the square of the distance. Simply stated, as the distance doubles, the level of radiation decreases by a factor of four.

RF Exposure to City Microwave Transmitters

The microwave antennas used in the City and County system operate in the 6 GHz band (6 GHz equals 6,000 MHz) and have a highly directional beam for point-to-point communications. They are generally tower-mounted and range in height from 25 to 200 feet above ground level. Depending on the transmitter power output (0.5 watts to 1.0 watts), branching losses, transmission line losses, and size (diameter) and gain of antenna, the effective radiated power (ERP) from the antenna in the focused beam can range from 500 to 7,000 watts.

The microwave signals from these antennas travel in a line-of-sight path with a highly directional beam, similar to a spotlight, from one antenna to the next. The dispersion of microwave energy outside of the relatively narrow beam is minimal.

Because of the microwave antennas' highly directional beam and typical height above ground, power densities at ground level are markedly below the ANSI standards. An individual would have to stand *directly in front of the antenna for a significant period of time* in order to be exposed to a radiation level that might be considered harmful. This is generally not possible due to the height of the antenna above ground.

Using the ANSI standard of 5.0 mW/cm^2 for 6 GHz (see figure above) and assuming a typical six-ft.-diameter antenna with an approximate ERP of 7,000 watts, the location of maximum power density in the focal plane of the antenna is as follows:²

| <u>Location of Maximum Power Density</u> | <u>Calculated Level of Maximum Power Density</u> |
|--|--|
| 45 feet from antenna | 0.1849 mW/cm^2 |

These calculations indicate that the exposure levels to City microwave antenna radiations at 45 feet are well below the ANSI standard of 5.0 mW/cm^2 . Beyond that distance, the level would continue to decrease significantly.

RF Exposure to City Two-Way Mobile Radio Transmitters

The new City two-way system will be licensed in the 821-824 and 866-869 MHz portion of the 800 MHz band allocated by the FCC for public safety. The band is commonly called the NPSAC band after the National Public Safety Frequency Advisory Committee, which was instrumental in developing the national recommendations for its use.

The 800 MHz system will be designed to provide islandwide radio coverage with fixed stations located at various radio sites around the island. The fixed stations will be located in secure facilities with the antennas mounted at heights sufficient to provide good radio coverage. The majority of 800 MHz antennas will be tower-mounted at heights ranging from roughly 50 to 200 feet above ground, with an average antenna height of about 100 feet. The antennas are designed to convey the signals in the direction of the horizon with very little emission in other directions, such as above or directly below the tower; therefore, the power density around antennas at ground level will be significantly less than the ANSI guideline. Neither the stations nor the antennas are accessible to the general public.

A typical 800 MHz radio site will consist of a number of fixed transmitter stations, varying from 1-2 at minor sites to 5-10 at major sites, such as remote repeater locations. At sites where multiple 800 MHz frequencies are in use, transmitter combining and receiver multi-coupling techniques will be used to minimize the number of antennas. Of the new sites, Aliamanu 385 Reservoir will have 5-10 stations; Sunset Beach Park will have no transmitter stations; and Keaau Beach Park will have only two stations.

The fixed stations will operate with a transmitter power output of 75 to 125 watts. The average ERP from the antenna for a single 800 MHz transmitter will be approximately 200 watts, including transmitter combiner and transmission line loss plus antenna gain (10 db). Maximum combined ERP for one of the

² Bickmore and Hansen, "Antenna Power Densities in the Fresnel Region", Proceedings of the IRE, 1959.

larger sites would occur on occasions when all 10 stations are transmitting simultaneously. In such a case, the combined ERP would be around 2,000 watts. It should be understood, however, that the City's fixed stations *will not transmit continuously but will transmit intermittently and only when needed to carry public safety-related communications.*

Using an average of 850 MHz to represent the frequency the City and County will be using, the ANSI standard is calculated as follows: $850 \text{ MHz} / 300 = 2.8 \text{ Mw/cm}^2$ (see figure above). This level is used for calculating the exposure levels at varying distances from an antenna with a single transmitter of 200 watts ERP and multiple transmitters with a combined ERP of 2,000 watts (10 x 200 watts), as follows:

Calculated Level of Power Density

| <i>Distance</i> | <i>200 watts ERP</i> | <i>2,000 watts ERP</i> |
|-----------------|------------------------------|-----------------------------|
| 50 feet | 0.0274100 mW/cm ² | 0.274100 mW/cm ² |
| 500 feet | 0.0002709 mW/cm ² | 0.002709 mW/cm ² |
| 5,000 feet | 0.0000027 mW/cm ² | 0.000027 mW/cm ² |

The above calculations indicate that, for either level of effective radiated power, the exposure levels to City two-way radio antennas fall well below the 2.8 mW/cm² standard established by ANSI.

**Section III. Proposed Facilities on
Hawaii Conservation District Lands**

Makiki Round Top

Diamond Head-Kaimuki

Koko Head

Waimanalo Ridge

Kapaa 272 Reservoir

Kawela

Mokuleia

Puu Manawahua

Waianae 242 Reservoir

Keaau Beach Park

Aliamanu 385 Reservoir

III. PROPOSED FACILITIES ON HAWAII CONSERVATION DISTRICT LANDS

This section assesses the environmental impacts of the proposed improvements to the facilities located within the State Conservation District. Each site description is accompanied by Site Location, Site Vicinity, Site Profile, Existing Tower and New Tower plans. The Site Vicinity Plan and Site Profile Plan depict the proposed towers and equipment rooms relative to existing structures and natural features. Refer to the tower plans for accurate representation of antenna and dish placements and orientations. Note however, that all vertical antennas are drawn at their maximum heights of thirteen feet. The actual antenna lengths, however, will vary from site to site and cannot be determined until the system is installed. Nevertheless, no antenna will exceed thirteen feet in length. The total *number* of antennas are accurately represented on the tower plans.

Makiki Roundtop Communications Facility (2) Development Profile

TMK: 2-5-019: 011

AREA OF SITE: 3,920 sq.ft.
Area of Use: less than 3,900 sq.ft.

LANDOWNER: State of Hawaii

NEAREST TOWN/LANDMARK: Manoa neighborhood
Distance from Site: 0.25 miles

EXISTING USE: Communications facility

PROPOSED ACTIONS: Upgrade communications facility

STATE LAND USE DISTRICT: Conservation
Subzone: Resource (R)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Preservation
Public Facilities Designation: None

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Not located within SMA

LAND USE APPROVALS REQUIRED: Conservation District Use Application

A. Site Location and Existing Uses

The existing communications facility is located at the 1,079-ft. elevation in Puu Ualakaa State Park on Round Top Drive. Use of the site by the City and County is authorized under an Executive Order dated December 9, 1947.

The facility is a backbone link to the Honolulu Municipal Building and Diamond Head sites. In addition to the Police Department, the Fire Department, Water Safety, Department of Transportation Services, other local government, State of Hawaii (specific departments not available) and U.S. Secret Service use the facility.

The facility consists of two equipment buildings totaling 830 square feet and one 100-ft.-tall tower. The larger, newer building measures 650 square feet and is attached to an older 180-sq.ft. building. Both are of CMU construction with a concrete slab roof. Four six-ft.-diameter microwave dishes, one corner reflector, five dipole antennas and eight vertical antennas are attached to the tower. A water tank is hidden behind a five-ft.-high mound of dirt and vegetation about ten feet from the buildings. The entire facility is secured by a six-ft.-high chain link fence.

Surrounding uses include State communications equipment consisting of: one 100-ft.-tall tower located just east of the City and County's tower; one 25-ft.-tall tower along the northern portion of the equipment building; and one 40-ft.-tall monopole on the southwest corner of the building. Various dishes and antennas are attached to the towers and pole. Restrooms for the park are located between the existing communications site and the upper parking area (the lower parking area is located at the front of the ridge). The site is about 0.25 miles from the nearest houselot in Manoa Valley.

B. Proposed Action

Improvements proposed for this facility are limited to constructing a five-ft.-wide perimeter concrete walkway, making various interior alterations, and general cleanup and repainting of the building. Weeds will also be cleared away from the structures.

The construction cost for the proposed improvements is estimated at \$100,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing site has slopes of ten to 15 percent, leading to slopes of more than 40 percent beyond the security fence. The parking area is relatively flat with a gentle slope to the lookout area. According to the U.S. Soil Conservation Service, soils in the area are of the Tantalus series and consist of well-drained, silty clay loam. Runoff is medium and erosion hazard is moderate.

The improvements proposed for the facility will require minimum alteration to the site. Although limited grading will be performed to allow construction of a perimeter concrete walkway, this activity will not result in any significant erosion or sedimentation impacts.

Flood Hazard

Rainfall in the area averages 40 to 50 inches per year. According to the Federal Flood Insurance Rate Maps, the site lies outside the 500-year floodplain. The minor improvements proposed for the facility will not result in any flooding of lower elevation properties.

Flora and Fauna

The north, south and western sides of the facility are surrounded by stands of ironwood trees (previously topped), koa haole and tall grass. Along the eastern fence line is a level area measuring three

to four feet wide and covered with grass, more ironwood trees and a tall stand of Norfolk Island pine trees. No threatened or endangered flora or fauna exist in the area.

The proposed improvements will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The proposed improvements will not impact existing public views.

Access and Traffic

Access to the site is from Round Top Drive. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Land Use Approvals Required

Conservation District Use Application

The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

The project site lies within the Resource (R) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

Prior CDUA Approvals

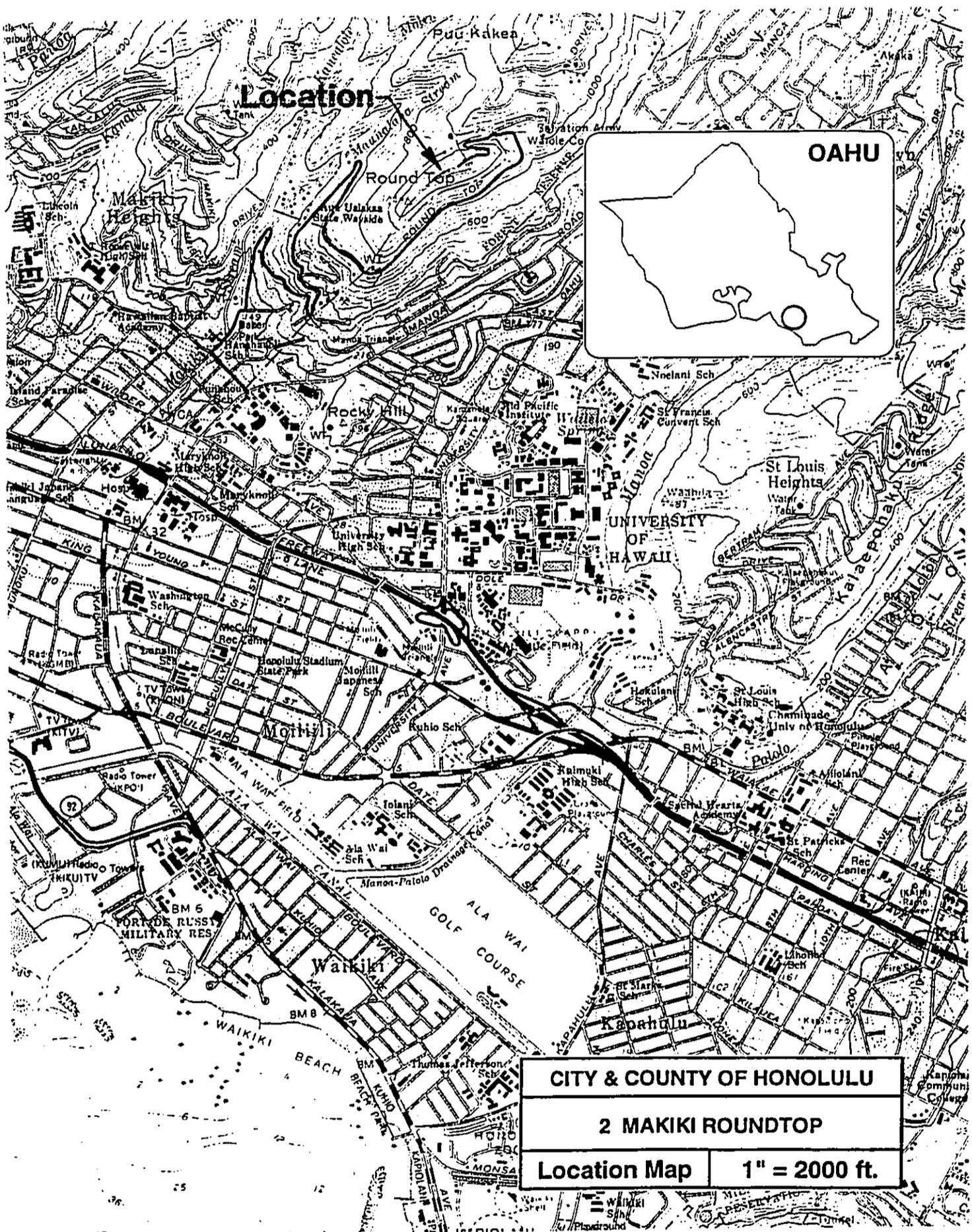
OA-0444: October 1973 - Construct a 625-sq.ft. CMU building addition, and install a 100-ft.-tall steel tower and five microwave dishes (two six-ft. diameter and three four-ft. diameter dishes).

August 1974 - Temporarily install one 12-ft. omni-directional antenna onto existing transmission building.

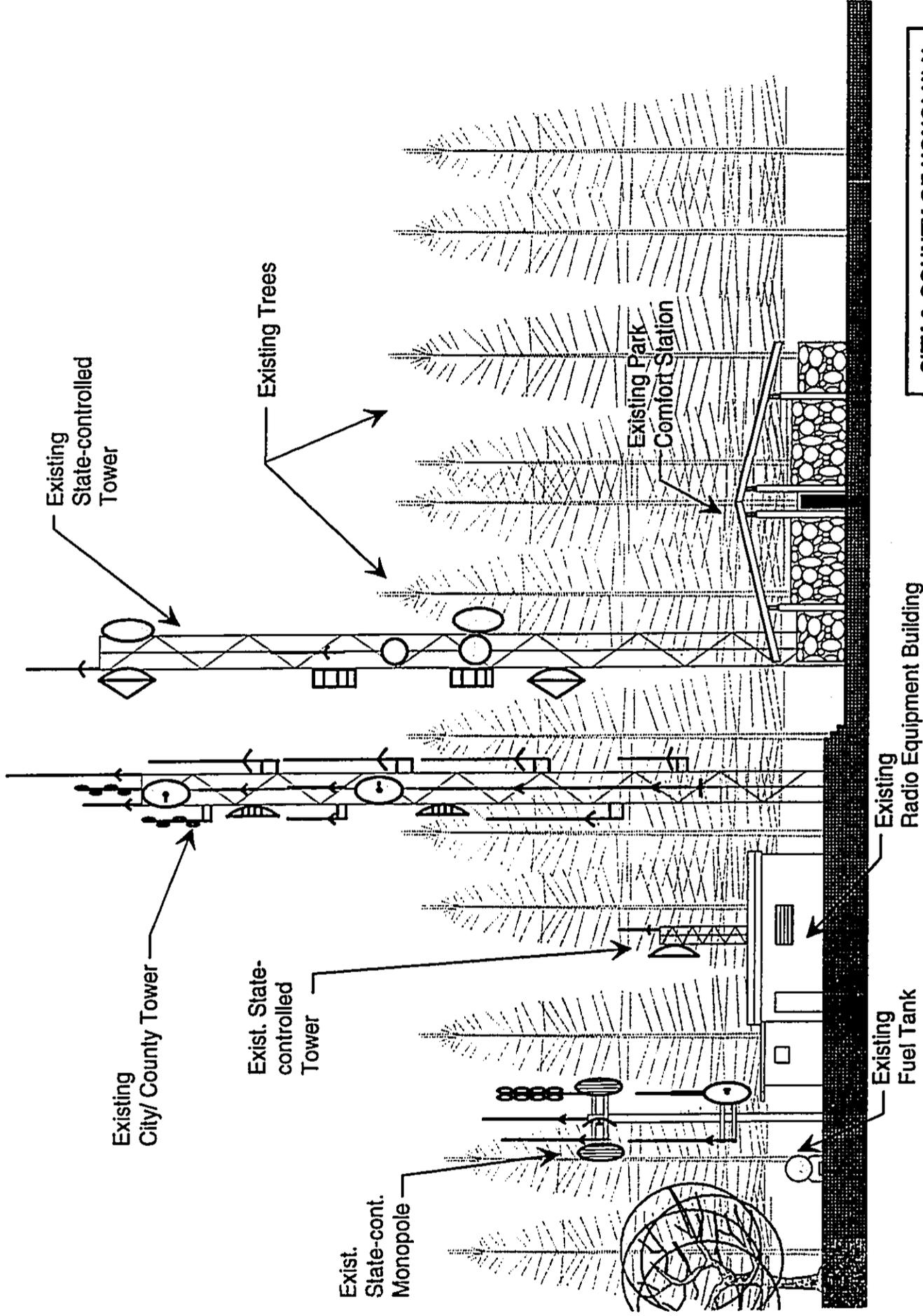
October 1974 - Replace fuel tank.

November 1974 - Install one five-ft. omni-directional antenna onto existing transmission building.

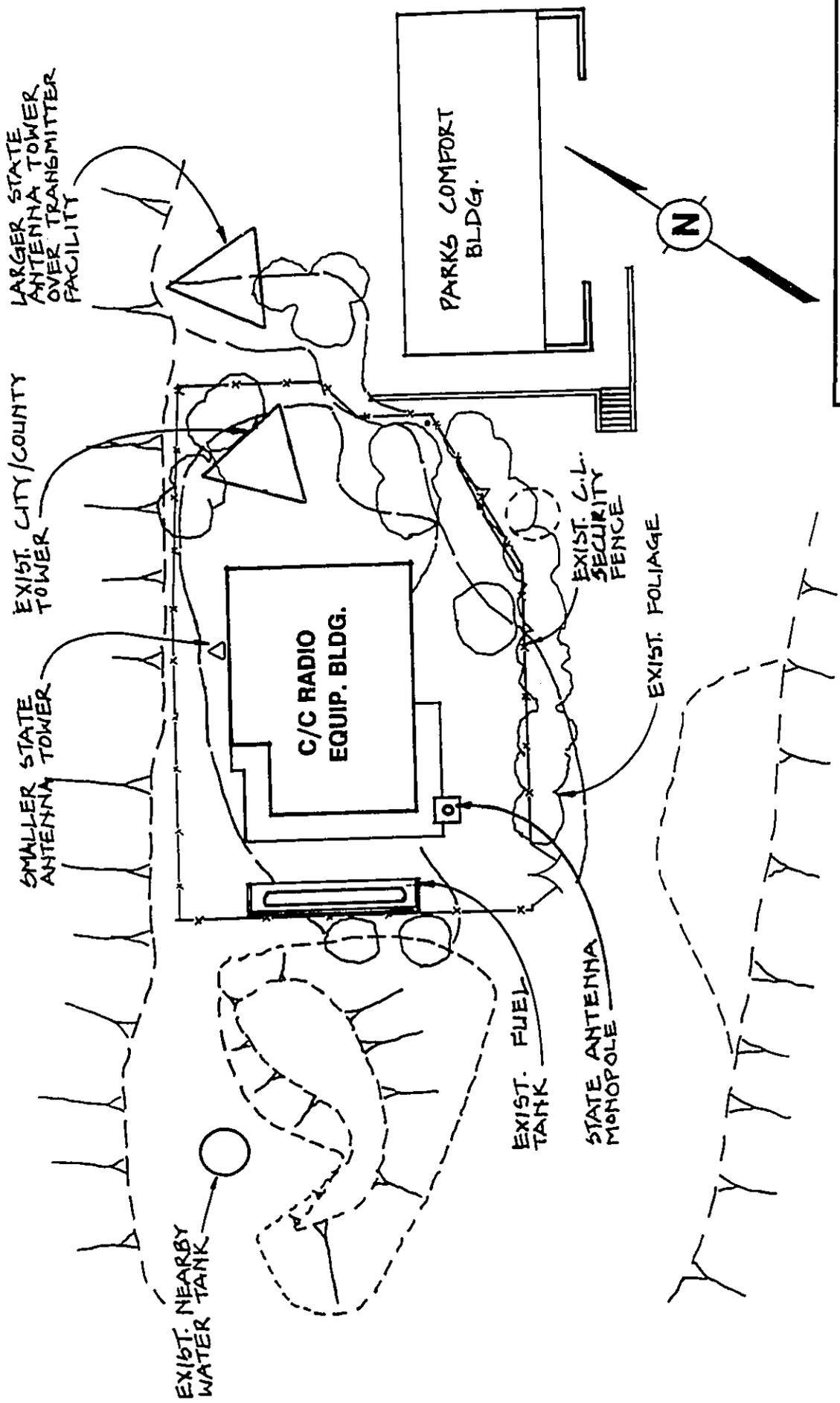
December 1975 - Mount a 3.5-ft. antenna onto existing antenna pole.



HONOLULU POLICE DEPARTMENT 20 COMMUNICATIONS FACILITIES UPGRADE



| | |
|---|-------------|
| CITY & COUNTY OF HONOLULU | |
| 2 MAKIKI ROUNDTOP Looking toward the northwest | |
| Site Profile | 1" = 20'-0" |



| | |
|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 2 MAKIKI ROUNDTOP | |
| Site Vicinity Plan | 1" = 20'-0" |

HONOLULU POLICE DEPARTMENT 22 COMMUNICATIONS FACILITIES UPGRADE

Diamond Head-Kaimuki Communications Facility (3)

Existing Diamond Head Facility Profile

TMK: 3-1-042: 014

AREA OF SITE: 303.26 acres
Area of Use: 100.00 sq.ft.

LANDOWNER: State of Hawaii

NEAREST TOWN/LANDMARK: Waikiki district
Distance from Site: 0.75 miles

EXISTING USE: Communications facilities

STATE LAND USE DISTRICT: Conservation
Subzone: General (G)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Preservation
Public Facilities Designation: Add Park/Modify

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Located within SMA

A. Site Location and Existing Uses

The existing communications facility is located at the 367-ft. elevation on the southeast portion of Diamond Head Crater. Use of the site by the City and County is authorized under a Use Permit granted by the Hawaii Department of Defense.

The facility is a backbone link to the Koko Head and Makiki Round Top sites. In addition to the Police Department, the Fire Department and the State Department of Health use the facility.

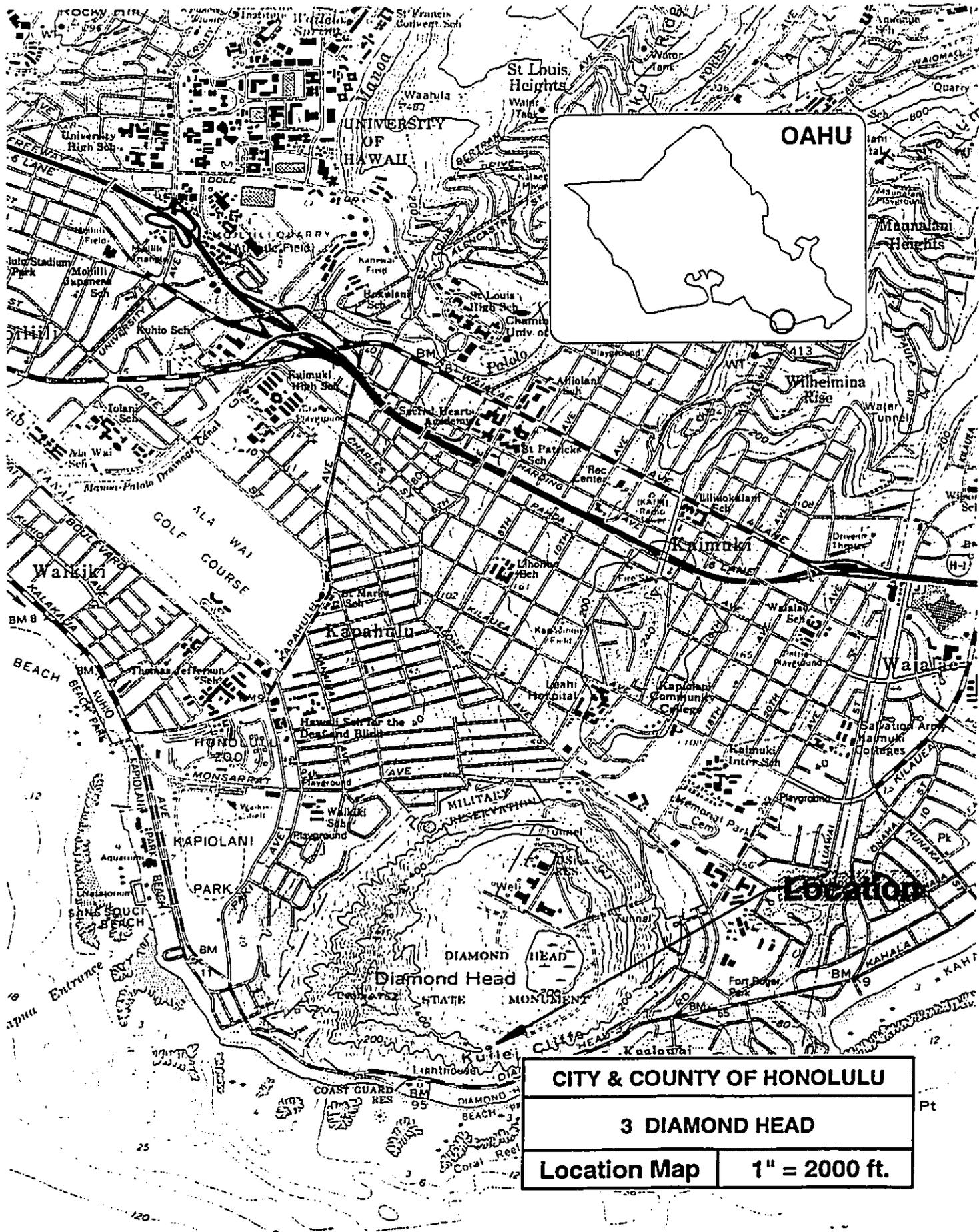
The facility consists of a 180-sq.ft. equipment room, two 12-ft.-tall towers and three wooden pole antennas. The equipment room is located within the fully improved bunker tunnel system inside the crater rim. The two towers are located below the crest along the inside slope of the crater. One six-ft.-diameter microwave dish is attached to each of the towers. The three wooden poles are near the ridge crest and support two-three antennas on each pole. An antenna cable runs horizontally over an office space and rises through a vertical shaft to the pole antennas.

Isolated from habitation along the crater ridge, the site is directly above the Diamond Head Beach Park. Other uses within the crater include a Federal Aviation Administration facility, Kapiolani Community College facilities and other institutional uses. The Diamond Head Crater Park is also within the crater. The area is surrounded by primarily residential neighborhoods. The site is about 0.5 miles from the nearest houselot on Diamond Head Ridge.

B. Proposed Action

Due to the age, type of construction, insufficient height and lack of adequate surface mounting space, the existing poles at Diamond Head must be replaced. However, in 1992, the Hawaii State Legislature passed Act 313, expanding the boundaries of the Diamond Head State Monument and requiring compliance with the Diamond Head State Monument Plan of 1979. The Act restricts expansion of buildings and other structures and construction activity within the boundaries of the Diamond Head State Monument unless consistent with park use according to the Plan.

As a result, and after consultation with the Diamond Head Neighborhood Board and the Department of Land and Natural Resources, the City and County has decided to explore alternative sites to its Diamond Head facility. The location will largely depend on radio coverage surveys for the Kaimuki-Palolo-Waiialae area, and land availability. Alternative sites currently being considered are Puu O Kaimuki Mini Park and on top of Leahi Hospital. The City and County will submit a supplemental Environmental Assessment for the replacement facility once a site has been selected and studies have been completed.



**Koko Head Communications Facility (4)
Development Profile**

TMK: 3-9-012: 004

AREA OF SITE: 6.34 acres
Area of Use: less than 3,000.00 sq.ft.

LANDOWNER: City and County of Honolulu

NEAREST TOWN/LANDMARK: Portlock neighborhood
Distance from Site: 0.3 miles

EXISTING USE: Communications facilities

PROPOSED USE: Upgrade communications facility

STATE LAND USE DISTRICT: Conservation
Subzone: General (G)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: East Honolulu
Land Use Designation: Preservation
Public Facilities Designation: None

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Located within SMA

LAND USE APPROVALS REQUIRED: Conservation District Use Application
Special Management Area Use Permit

A. Site Location and Existing Uses

The existing communications facility is located at the 632-ft. elevation at the crest of Koko Head overlooking Hanauma Bay to the north and Maunalua Bay to the west. The facility is a backbone link to the Waimanalo Ridge and Diamond Head sites. In addition to the Police Department, Water Safety, the State Civil Defense, Emergency Medical Service and U.S. Federal Bureau of Investigation use the facility.

The facility consists of a 400-sq.ft. equipment building, one 20-ft.-tall tower and four pole antennas. The tower is located along the southeastern corner of the equipment building and supports two six-ft.-diameter microwave dishes, three vertical antennas and two yagi antennas. The four wooden poles are distributed along the eastern edge of the building with various antennas attached to each of the poles. A generator room is located within an older, semi-subterranean bunker south of the equipment building and a fuel tank lies just west of the bunker.

Isolated from habitation along Koko Head Ridge, the site also harbors facilities operated by Hawaiian Telephone Company, GTE Mobile Net, McCaw Television, Tel-Net Joint Ventures and Honolulu Cellular Telephone Company, Kaiser Cable Television and the Federal Aviation Administration. The site is about 0.3 miles from the nearest houselot in the Portlock area.

B. Proposed Action

Improvements proposed for this facility include replacing the four pole antennas with a new 50-ft.-tall tower and attaching one microwave dish and nine vertical antennas to the new tower. The replacement tower will be designed to withstand Category 5-Hurricane Forces and soils testing will be conducted to ensure that the site can accommodate the proposed tower. Other improvements include constructing a five-ft.-wide perimeter concrete walkway, upgrading the security chain link fence, making various interior alterations, and general cleanup and repainting.

The construction cost for the proposed improvements is estimated at \$400,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing site is located on a relatively level area with slopes ranging from three to five percent. According to the U.S. Soil Conservation Service, soils in the area consist primarily of rock. The rock material is mainly basalt and andesite. Because of the site's exposure to wind and poor soil condition, vegetation is relatively sparse and runoff is fairly rapid.

To support the new 50-ft.-tall tower, either one 11-ft. x 11-ft. x six-ft.-deep monolithic footing or three cylindrical footings, measuring four feet in diameter by 12 feet deep, will be dug south of the existing 20-ft.-tall tower. Reinforcing steel will be placed into the hole and then concrete will be pumped to the site and filled into the holes. The tower base plate will be cast into the wet concrete. After the concrete cures, the tower will be transported to the site by a crane and bolted onto its base plate. Other than the crane, no heavy machinery will be used during construction, and no significant erosion or sedimentation impacts are anticipated. The old pole antennas will be removed once the new communications system is in place. Limited grading will also be performed to allow construction of the perimeter concrete walkway and weeds will be cleared away from the structures. None of these activities, however, will result in any significant erosion or sedimentation impacts.

Flood Hazard

Rainfall in the area averages 20 to 30 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined. Given the 632-ft. site elevation, flooding is unlikely. In addition, the proposed improvements should not result in any flooding of lower elevation properties.

Flora and Fauna

The project site is relatively bare of vegetation, only sparsely covered with hilahila and fingergrass. Immediately west of the property, along the mountain slopes, is heavier vegetation consisting primarily of kiawe, koa haole, ilima-ku-kahakai, hilahila and various grasses. No threatened or endangered plants or animals exist in the area.

Marsilea villosa, a rare aquatic fern endemic to the Hawaiian Islands, is found at Ihihilaueka Crater, northeast of the site. Since the crater is more than 3,000 feet from the project site, this rare fern will not be affected by the proposed project.

Hanauma Bay is located more than one-half mile to the northeast of the site and is designated as a Marina Life Conservation District under the jurisdiction of the State Department of Land and Natural Resources. The proposed improvements will not adversely impact any marine life in Hanauma Bay.

The proposed exterior improvements will be limited to constructing a new tower foundation and perimeter access walkway, and clearing weeds away from the structures. These activities will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The most significant views of Koko Head from the west and north are the distant views across Maunalua Bay from Kalaniana'ole Highway heading east and from Maunalua Bay Beach Park. From these viewpoints, the existing City and County facility and other communications can be faintly distinguished on the skyline. The City and County equipment building lies below the skyline when viewed from this direction. From Portlock and Hawaii Kai neighborhoods, the facility is not visible due to topography and vegetation.

The City facility is visible against the skyline when viewed across Hanauma Bay from Kalaniana'ole Highway heading west. From this viewpoint (about one mile away), the City facility and two or three other communications facilities which occupy the ridge are faintly visible against the skyline.

The proposed project would replace two 30-ft.-tall antenna-bearing poles and a shorter pole with a 50-ft.-tall antenna tower. While the tower would be somewhat more visible from the highway viewpoint east of Hanauma Bay, it would not be more visible than other existing facilities on Koko Head (e.g., the Tel-Net Joint Venture and the Honolulu Cellular Telephone facilities) and would not cause a substantial change to the view.

Because of the topography, the existing facility is not visible from Hanauma Bay Beach Park or from the park entry road.

Access and Traffic

Access to the site is from Kalaniana'ole Highway and a service roadway at the entrance to Hanauma Bay Park. A locked gate limits use of the roadway to personnel who maintain the existing facilities. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

Although vehicular access to the communications site is prohibited to the general public by the locked gate, hikers can gain access and use the trails that lead down from the ridge to the rocky coastline. The proposed activities will not affect access to the shoreline or any publicly owned or used beach, recreation area or natural reserve.

Airspace and Frequency Evaluation

As requested by the Federal Aviation Administration (FAA), a "Notice of Proposed Construction of Alteration" (FAA form 7460-1) was submitted so an airspace and frequency evaluation could be

conducted for both the Koko Head and Waimanalo Ridge sites. Although no significant impacts are anticipated, the Building Department will comply with all FAA requirements.

D. Summary of Major Impacts and Mitigative Measures

Viewplanes

The new tower will be painted gray to blend with the sky.

E. Land Use Approvals Required

Conservation District Use Application

The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

The project site lies within the General (G) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to designate open space where specific conservation uses may not be defined, but where urban use would be premature". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

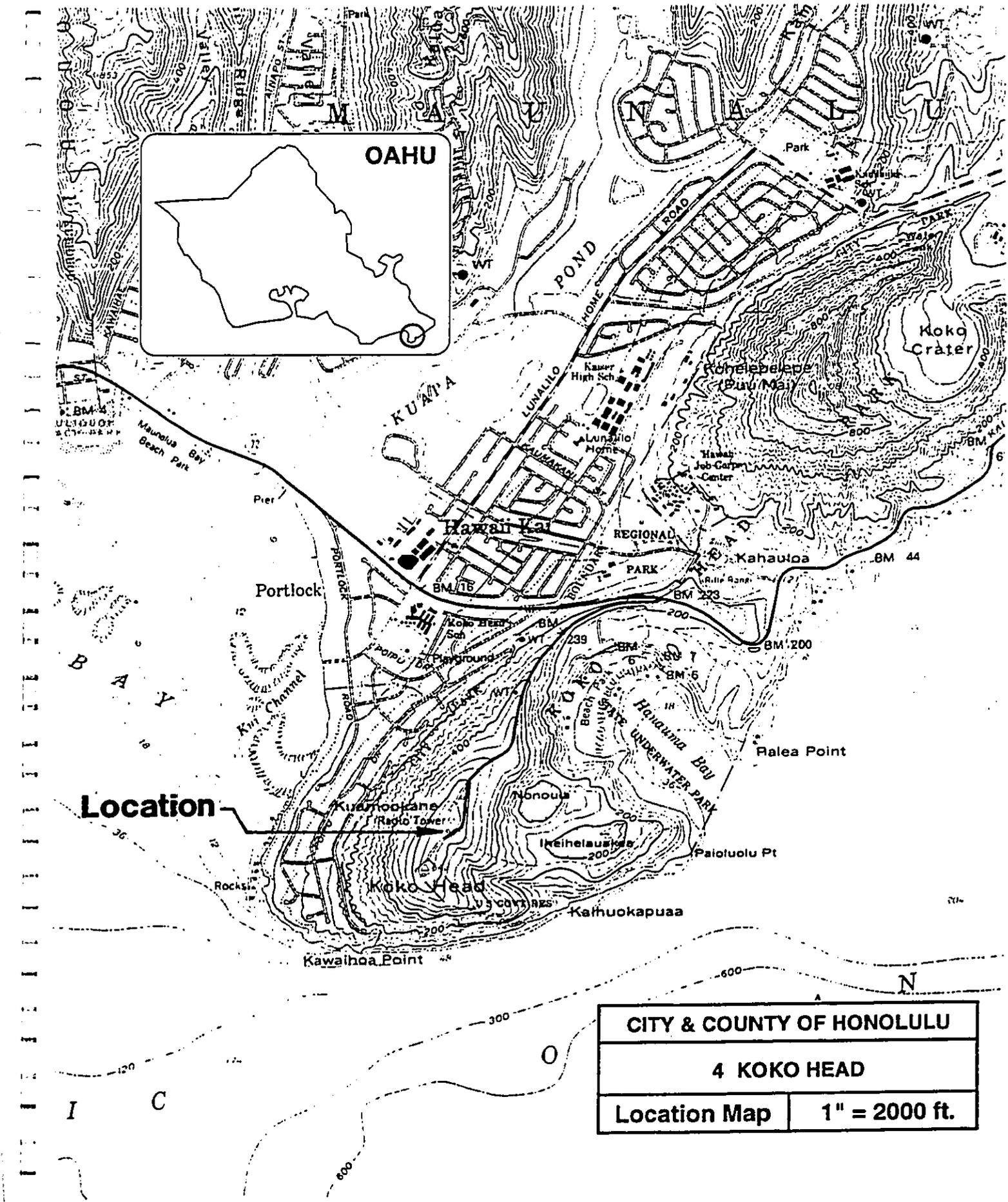
Prior CDUA Approvals

OA-0444: *October 1973* - Construct a 400-sq.ft. CMU building and install four four-ft.- to six-ft.- diameter microwave dishes on top of the building.

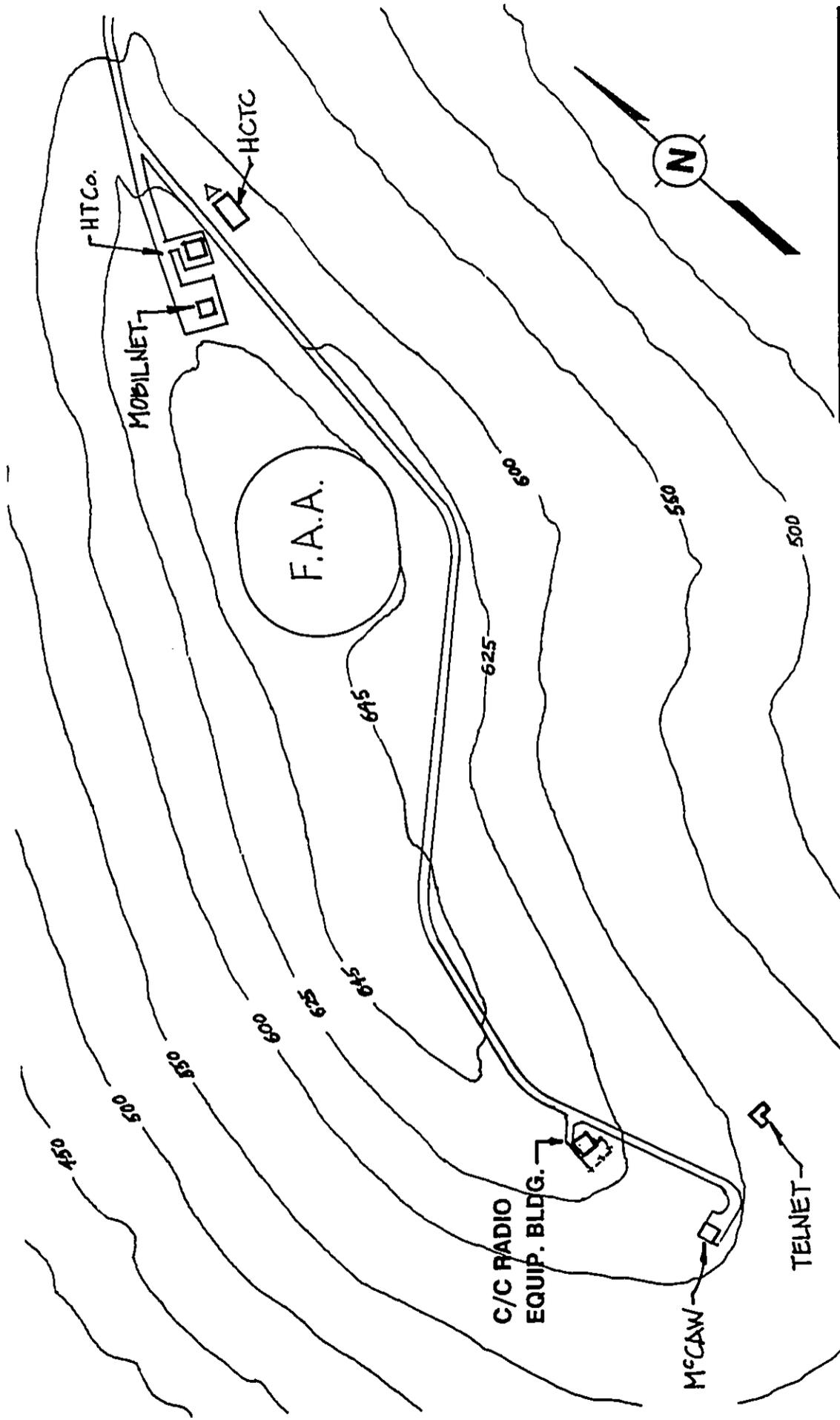
90-677: *June 1990* - Repaint antenna. (emergency authorization)

Special Management Area Use Permit

The site is within the Special Management Area, approximately 0.25 miles from the shoreline. A Special Management Area Use Permit application will be submitted to the City and County of Honolulu, Department of Land Utilization prior to submittal of the CDUA.



HONOLULU POLICE DEPARTMENT 33 COMMUNICATIONS FACILITIES UPGRADE

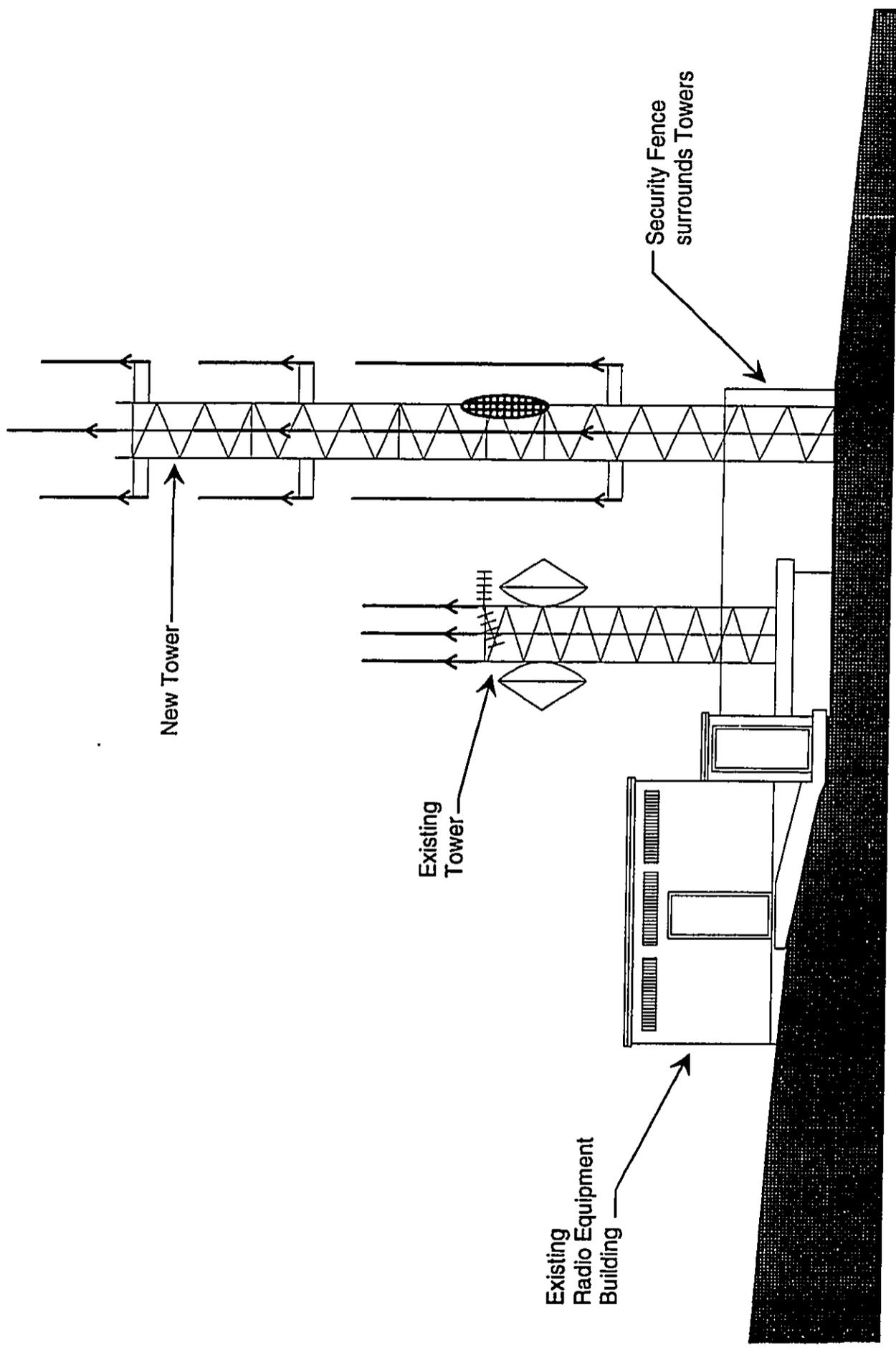


| | |
|---------------------------|--------------|
| CITY & COUNTY OF HONOLULU | |
| 4 KOKO HEAD | |
| Site Vicinity Plan | 1" = 200'-0" |

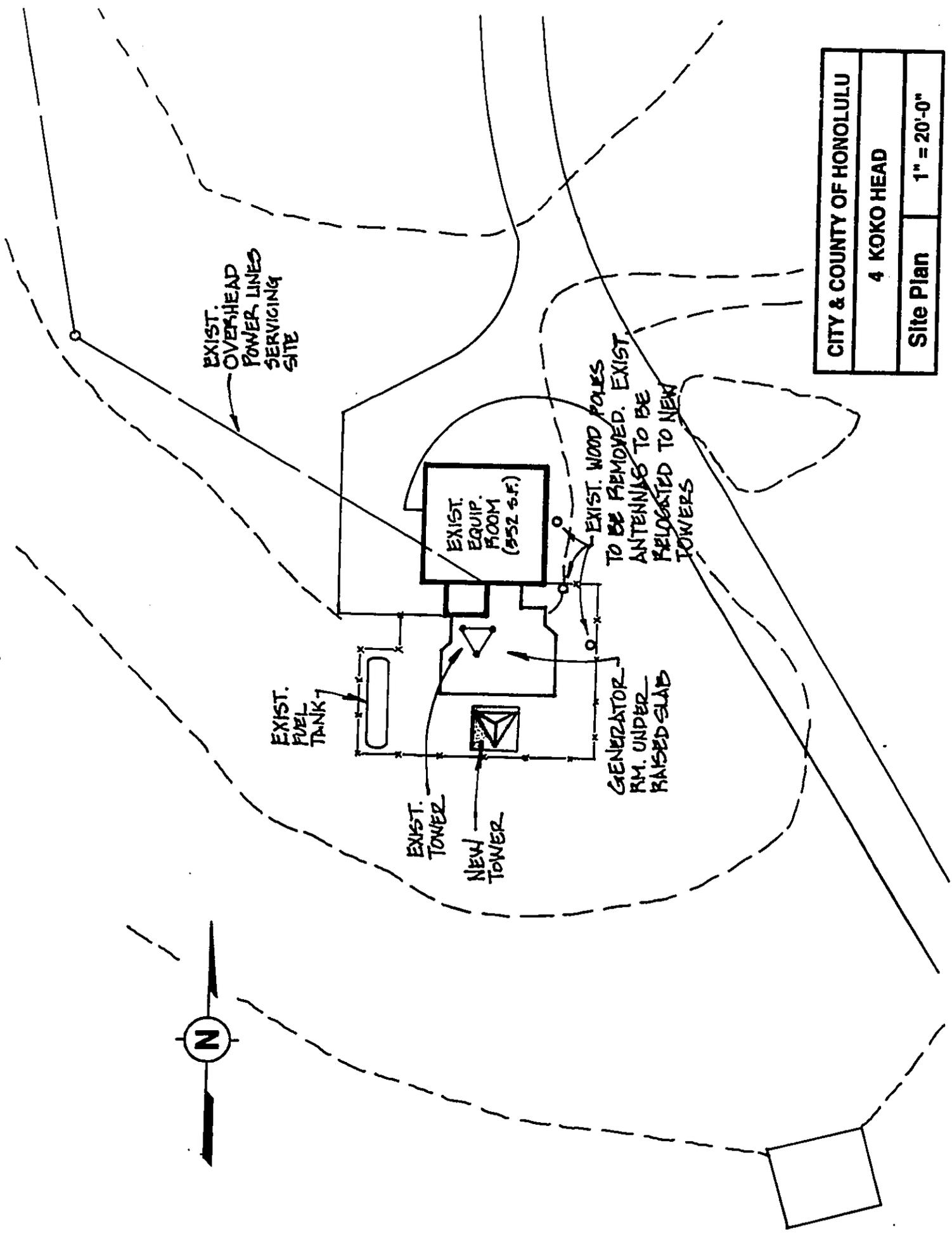
HONOLULU POLICE DEPARTMENT 34 COMMUNICATIONS FACILITIES UPGRADE



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



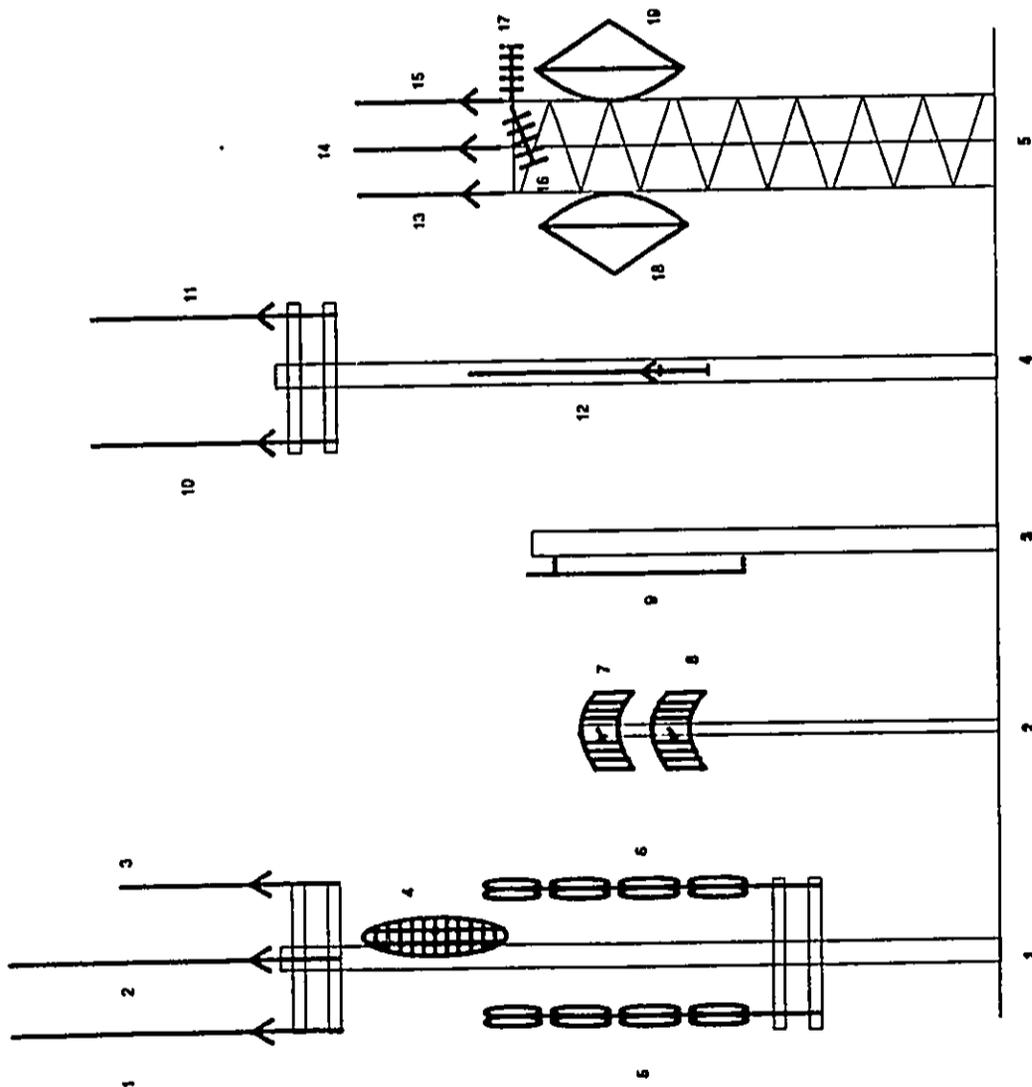
| | |
|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 4 KOKO HEAD | |
| Looking toward the east | |
| Site Profile | 1" = 10'-0" |



HONOLULU POLICE DEPARTMENT 36 COMMUNICATIONS FACILITIES UPGRADE

ANTENNAS

- 1-20' PD VHF VERTICAL F5
- 2-20' PD VHF VERTICAL F1
- 3-10' PD UHF VERTICAL VICE
- 4-STATE CD 660 MHZ DISH
- 5-20' PD VERTICAL OLD F1
- 6-20' PD VERTICAL F9
- 7-STATE CIVIL DEFENSE REFLECTOR
- 8-WATER SAFETY REFLECTOR
- 9-DTS UHF VERTICAL
- 10-10' UHF VERTICAL
- 11-10' UHF VERTICAL
- 12-10' UHF VERTICAL
- 13-10' PD UHF VERTICAL - VICE
- 14-10' PD UHF VERTICAL - SSO
- 15-10' PD UHF VERTICAL - EU
- 16-FD YAGI ANTENNA 7
- 17-FD YAGI ANTENNA 7
- 18-PD 6 MHV DISH - WAIMANALO
- 19-PD 6 MHV DISH - DIAMOND HEAD

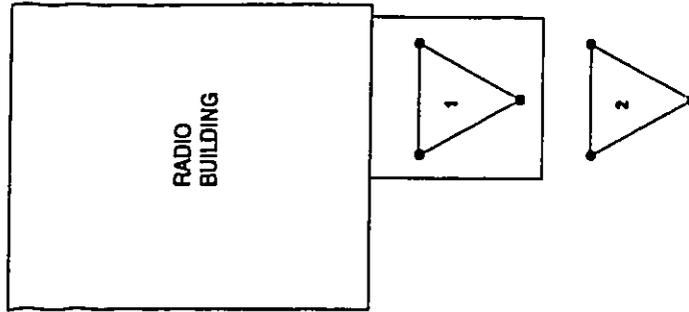
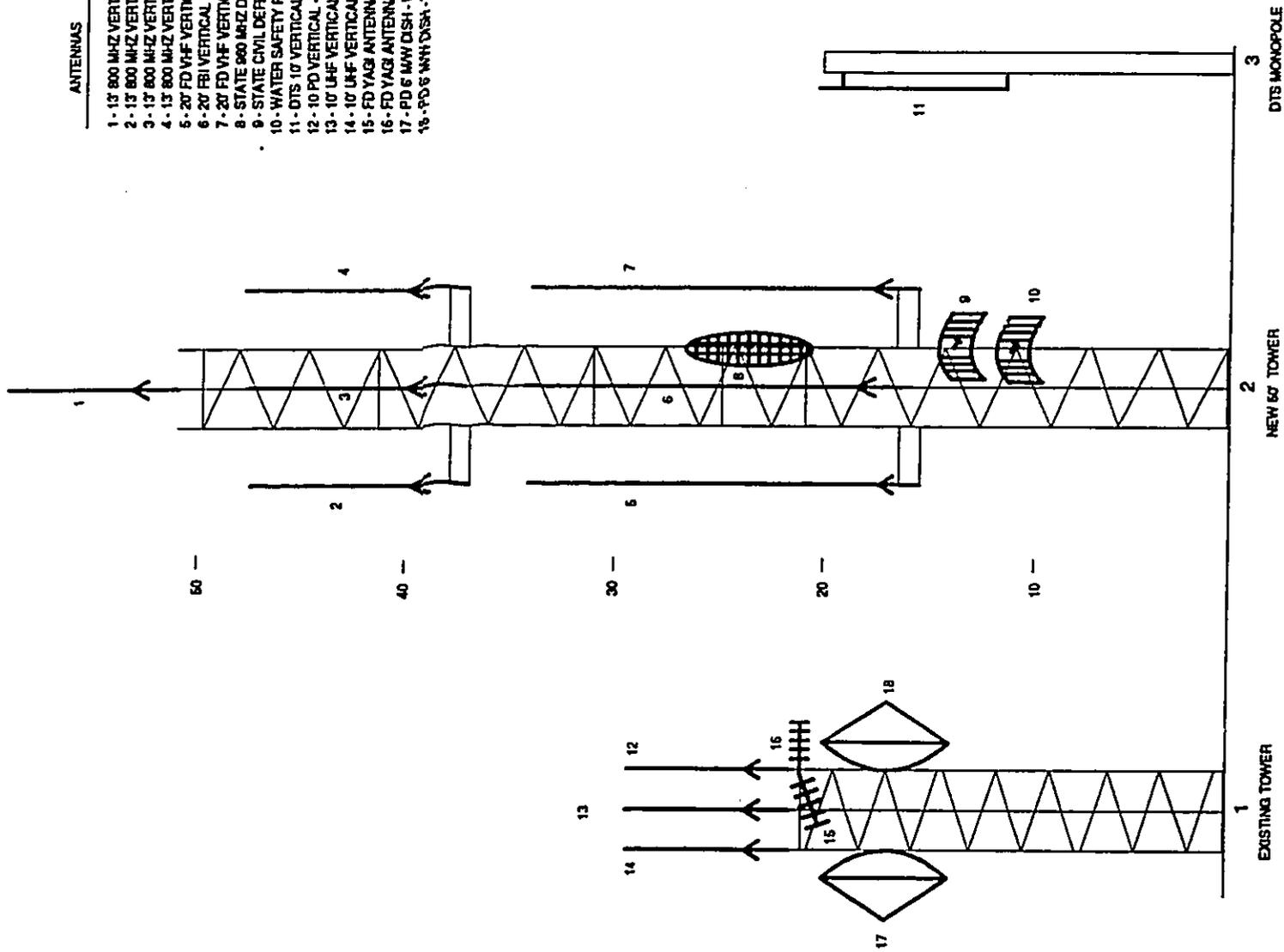


HONOLULU POLICE DEPARTMENT 37 COMMUNICATIONS FACILITIES UPGRADE

| | | |
|-----------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KOKO HEAD | | |
| EXISTING ANTENNA STRUCTURES | | |
| DWG # 1 | REV #2 | 06/23/92 |

ANTENNAS

- 1 - 15' 800 MHZ VERTICAL
- 2 - 15' 800 MHZ VERTICAL
- 3 - 15' 800 MHZ VERTICAL
- 4 - 15' 800 MHZ VERTICAL
- 5 - 20' FD VHF VERTICAL
- 6 - 20' FBI VERTICAL
- 7 - 20' FD VHF VERTICAL
- 8 - STATE CIVIL DEFENSE REFLECTOR
- 9 - STATE 960 MHZ DISH
- 10 - WATER SAFETY REFLECTOR
- 11 - DTS 10' VERTICAL
- 12 - 10' PD VERTICAL - VICE
- 13 - 10' UHF VERTICAL - SSD
- 14 - 10' UHF VERTICAL - IEU
- 15 - FD YAGI ANTENNA 7
- 16 - FD YAGI ANTENNA 7
- 17 - PD 6' MWV DISH - WAIMANALO
- 18 - PD 6' MWV DISH - WAIMANALO



| | |
|-------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| KOKO HEAD | |
| NEW SYSTEM 50' TOWER/ANTENNAS | |
| DWG # 1 | REV #2 |
| | 06/23/82 |

**Waimanalo Ridge Communications Facility (5)
Development Profile**

TMK: 3-9-009: 001

AREA OF SITE: 1,326.5 acres
Area of Use: less than 5,000.0 sq.ft.

LANDOWNER: Kamehameha Schools/Bernice Pauahi Bishop Estate

NEAREST TOWN/LANDMARK: Kamehame Ridge subdivision
Distance from Site: 0.75 miles

EXISTING USE: Communications facilities

PROPOSED USE: Upgrade communications facility

STATE LAND USE DISTRICT: Conservation
Subzone: Limited (L)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: East Honolulu
Land Use Designation: Preservation
Public Facilities Designation: None

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Not located within Special Management Area

LAND USE APPROVALS REQUIRED: Conservation District Use Application

A. Site Location and Existing Uses

This existing communications facility is located at the 1,307-ft. elevation of Waimanalo Ridge in East Honolulu and occupies the westernmost portion of a decommissioned Nike missile site. The site is leased by the Federal Aviation Administration (FAA) from the Kamehameha Schools/Bernice Pauahi Bishop Estate. Use of the site by the City and County is authorized under FAA License No. DOT-FA76PC-2773.

The facility is a backbone link to the Koko Head and Kailua Police Station sites. In addition to the Police Department, the Department of Transportation Services uses the facility.

The communications building is comprised of an older 335-sq.ft. area housing equipment and generator rooms and a newer 182-sq.ft. equipment room addition. The building is of CMU construction and has a flat reinforced concrete roof. A 50-ft.-tall tower is located north of the main building and a fuel tank is located to the southeast. Two six-ft.-diameter microwave dishes, six vertical antennas, two yagi antennas and one corner reflector are attached to the tower. The facility is enclosed by a chain-link fence. Additional antenna equipment is located on a concrete platform at the ridge summit above and to the northeast of the fenced facility.

Isolated from habitation at the Koolau Ridge summit, the former Nike site also harbors FAA facilities, a joint Tel-Net and Honolulu Cellular Telephone Company facility and a Police Department training

facility. A helipad and a hang-glider staging and launch area are also located in the area. The site is about 0.75 miles from the nearest house lot on Kamehame Ridge.

B. Proposed Action

Improvements proposed for this facility include replacing the existing 50-ft.-tall tower with a new 70-ft.-tall tower and making minor antenna modifications. The replacement tower will be designed to withstand Category 5-Hurricane Forces and soils testing will be conducted to ensure that the site can accommodate the proposed tower. Other improvements include constructing a five-ft.-wide perimeter concrete walkway, upgrading the existing security fence, various interior alterations, and general cleanup and repainting. Weeds will also be cleared away from the structures.

The construction cost for the proposed improvements is estimated at \$400,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing site is located on a relatively level area near the top of the Koolau Ridge. Slopes in the adjacent areas are very steep, ranging from 20 to 60 percent. According to the U.S. Soil Conservation Service, soils in the project area are of the rock outcrop series. Centuries of weathering, however, has created a layer of soil deposits on large sections of the property, and vegetation has taken hold in many of these areas.

To support the new 70-ft.-tall tower, three cylindrical footings, measuring approximately four feet in diameter by 12 feet deep, will be dug adjacent to the existing 50-ft.-tall tower. Reinforcing steel will be placed into the holes and then concrete will be pumped to the site and filled into the holes. Tower base plates will be cast into the wet concrete. After the concrete cures, the tower will be transported to the site by a crane and bolted onto its base plates. Other than the crane, no heavy machinery will be used during construction, and no significant erosion or sedimentation impacts are anticipated. The old tower will be removed once the new communications system is in place.

Flood Hazard

Rainfall in the area averages 30 to 40 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined. Given the 1,307-ft. site elevation, flooding is unlikely. In addition, the proposed improvements should not result in any flooding of lower elevation properties.

Flora and Fauna

The site is covered by a variety of grass and shrubs and a mixture of mid-elevation trees. The predominant groundcover species include Mexican creeper, false daisy, Mauna Loa vine, vervain and grass. Guava, Christmas berry tree, koa haole and kiawe comprise the predominant tree species. No threatened or endangered flora or fauna exist in the area.

The proposed improvements will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

City and County and other communications facilities located on Waimanalo Ridge are only faintly visible on the skyline from Kamiloiki Valley, the closest Hawaii Kai neighborhood. The facilities are located about 1.7 miles from Kamiloiki Neighborhood Park. More visible on the ridge top are electric power poles and towers, which are concentrated near the top of Kamehame Ridge.

On the Waimanalo side, the site is shielded from view by very steep cliffs. It is not visible from Kaiona Beach Park, the nearest public park. The site may be faintly visible on the skyline from parts of Kalaniana'ole Highway in Waimanalo Town, over 1.5 miles away.

Because of the site's elevation and distance from populated areas, replacing the 50-ft.-tall tower with a 70-ft.-tall tower will not have a significant effect on public views.

Recreational

A hang gliding launch area is located about 1,350 feet east of the communications facility. The proposed improvements will not interfere with the recreational activities conducted there.

Access and Traffic

Access to the site is via a 2.2 mile one-lane paved road that starts at the top of Kamehame Ridge. The road is private and secured by lock and key. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

A helipad is located about 800 feet east of the facility. Replacement of the existing 50-ft.-tall tower with a 70-ft.-tall tower will not interfere with existing helicopter operations.

Airspace and Frequency Evaluation

As requested by the Federal Aviation Administration (FAA), a "Notice of Proposed Construction of Alteration" (FAA form 7460-1) was submitted so an airspace and frequency evaluation could be conducted for both the Waimanalo Ridge and Koko Head sites. Although no significant impacts are anticipated, the Building Department will comply with all FAA requirements.

D. Summary of Impacts and Mitigative Measures

Viewplanes

The tower will be painted gray to blend with the sky.

E. Land Use Approval Required

Conservation District Use Application

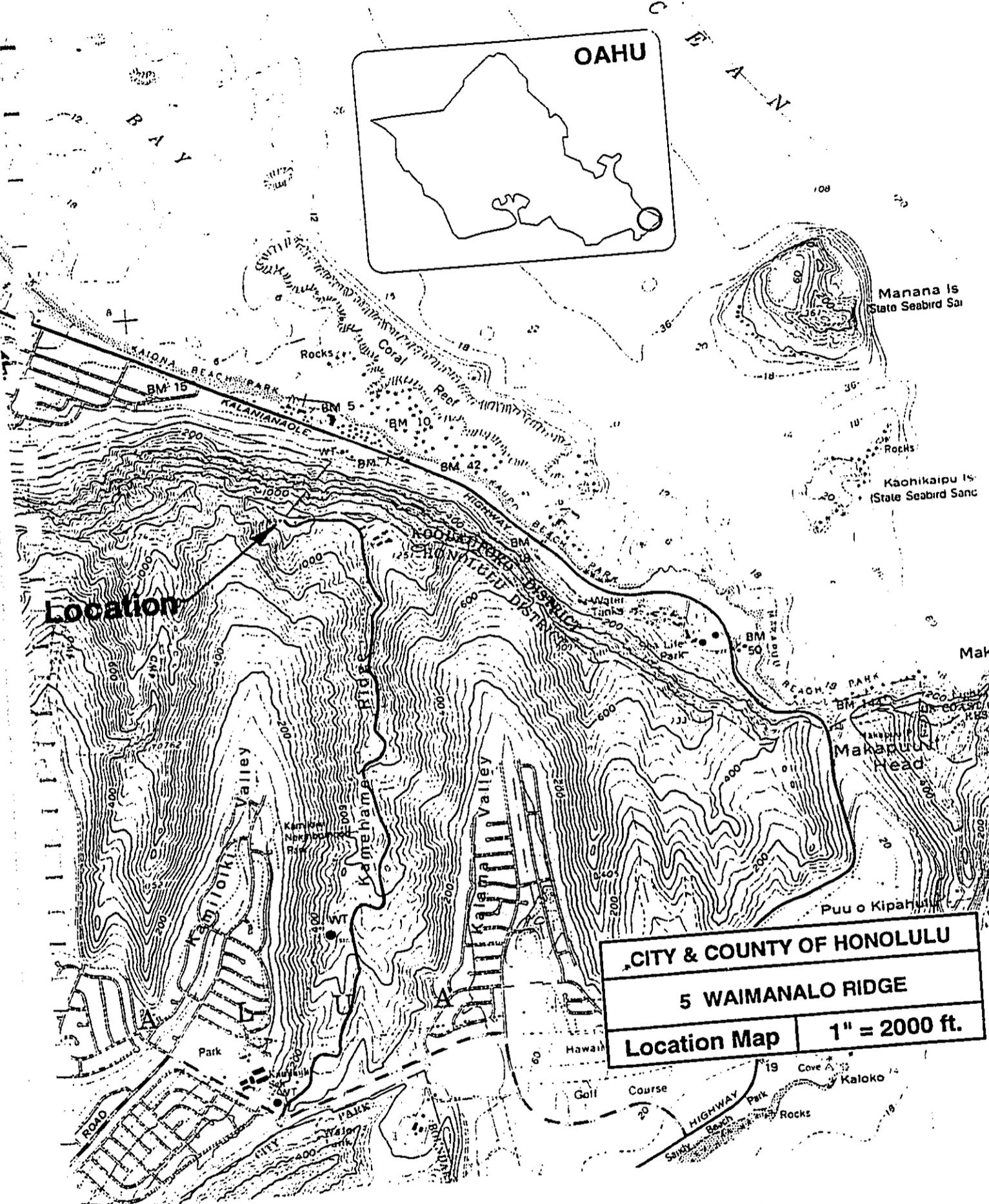
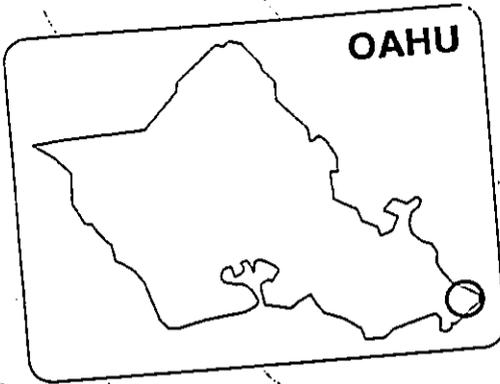
The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

The project site lies within the Limited (L) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to limit uses where natural conditions suggest constraints on human activities". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

Prior CDUA Approvals

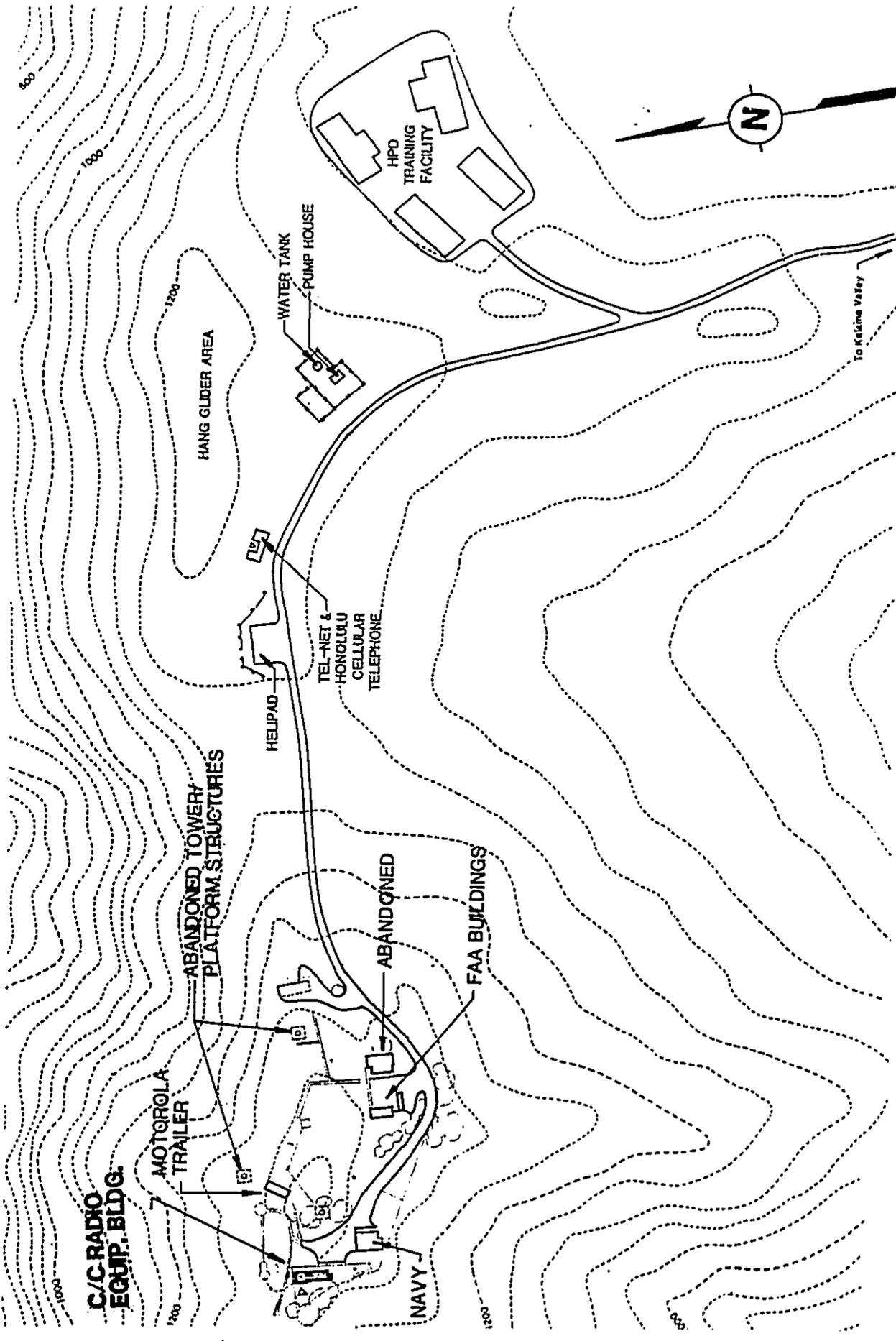
OA-1019: *October 1984* - Install a fuel tank.



Location

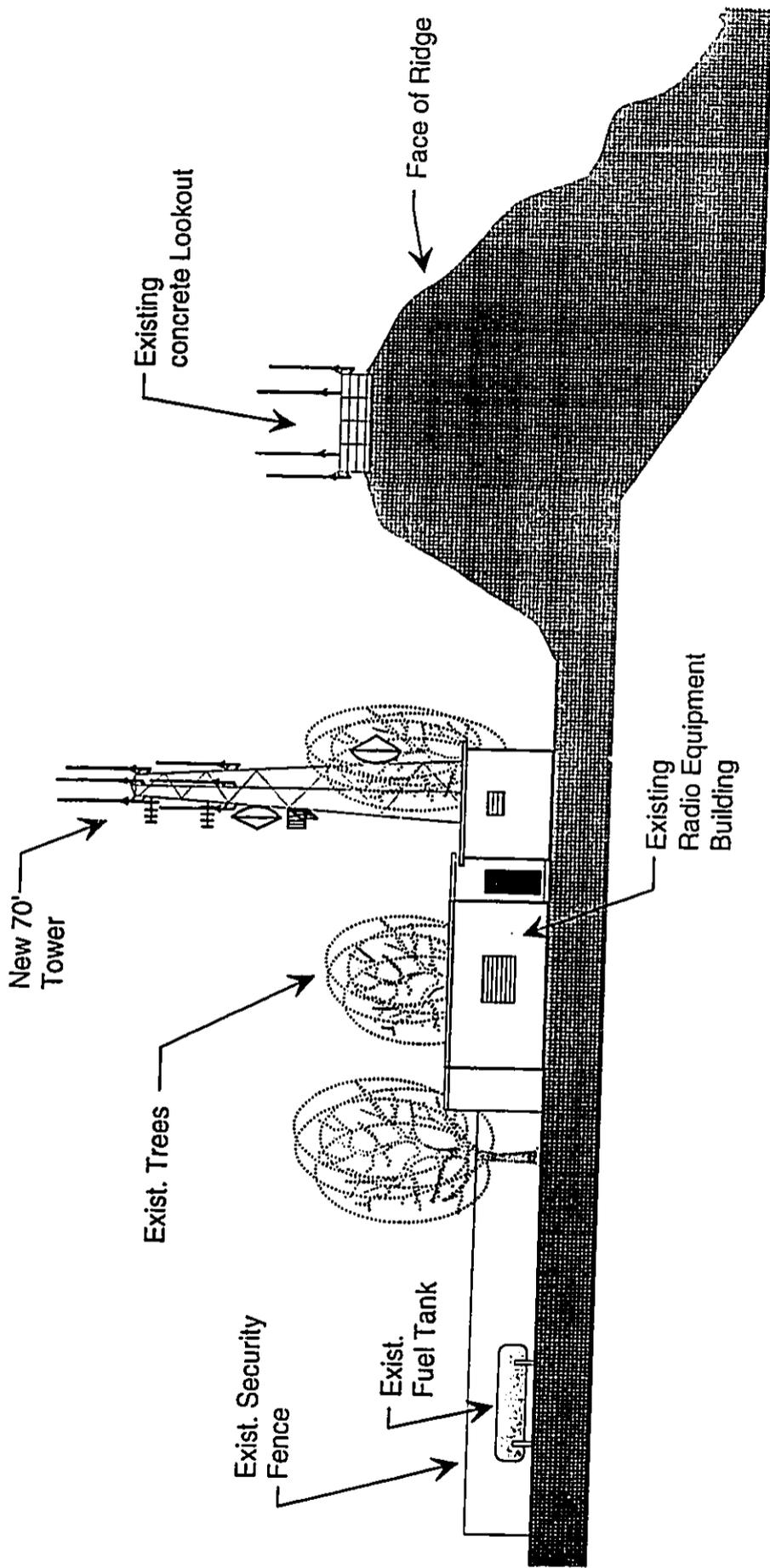
| | |
|---------------------------|---------------|
| CITY & COUNTY OF HONOLULU | |
| 5 WAIMANALO RIDGE | |
| Location Map | 1" = 2000 ft. |

HONOLULU POLICE DEPARTMENT 43 COMMUNICATIONS FACILITIES UPGRADE



| | |
|---------------------------|--------------|
| CITY & COUNTY OF HONOLULU | |
| 5 WAIMANALO RIDGE | |
| Site Vicinity Plan | 1" = 200'-0" |

HONOLULU POLICE DEPARTMENT 44 COMMUNICATIONS FACILITIES UPGRADE

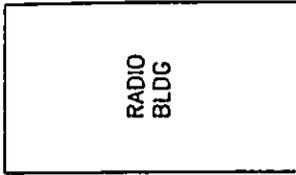
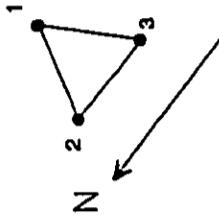
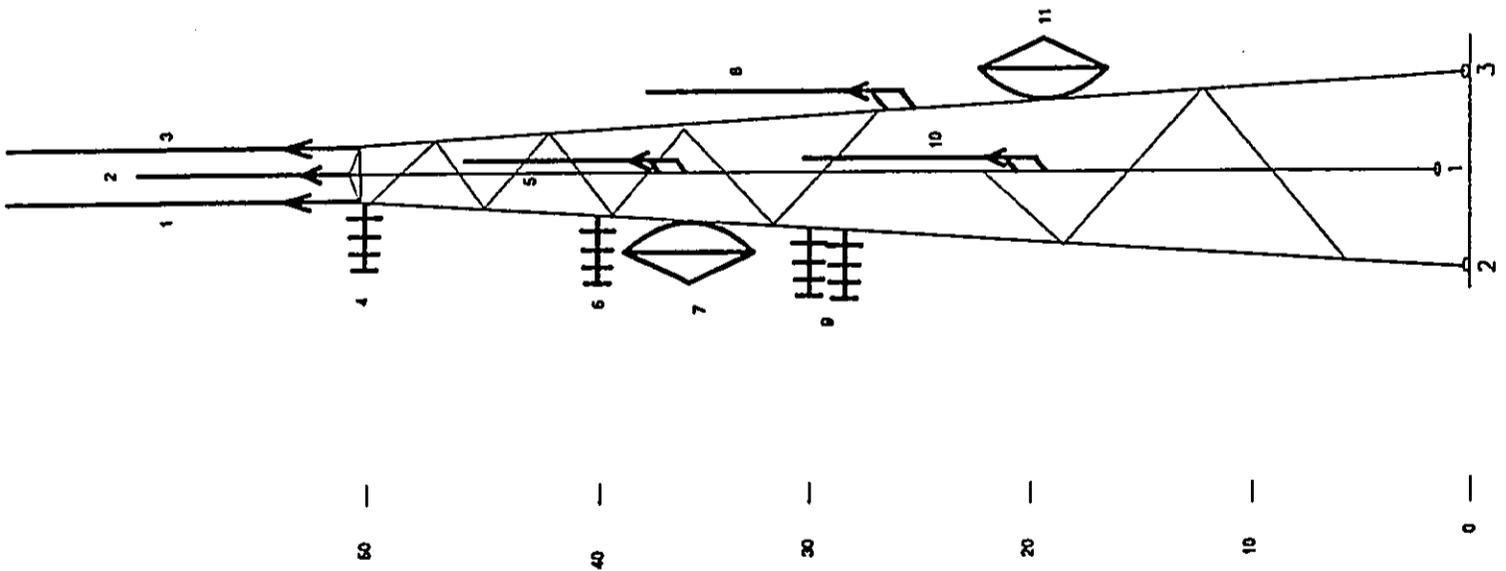


HONOLULU POLICE DEPARTMENT 45 COMMUNICATIONS FACILITIES UPGRADE

| | |
|---|-------------|
| CITY & COUNTY OF HONOLULU | |
| 5 WAIMANALO RIDGE Looking toward the northwest | |
| Site Profile | 1" = 20'-0" |

ANTENNAS

- 1 - PD 20' VHF VERTICAL
- 2 - PD 10' UHF VERTICAL
- 3 - PD 20' VHF VERTICAL
- 4 - PD UHF YAGI
- 5 - PD 10' UHF VERTICAL
- 6 - PD 20' UHF VHF YAGI
- 7 - PD 8 GHz MMW DISH
- 8 - PD 20' UHF VERTICAL
- 9 - DTS UHF YAGI ANTENNAS
- 10 - PD 10' UHF VERTICAL
- 11 - PD 6' MMW DISH

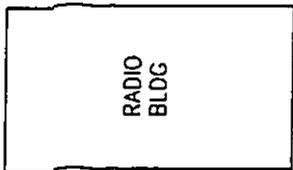
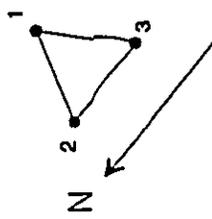
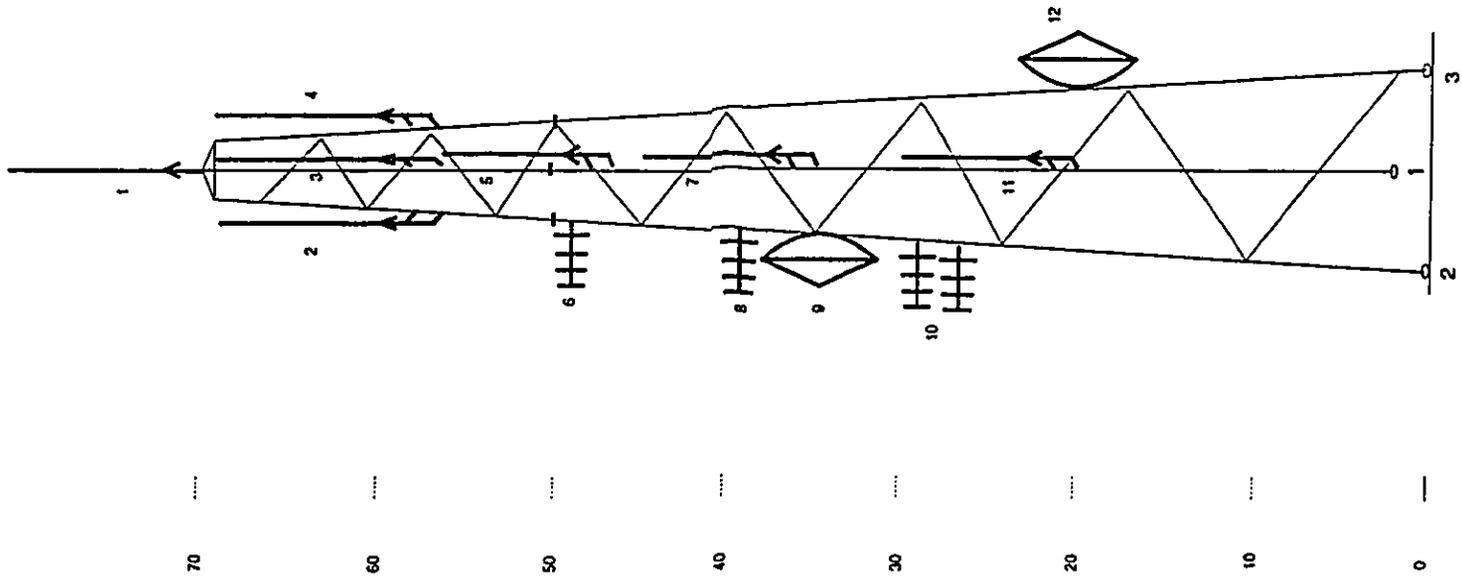


| | | |
|----------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| WAIMANALO RIDGE | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG # 1 | Rev #2 | 06/30/92 |

New 70' Tower

ANTENNAS

- 1 - 13' 800 MHZ VERTICAL
- 2 - 3' 800 MHZ VERTICAL
- 3 - 13' 800 MHZ VERTICAL
- 4 - 13' 800 MHZ VERTICAL
- 5 - 10' PD UHF VERTICAL
- 6 - PD UHF YAGI
- 7 - PD 10' UHF VERTICAL
- 8 - PD UHF YAGI
- 9 - PD 6' MW DSH KALUA
- 10 - DTS UHF YAGI ANTENNAS
- 11 - PD 10' UHF VERTICAL
- 12 - PD 6' MW DSH - KOKO HEAD



| | | |
|------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| WAIMANALO RIDGE | | |
| NEW 70' TOWER | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG # 1 | Rev #1 | 06/06/92 |

**Kapaa 272 Reservoir Communications Facility (6A)
Development Profile**

| | |
|--------------------------------|---|
| TMK: | 4-2-017: 016 |
| AREA OF SITE: | 27,021 sq.ft. |
| Area of Use: | less than 2,500 sq.ft. |
| LANDOWNER: | Board of Water Supply |
| NEAREST TOWN/LANDMARK: | Kaneohe town |
| Distance from Site: | 0.28 miles |
| EXISTING USE: | Water tank Communications facility |
| PROPOSED USE: | Upgrade communications facility |
| STATE LAND USE DISTRICT: | Conservation |
| Subzone: | General (G) |
| Type of Use Requested: | Permitted Use |
| COUNTY DEVELOPMENT PLAN AREA: | Koolaupoko |
| Land Use Designation: | Preservation |
| Public Facilities Designation: | None |
| ZONING: | P-1 Restricted Preservation |
| SPECIAL MANAGEMENT AREA: | Located within SMA |
| LAND USE APPROVALS REQUIRED: | Conservation District Use Application Special Management Area Use Permit |

A. Site Location and Existing Uses

The existing communications facility is located within the Kapaa 272 Reservoir site at the 280-ft. elevation above Mokapu Saddle Road. The facility is a spur link to the Kailua Police Station site. Currently, only the Police Department uses the site.

The site is primarily used by the Board of Water Supply for its two million gallon water tank, measuring 38-ft. high. The communications facility consists of one 20-ft.-tall tower on the western side of the water tank and one 30-ft.-tall tower along the eastern side of the tank. A 12-ft.-diameter microwave dish is attached to each tower. The site is completely enclosed within a chain link fence.

Surrounding uses include the highway and undeveloped, conservation-classified land. The site is about 0.28 miles from the nearest house/lot in Kaneohe Town.

B. Proposed Action

Improvements proposed for this facility include constructing a new 360-sq.ft. equipment room of CMU construction, replacing the existing 30-ft.-tall tower with a new 50-ft.-tall tower and attaching four vertical antennas to the new tower (No changes will be made to the existing 20-ft.-tall tower). The

building will lie next to the existing 30-ft.-tall tower and the new tower will be located just left of the new building. All new structures will be designed to withstand Category 5-Hurricane Forces. A new emergency generator and fuel tank will be installed behind the new building and a new paved area measuring about 1,250 square feet will be constructed in the front of the building.

The construction cost for the proposed improvements is estimated at \$575,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing reservoir site is a flat area cut into Oneawa Ridge, which divides Kailua and Kaneohe. Adjacent slopes range from 15 to 20 percent. Soils testing completed in July 1992 uncovered solid rock in the proposed area. According to the U.S. Soil Conservation Service, runoff in this area is medium and erosion hazard is moderate.

To support the new 60-ft.-tall tower, three drilled-shaft footings measuring two feet in diameter by five feet deep, will be drilled into solid rock, adjacent to the existing 30-ft.-tall tower. Reinforcing steel will be placed into the hole and then concrete will be pumped to the site and filled into the holes. The tower base plates will be cast into the wet concrete. After the concrete cures, the tower will be transported to the site by a crane and bolted onto its base plates. Other than the crane, no heavy machinery will be used during construction, and no significant erosion or sedimentation impacts are anticipated. The old tower will be removed once the new communications system is in place.

Flood Hazard

Rainfall in the area averages 40 to 50 inches per year. According to the Federal Flood Insurance Rate Maps, the site lies outside the 500-year floodplain. The improvements proposed for the facility will not result in any flooding of lower elevation properties.

Flora and Fauna

The site is completely covered with grass, and no threatened or endangered flora or fauna exist in the area. The proposed improvements will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The Kapaa 272 Reservoir is located on a visually-prominent site near the cut where the Mokapu Saddle Road crosses the Oneawa Hills between Kailua and Kaneohe. Over 90 feet in diameter and over 40 feet tall, the reservoir itself is a very large feature in the landscape. The existing 20-ft.- and 30-ft.-tall towers and microwave dishes located on either side of the reservoir are clearly visible to users of the Saddle Road, the H-3 Freeway, and the Kapaa Quarry Road traveling toward Kaneohe, though they do not have nearly as great a visual impact as the reservoir.

The proposed new Radio Equipment building, only 12 feet tall, will be sited on the Kailua side of the reservoir behind existing trees and shrubbery. Because of the vegetation and the elevation of the site above the surrounding roadways, the building will not be visible.

The proposed new 50-ft.-tall tower, also on the Kailua side of the reservoir, will rise above the top of the reservoir and will be more visually prominent within the Kailua viewshed than the existing 30-ft.-tall tower. New vertical antennas will be placed at the top of the tower, but the larger, more noticeable microwave dish will remain at its existing elevation.

Access and Traffic

Access to the site is from Mokapu Saddle Road and a Board of Water Supply access road. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Summary of Impacts and Mitigative Measures

Viewplanes

The new tower and building will be painted a dark earth-tone color, with the intention of making the facilities appear to recede into, rather than match, the lighter colors of the earth, grasses and shrubs covering the hillside.

E. Land Use Approvals Required

Conservation District Use Application

The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

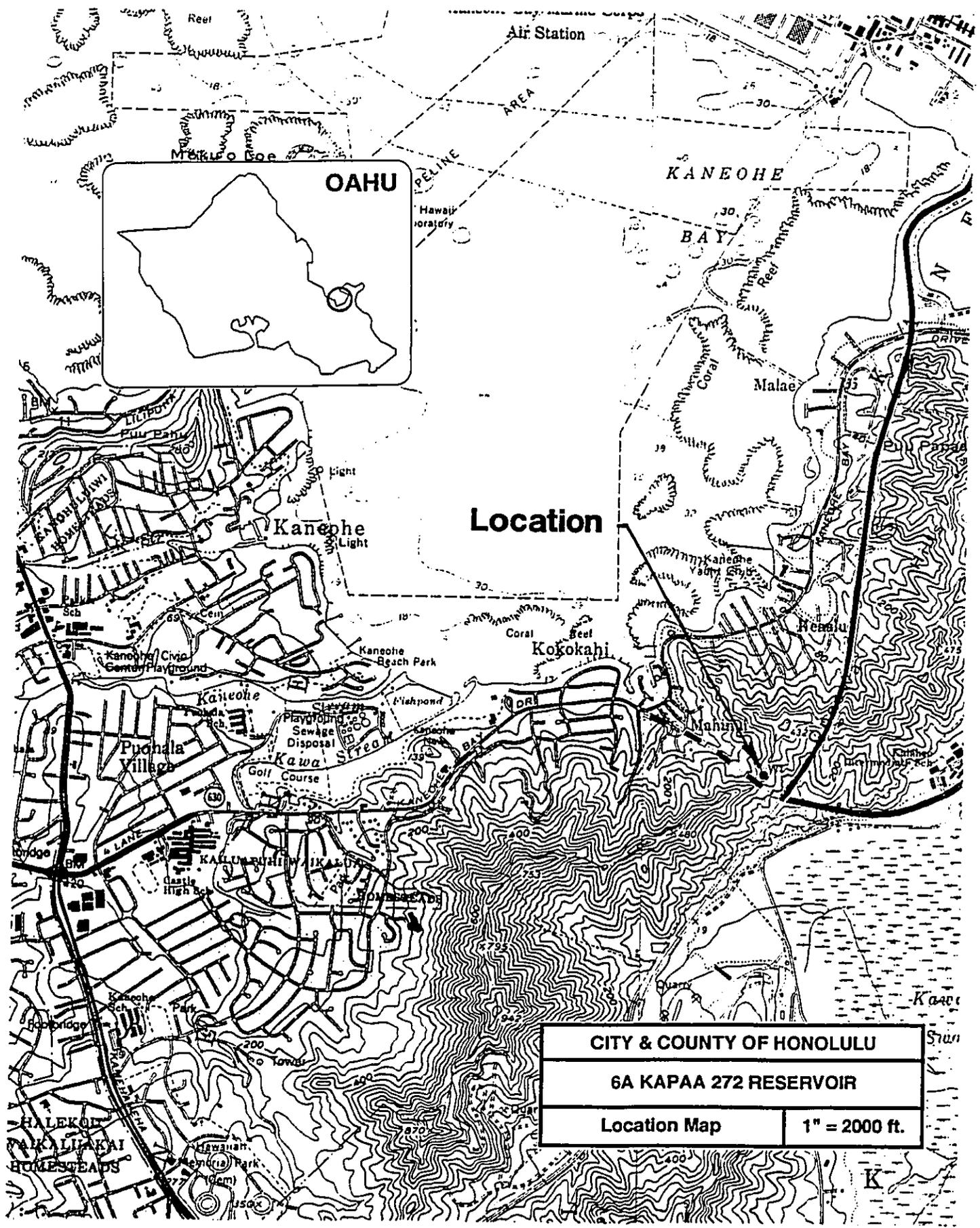
The project site lies within the General (G) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to designate open space where specific conservation uses may not be defined, but where urban use would be premature". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

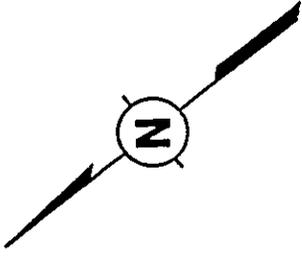
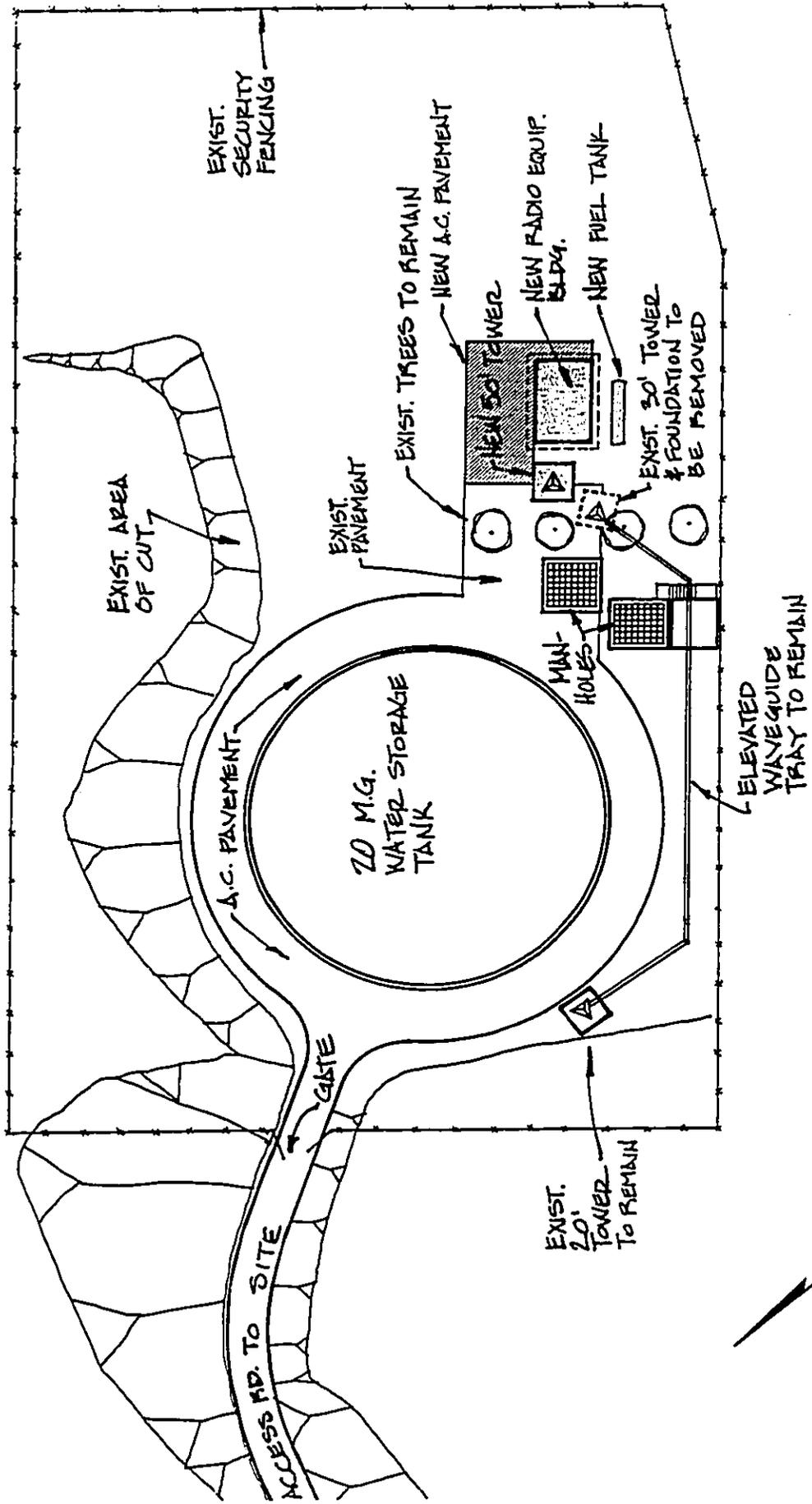
Prior CDUA Approvals

OA-2105: February 1988 - Install one 20-ft.-tall tower, one 30-ft.-tall tower, and one 12-ft.-diameter microwave dish on each tower.

Special Management Area Use Permit

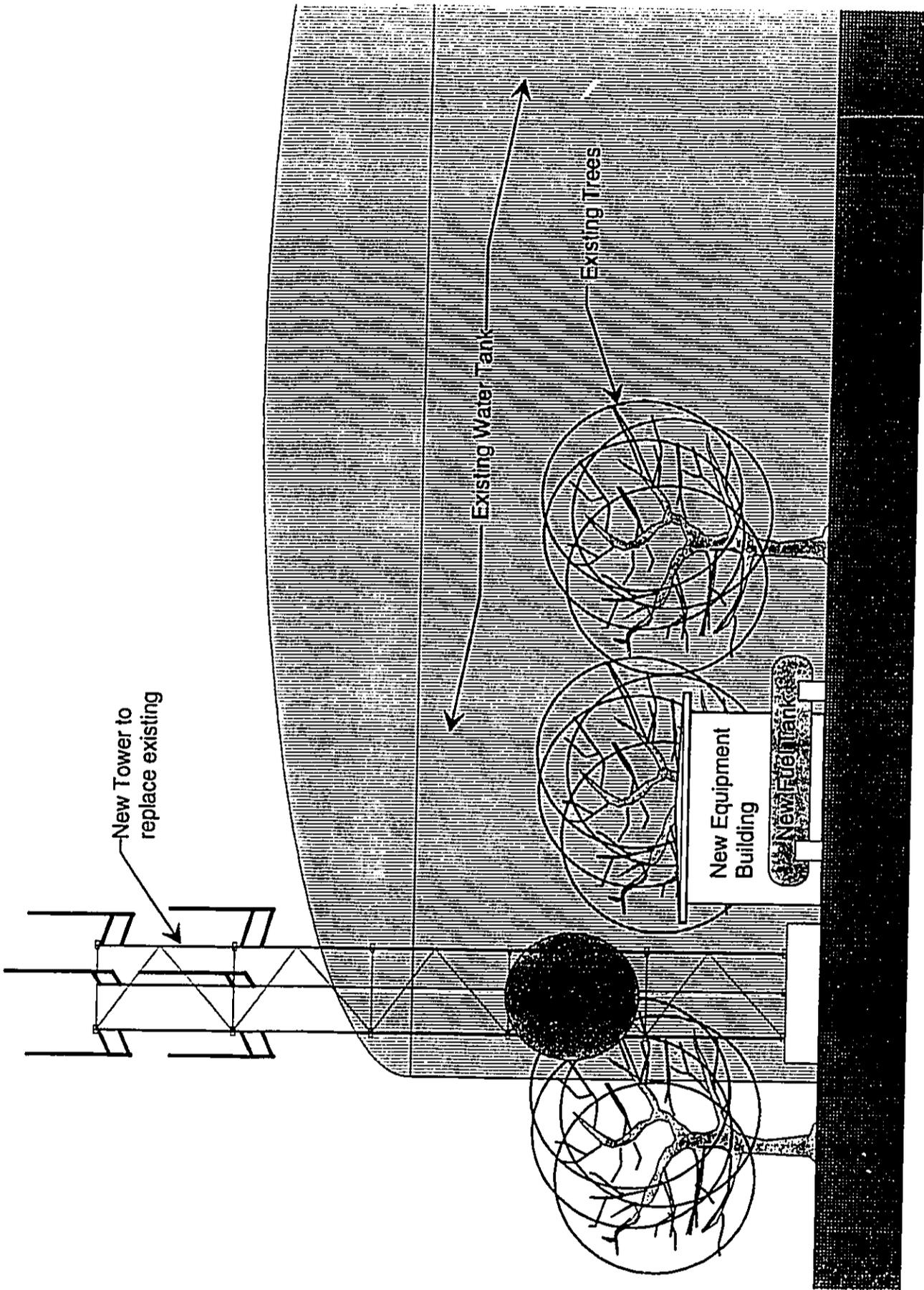
The site is within the Special Management Area, approximately 0.23 miles from Kawainui Marsh and about 0.42 miles from the shoreline. A Special Management Area Use Permit application will be submitted to the City and County of Honolulu, Department of Land Utilization prior to submittal of the CDUA.





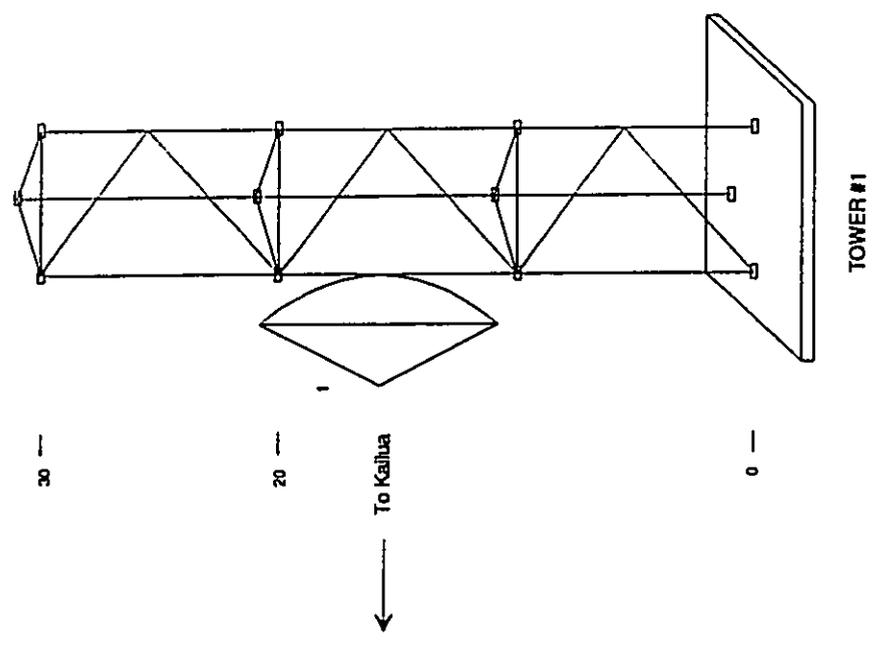
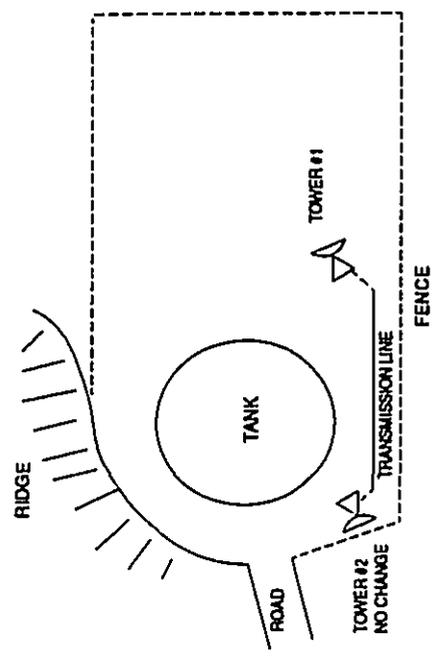
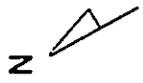
HONOLULU POLICE DEPARTMENT 53 COMMUNICATIONS FACILITIES UPGRADE

| | |
|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 6A KAPAA 272 RESERVOIR | |
| Site Plan | 1" = 40'-0" |



| | |
|--|-------------|
| CITY & COUNTY OF HONOLULU | |
| 6A KAPAA 272 RESERVOIR Looking toward the northwest | |
| Site Profile | 1" = 10'-0" |

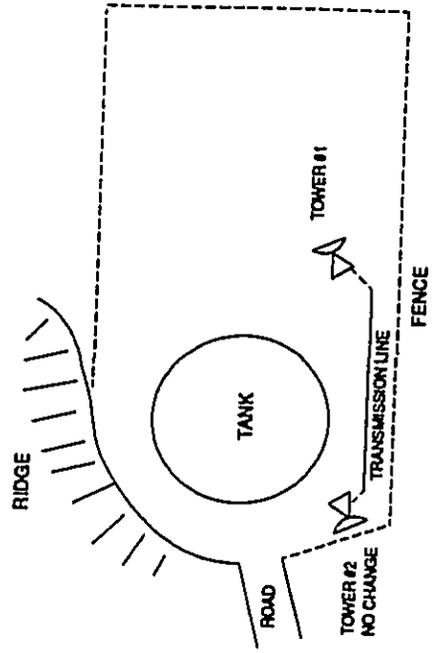
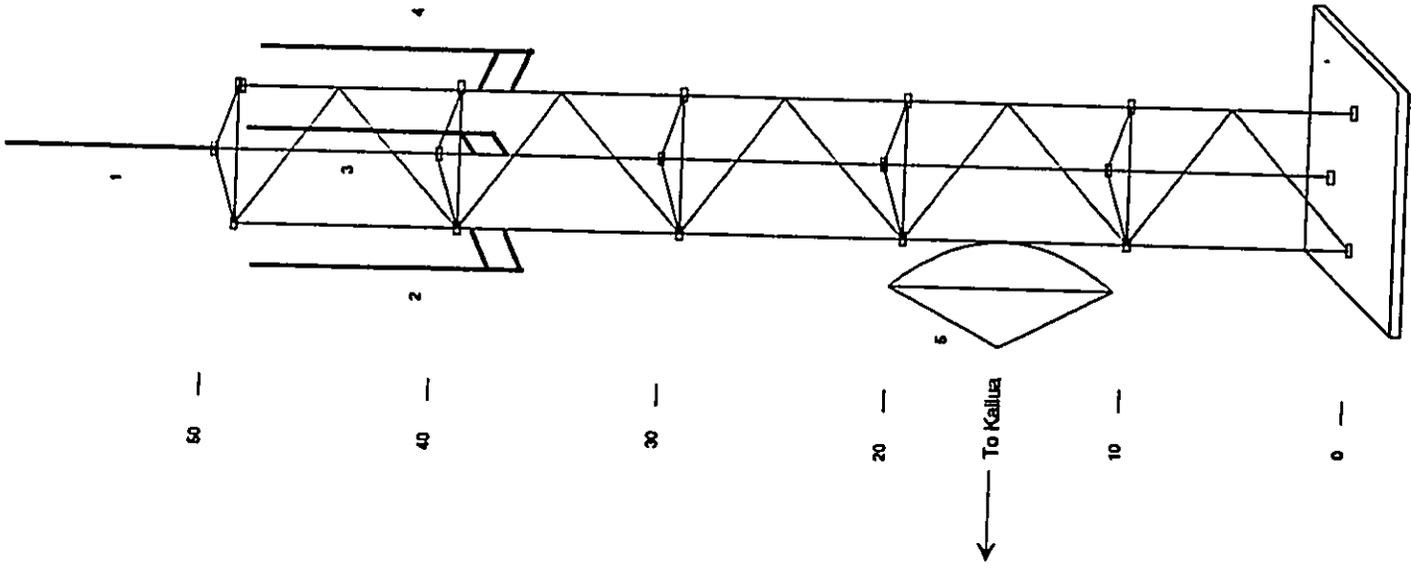
ANTENNAS
 1 EA PD 10' M/W DISH - KAILUA



HONOLULU POLICE DEPARTMENT 55 COMMUNICATIONS FACILITIES UPGRADE

| | | |
|--|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| 6A KAPAA 272 RESERVOIR EXISTING TOWER | | |
| DWG #1 | REV #1 | 11/16/92 |

Antennas
 1 Tower 4 - 13' Mhz 8' Verticals
 & - PD 10' Dish - Kalia



| | |
|--|---------|
| CITY & COUNTY OF HONOLULU | |
| 6A KAPAA 272 RESERVOIR NEW 50-FOOT TOWER/ANTENNAS | |
| PROJ #1 | 11/1/87 |

**Kawela Communications Facility (10)
Development Profile**

| | |
|--------------------------------|---------------------------------------|
| TMK: | 5-7-004: 002 |
| AREA OF SITE: | 45,650 sq.ft. |
| Area of Use: | less than 3,000 sq.ft. |
| LANDOWNER: | U.S. Army |
| NEAREST TOWN/LANDMARK: | Kawela neighborhood |
| Distance from Site: | 2.0 miles |
| EXISTING USE: | Communications facility |
| PROPOSED USE: | Upgrade communications facility |
| STATE LAND USE DISTRICT: | Conservation |
| Subzone: | Resource (R) |
| Type of Use Requested: | Permitted Use |
| COUNTY DEVELOPMENT PLAN AREA: | Koolauloa |
| Land Use Designation: | Agricultural |
| Public Facilities Designation: | None |
| ZONING: | P-1 Restricted Preservation |
| SPECIAL MANAGEMENT AREA: | Not located within SMA |
| LAND USE APPROVALS REQUIRED: | Conservation District Use Application |

A. Site Location and Existing Uses

The existing communications facility is located at the 1,307-ft. elevation at the northern tip of Oahu and occupies a portion of a decommissioned Nike missile site. Use of the site by the City and County is authorized under U.S. Army Contract No. DACA84-1-77-30.

The facility is a backbone link to the Mokuleia and Kahuku Police Station sites. In addition to the Police Department, the Fire Department uses the site.

The 220-sq.ft. communications equipment room is housed within an extension of the U.S. Army's "Building 84" and is of CMU construction. A 90-ft.-tall tower is located north of the equipment room. Two six-ft.-diameter microwave dishes, six stacked dipole antennas and four vertical antennas are attached to the tower. A fuel tank lies approximately ten feet from the southwest corner of Building 84.

Isolated from habitation within the Kahuku Forest Reserve in the foothills of the Koolau mountain range, the former Nike site also harbors facilities operated by Honolulu Cellular Telephone Company and the U.S. Army. The site is about 2.0 miles from the nearest house lot in Kawela.

B. Proposed Action

Improvements proposed for the facility include constructing a new 144-sq.ft. equipment room addition to the existing building and a five-ft.-wide perimeter concrete walkway. The proposed building

addition will be located adjacent to the existing generator room and will incorporate an existing 10-ft. x 15-ft. concrete slab for its floor. Soils testing will be conducted to ensure that the site can accommodate the proposed building addition. Other improvements include making minor antenna modifications and various interior alterations, and general cleanup and repainting. Weeds will also be cleared away from the structures.

The construction cost for the proposed improvements is estimated at \$200,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing site has slopes ranging from 10 to 35 percent. According to the U.S. Soil Conservation Service, soils in the area are of the Kaena series and consist of very deep, poorly-drained soils or clays underlain by alluvium, with many stones on the surface and in the profile. Runoff is medium to rapid and erosion hazard is moderate to severe.

The proposed improvements will require minimum alteration to the site. The new equipment room will be constructed using the existing concrete slab. Limited grading will be performed to allow construction of the perimeter concrete walkway and some weeds will be cleared from the structures. These activities, however, will not result in any significant erosion or sedimentation impacts.

Flood Conditions

Rainfall in the area averages 50 to 75 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined. Given the 1,040-ft. site elevation, flooding is unlikely. In addition, the proposed improvements should not result in any flooding of lower elevation properties.

Flora and Fauna

The natural vegetation in this area include ironwood, guava, christmas berry, ferns, clydemia, buffalo grass, ti, various weeds and grasses, and one coconut tree. No threatened or endangered flora or fauna exist in the area. The proposed improvements will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The proposed building improvements will not be visible from public roads and will not impact public views.

Access and Traffic

Access to the site is from Kamehameha Highway and Kawela Camp Road. Kawela Camp Road also provides access to the U.S. Army's Kahuku Training area. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Land Use Approvals Required

Conservation District Use Application

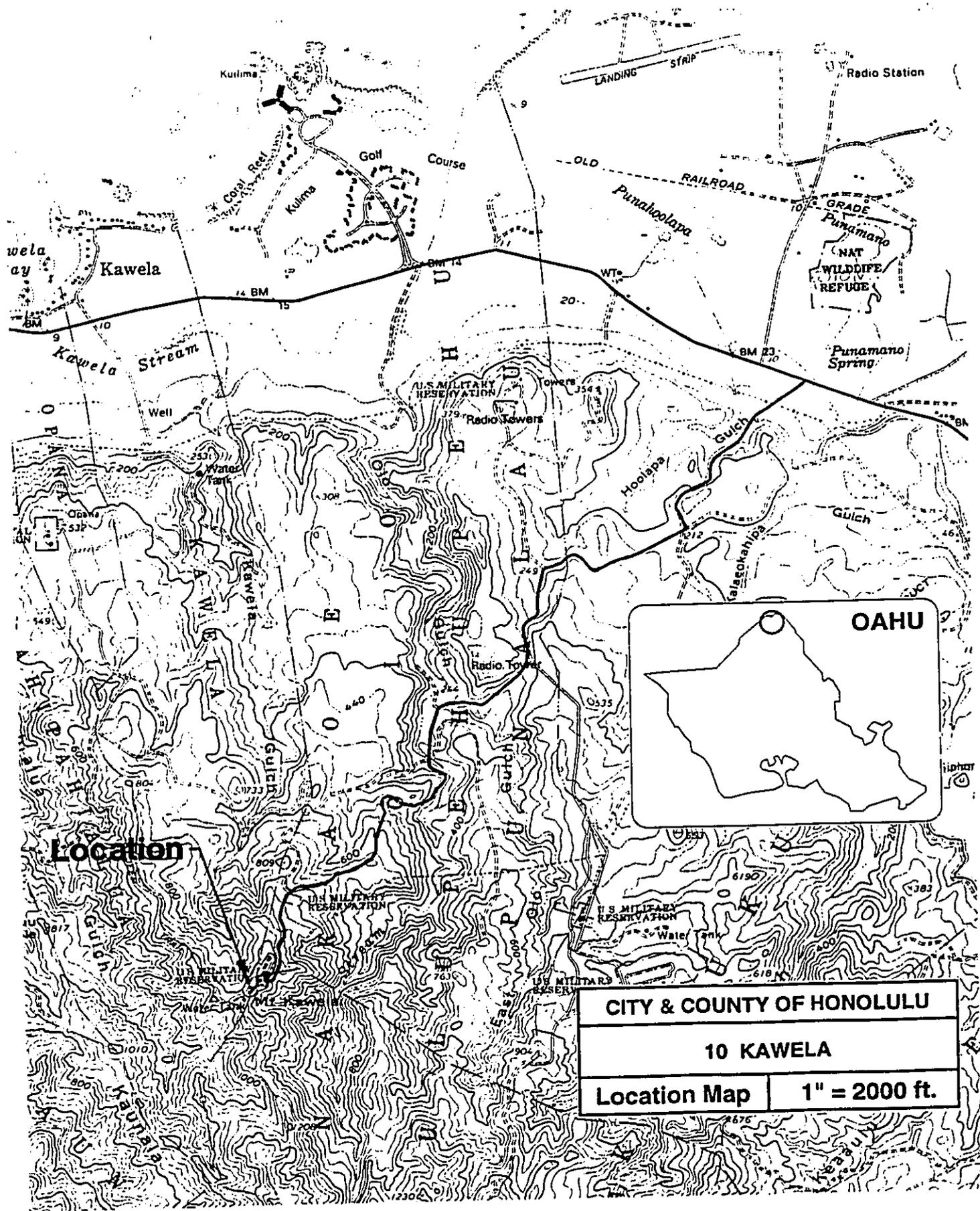
The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

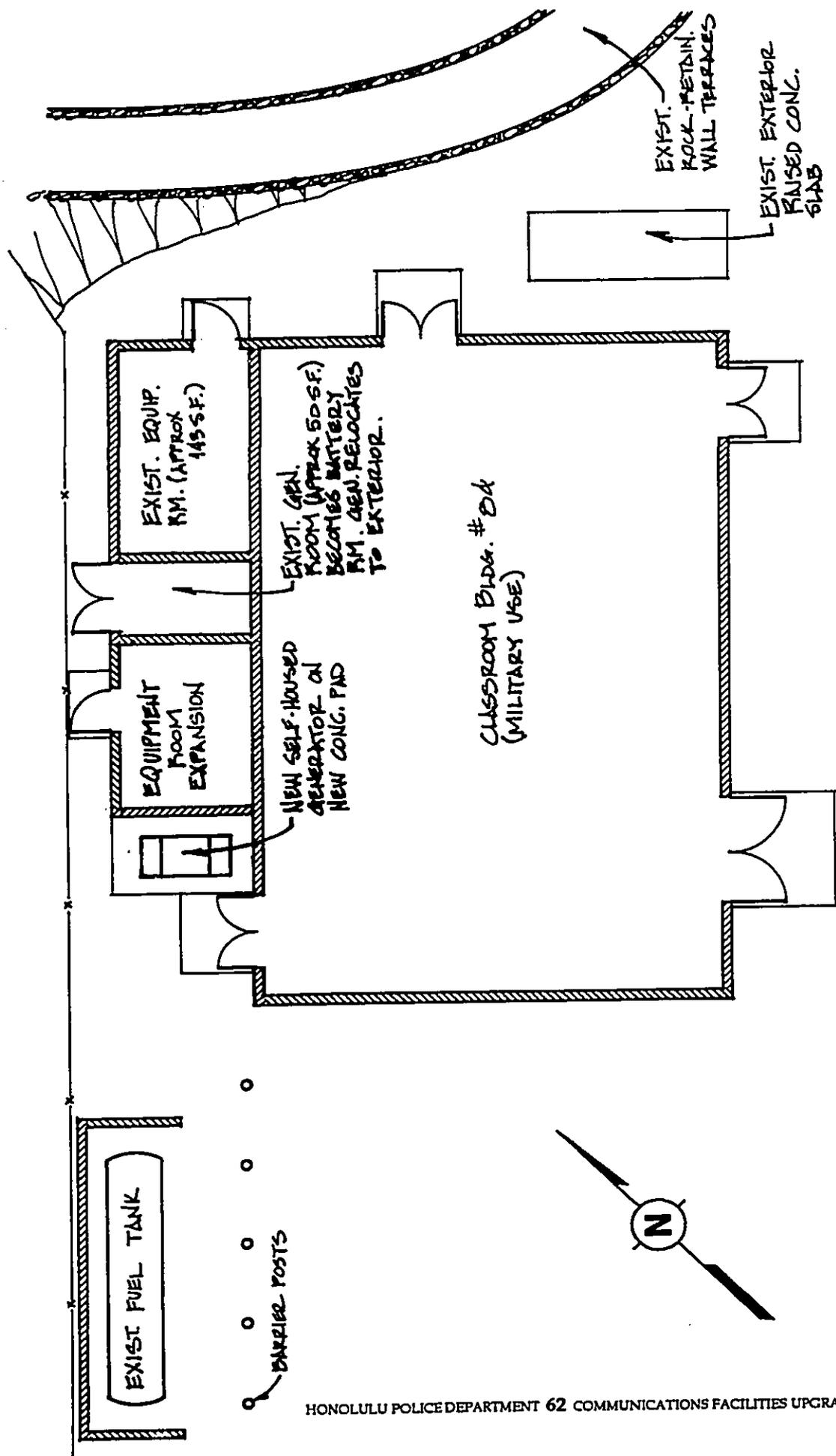
The project site lies within the Resource (R) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

Prior CDUA Approvals

No record of previous approvals.

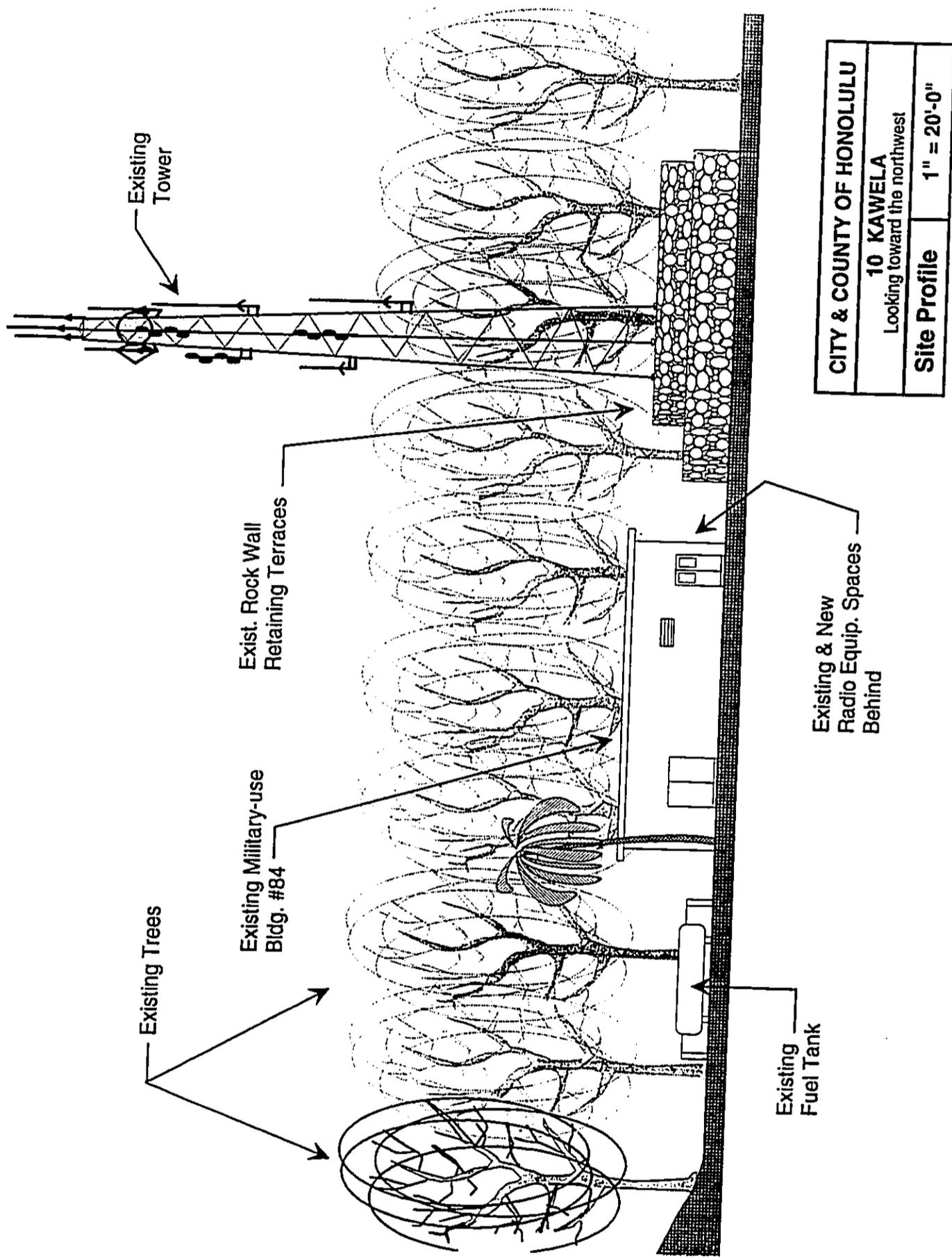


HONOLULU POLICE DEPARTMENT 60 COMMUNICATIONS FACILITIES UPGRADE



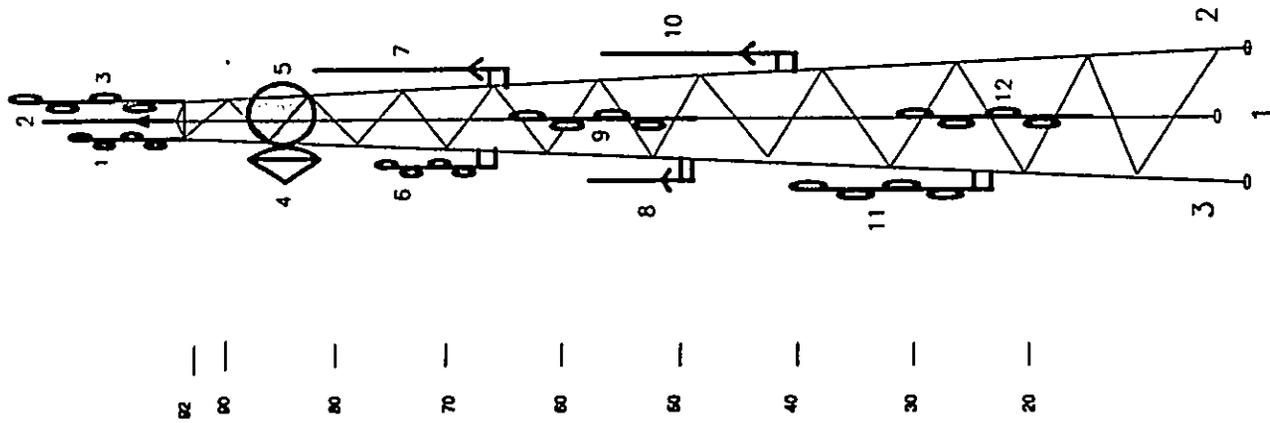
HONOLULU POLICE DEPARTMENT 62 COMMUNICATIONS FACILITIES UPGRADE

| | |
|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 10 KAWELA | |
| Site/Floor Plan | 1" = 10'-0" |

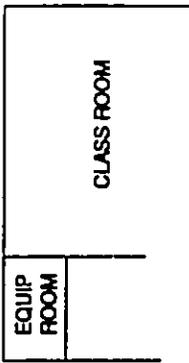
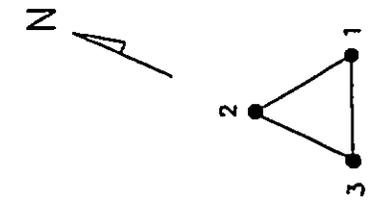


| | |
|--------------------------------------|--------------------|
| CITY & COUNTY OF HONOLULU | |
| 10 KAWELA | |
| Looking toward the northwest | |
| Site Profile | 1" = 20'-0" |

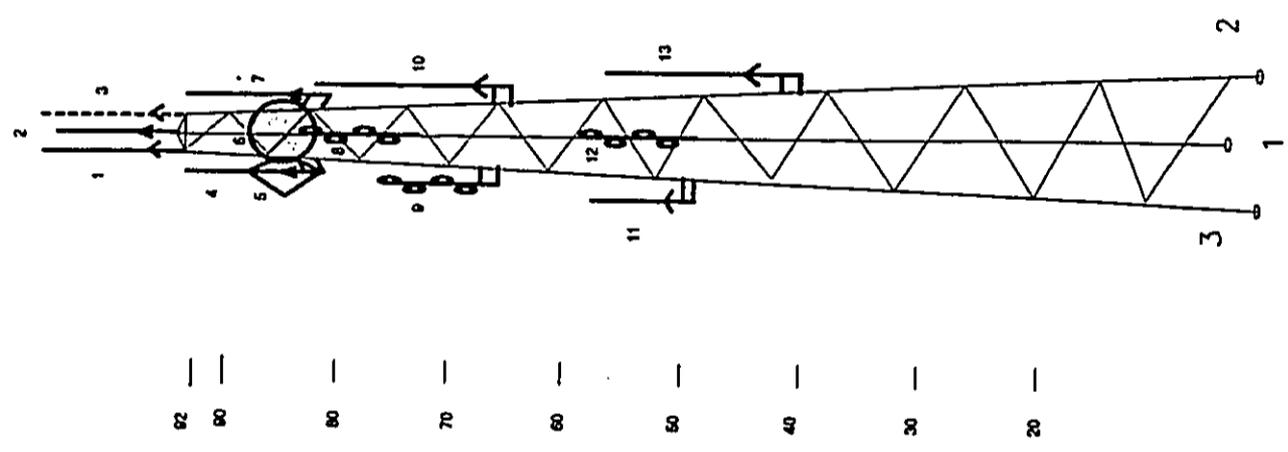
HONOLULU POLICE DEPARTMENT 63 COMMUNICATIONS FACILITIES UPGRADE



- 1- 6' PD UHF STACKED DIPOLE - VICE
- 2- 8' PD UHF VERTICAL
- 3- 18' PD VHF STACKED DIPOLE - F6
- 4- PD 6' MW DISH - MOKULEIA
- 5- PD 6' MW DISH - KAHUKU
- 6- 6' PD STACKED UHF DIPOLE - CIU
- 7- 20' PD VERTICAL
- 8- 6' PD UHF VERTICAL - EU
- 9- 6' PD UHF STACKED DIPOLE
- 10- 20' PD VHF VERTICAL
- 11- 18' PD VHF STACKED DIPOLE - F9
- 12- 18' PD VHF STACKED DIPOLE - F1

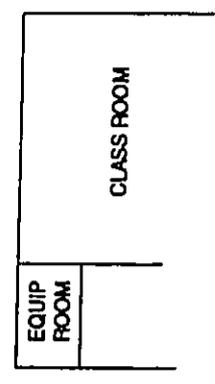
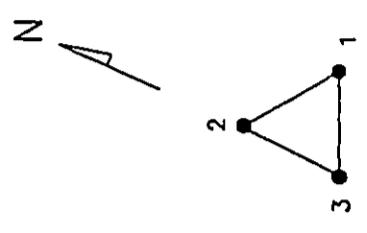


| | | |
|----------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KAWELA | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG #1 | REV #1 | 06/06/92 |



92 —
 90 —
 80 —
 70 —
 60 —
 50 —
 40 —
 30 —
 20 —

- ANTENNAS**
- 1 - 13' 800 MHZ VERTICAL
 - 2 - 10' UHF VERTICAL
 - 3 - 13' 800 MHZ VERTICAL - RSVD FOR FUTURE
 - 4 - 13' 800 MHZ VERTICAL
 - 5 - 6' MW DSH - KAHUKU
 - 6 - 6' MW DSH - MOKULEIA
 - 7 - 13' 800 MHZ VERTICAL
 - 8 - 8' PD UHF VERTICAL - VICE (RELOCATED)
 - 9 - 8' PD UHF STACKED DIPOLE - IEU
 - 10 - 20' PD VHF VERTICAL
 - 11 - 8' PD UHF VERTICAL
 - 12 - 8' PD UHF VERTICAL
 - 13 - 20' PD VHF VERTICAL



| | |
|------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| KAWELA | |
| NEW SYSTEM ANTENNA LOCATIONS | |
| DWG #1 | REV #1 |
| | 06/06/82 |

**Mokuleia Communications Facility (11)
Development Profile**

TMK: 6-8-001: 001

AREA OF SITE: 1,543.0 acres
Area of Use: less than 2,500.0 sq.ft.

LANDOWNER: State of Hawaii

NEAREST TOWN/LANDMARK: Mokuleia neighborhood
Distance from Site: 2.6 miles

EXISTING USE: Communications facility

PROPOSED USE: Upgrade communications facility

STATE LAND USE DISTRICT: Conservation
Subzone: Resource (R)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: North Shore
Land Use Designation: Preservation
Public Facilities Designation: None

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Not located within SMA

LAND USE APPROVALS REQUIRED: Conservation District Use Application

A. Site Location and Existing Uses

The existing communications facility is located at the 2,027-ft. elevation within the Mokuleia Forest Reserve and occupies a portion of a decommissioned Nike missile site. The City and County has a right-of-entry authorization from the State Department of Land and Natural Resources, dated August 6, 1975.

The facility is a backbone link to the U.S. Navy-EASTPAC and Kawela sites. In addition to the Police Department, the Department of Transportation Services uses the facility.

The existing equipment building measures 744-sq.ft. and is of CMU construction with a metal deck roof over steel joists. Set into the hillside, the building is surrounded by an earth embankment along its three sides where overgrown weeds prevent access to the perimeter of the building. A 50-ft.-tall tower and one 20-ft.-tall metal monopole are located east of the building. Two six-ft.-diameter microwave dishes, five stacked dipole antennas and one vertical antenna are attached to the tower; one vertical antenna is attached to the monopole. A fuel tank for the backup generator is located west of the equipment building.

Isolated from habitation within the forest reserve, the former Nike site also harbors a number of abandoned platforms and buildings. The site is about 2.6 miles from the nearest house/lot in Mokuleia.

B. Proposed Action

Improvements proposed for the facility include replacing the existing 50-ft.-tall tower with a new 70-ft.-tall tower and making minor antenna modifications. The replacement tower will be designed to withstand Category 5 - Hurricane Forces. Other improvements include excavating the existing earth embankment along the building's three sides. Soils testing will be conducted prior to construction to determine whether a new retaining wall is needed. If the test uncovers a rock foundation, a new wall may not be required. A five-ft.-wide perimeter concrete walkway will also be constructed, and various interior alterations, and general cleanup and repainting will be conducted. Weeds will also be cleared away from the structures.

The construction cost for the proposed improvements is estimated at \$500,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing site is located on a relatively flat area with surrounding slopes ranging from six to 12 percent, leading to steeper slopes to the east (35 to 45 percent). According to the U.S. Soil Conservation Service, soils in the area are of the Kaena series and consists of well-drained silty clay loam. Runoff is slow to medium and erosion hazard is slight to moderate.

To support the new 70-ft.-tall tower, three cylindrical footings, measuring approximately four feet in diameter by 12 feet deep, will be dug adjacent to the existing 50-ft.-tall tower. Reinforcing steel will be placed into the holes and then concrete will be pumped to the site and filled into the holes. Tower base plates will be cast into the wet concrete. After the concrete cures, the tower will be transported to the site by a crane and bolted onto its base plates. Other than the crane, no heavy machinery will be used during construction, and no significant erosion or sedimentation impacts are anticipated. The old tower will be removed once the new communications system is in place.

The existing earth embankment will be excavated from the building's three sides and approximately 2,600 cubic feet of material may be removed. Based on the results from the soils testing, a new retaining wall may be constructed between the equipment building and the hillside. If, however, the tests uncover a rock foundation, a new wall may not be needed.

Limited grading will also be performed to allow construction of the perimeter concrete walkway and weeds will be cleared away from the structures. None of these activities, however, should result in any significant erosion or sedimentation impacts.

Flood Hazards

Rainfall in the area averages 30 to 40 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined. Given the 2,027-ft. site elevation, flooding is unlikely. In addition, the proposed improvements will not result in any flooding of lower elevation properties.

Flora and Fauna

Natural vegetation within the area include kiawe, aalii, ricegrass, molassesgrass, silver oak, yellow foxtail and lantana. No threatened or endangered flora or fauna exist in the area. The proposed improvements will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The proposed building improvements and tower replacement will not be visible from Farrington Highway in Mokuleia, which is more than two miles distant. The new 70-ft.-tall tower may be visible from the four-wheel-drive government road at the Waianae summit and from Peacock Flats, a State hiking destination at the 1,600-ft. elevation above Mokuleia. However, there are also power lines in the area, and the additional height is too small to have a significant effect on public views.

Access and Traffic

Access to the site is by a 20-foot right-of-way road from Farrington Highway that is used for water and cable lines. This road was recently severely damaged and is currently being repaired. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on the newly-restored road and current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Summary of Major Impacts and Mitigative Measures

Viewplanes

The tower will be painted gray to blend with the sky.

E. Land Use Approvals Required

Conservation District Use Application

The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

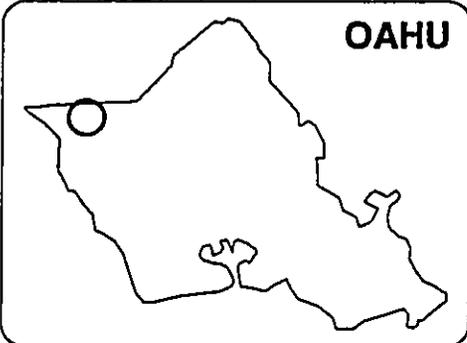
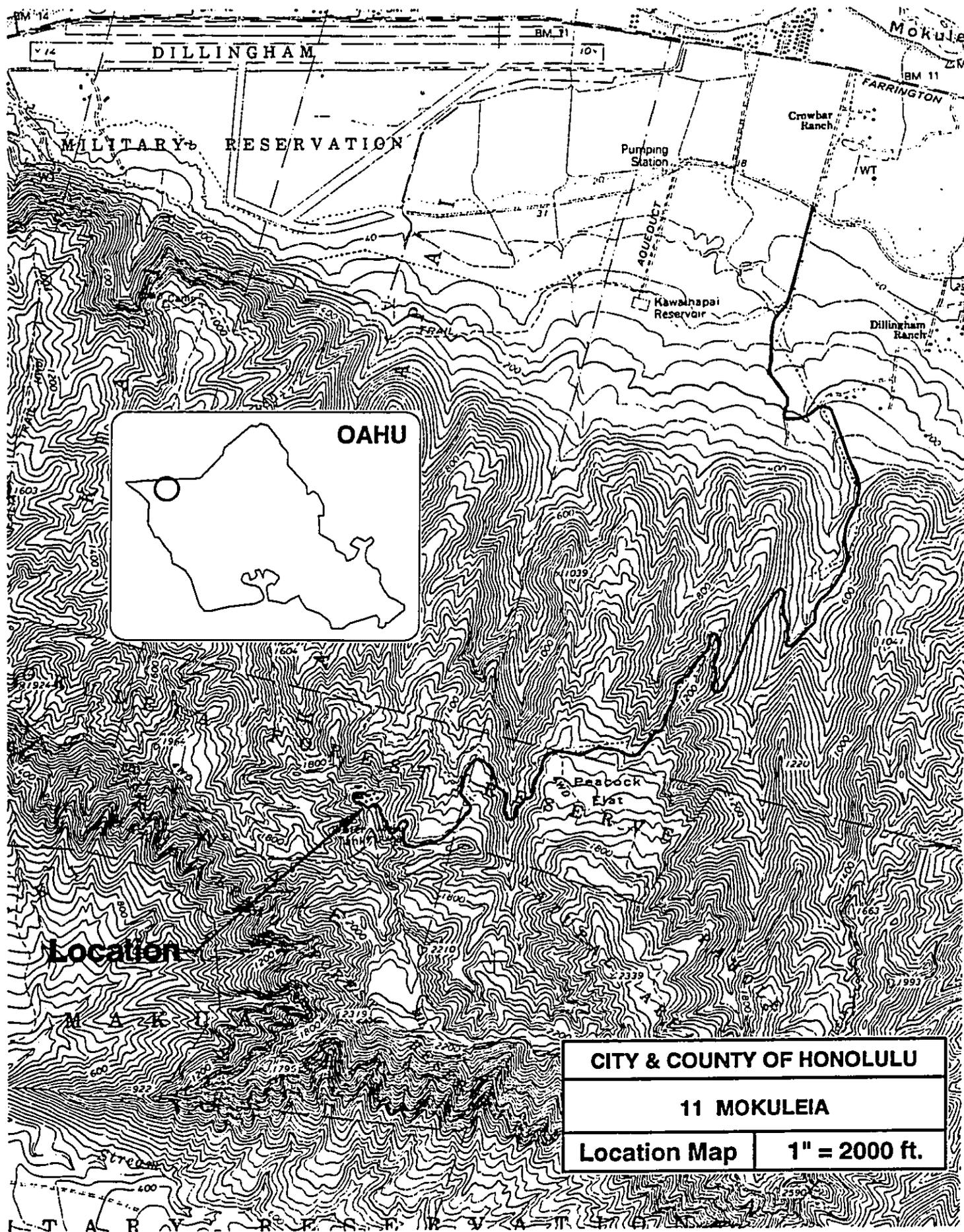
Conservation District Subzone

The project site lies within the Resource (R) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

Prior CDUA Approvals

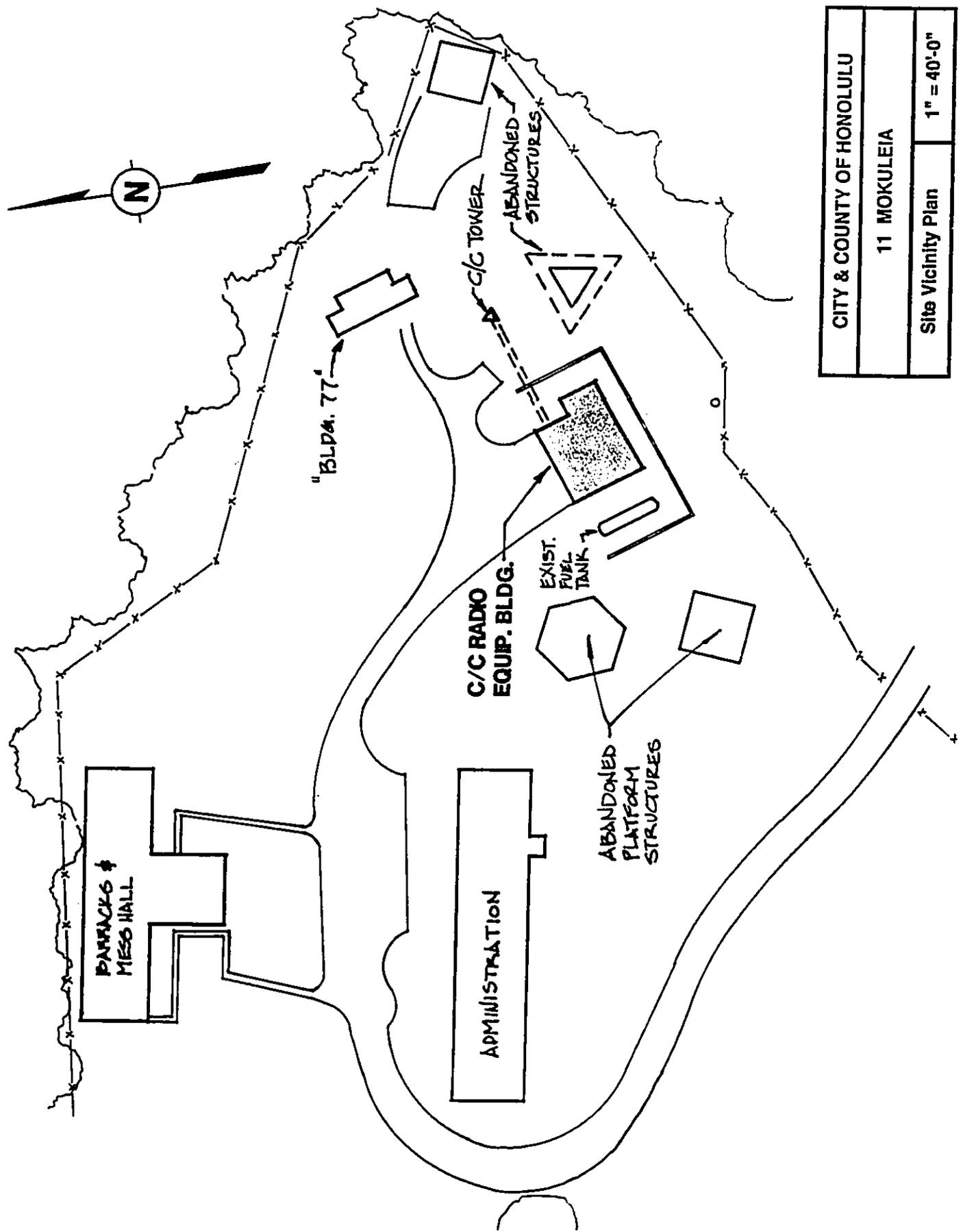
OA-1019: *January 1978* - Install a 50-ft.-tall tower and two six-ft.-diameter microwave dishes.

October 1984 - Install a fuel tank.

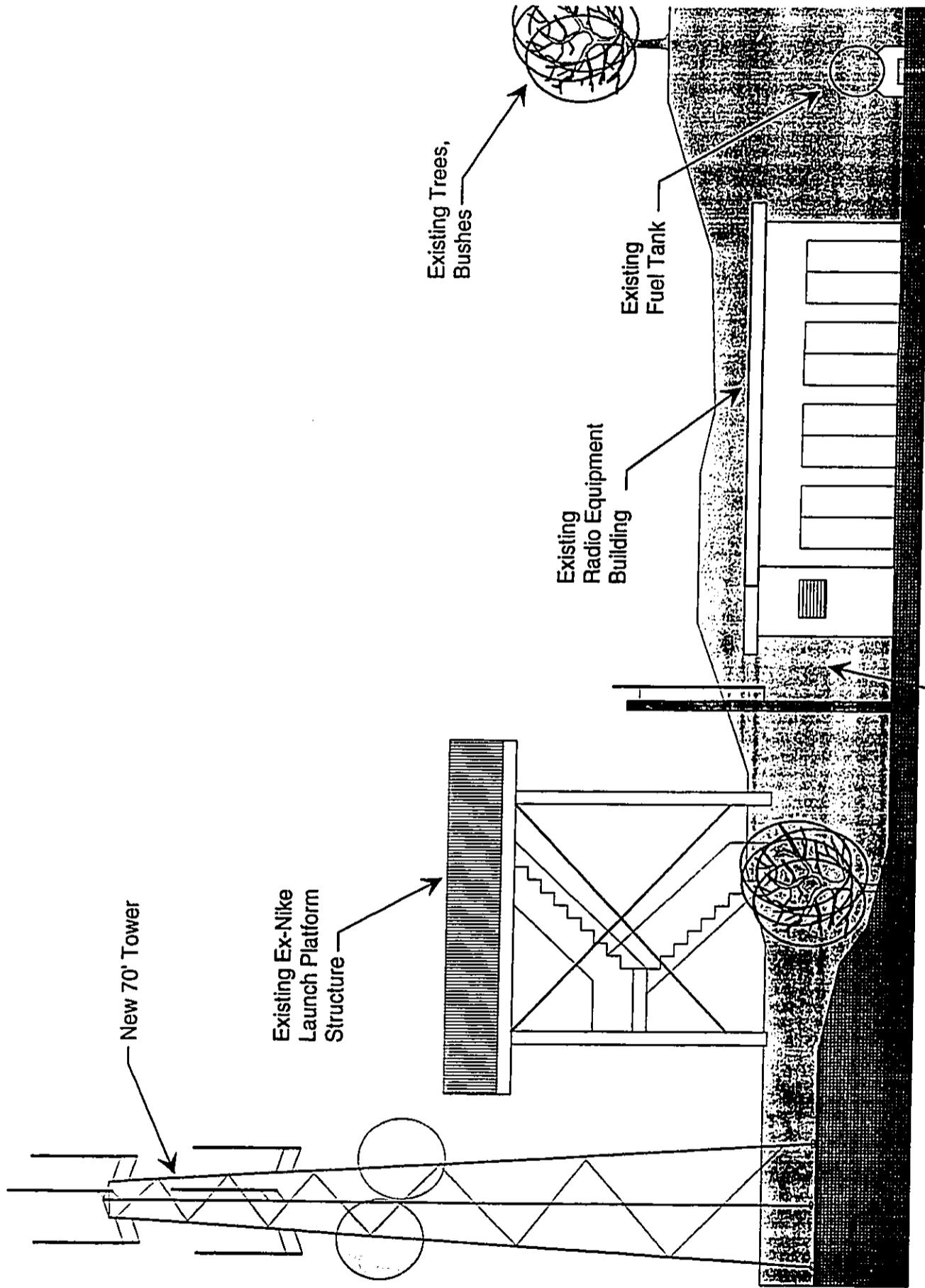


CITY & COUNTY OF HONOLULU
11 MOKULEIA
Location Map **1" = 2000 ft.**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



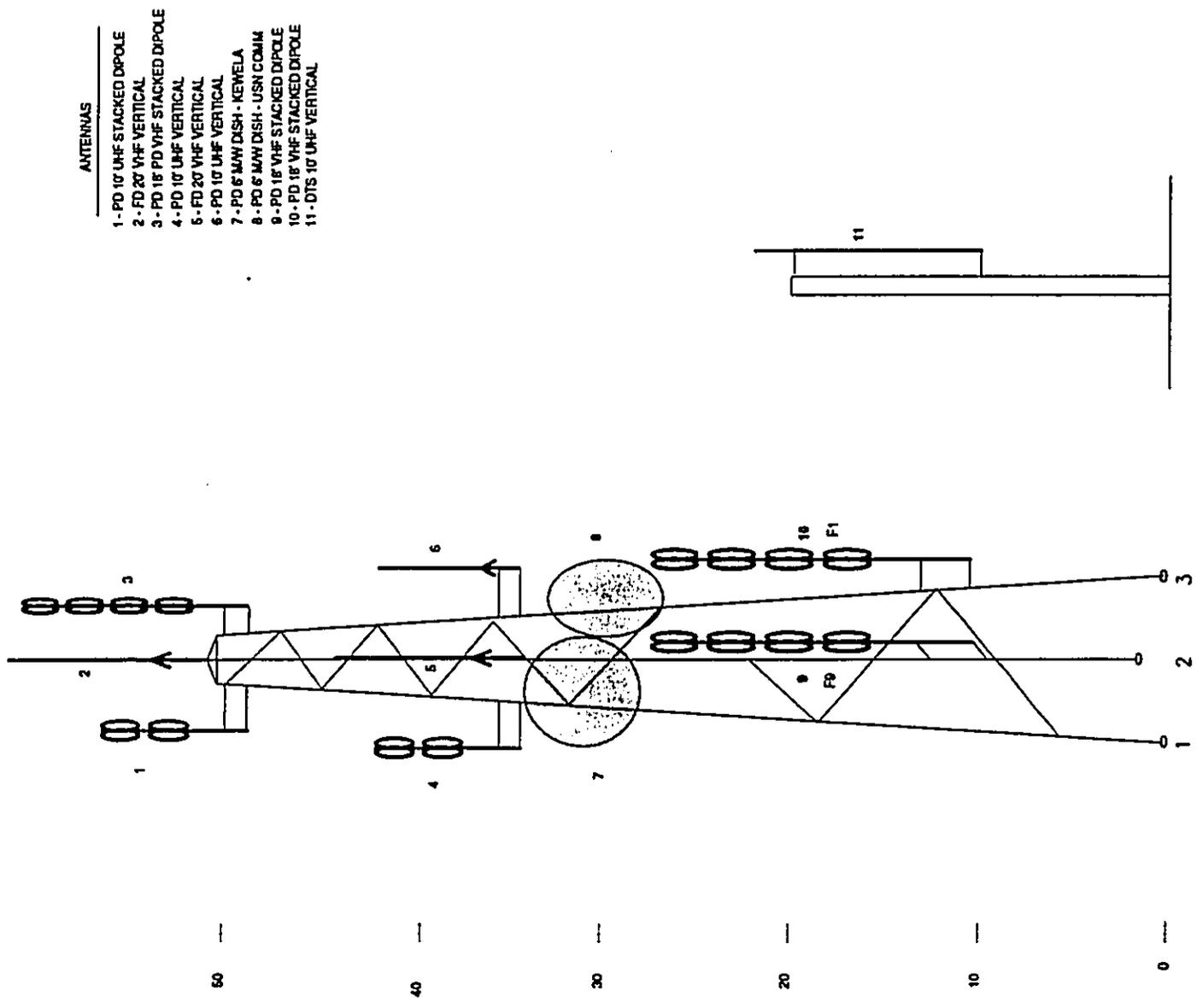
HONOLULU POLICE DEPARTMENT 71 COMMUNICATIONS FACILITIES UPGRADE



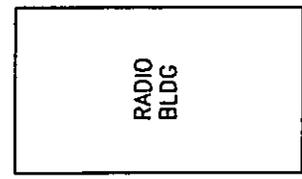
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|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 11 MOKULEIA | |
| Looking toward the south | |
| Site Profile | 1" = 10'-0" |

HONOLULU POLICE DEPARTMENT '72 COMMUNICATIONS FACILITIES UPGRADE

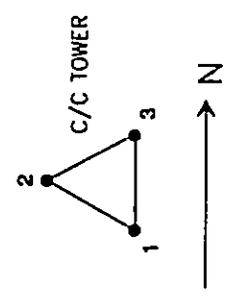




- ANTENNAS**
- 1- PD 10' UNF STACKED DIPOLE
 - 2- PD 20' VHF VERTICAL
 - 3- PD 18' PD VHF STACKED DIPOLE
 - 4- PD 10' UNF VERTICAL
 - 5- PD 20' VHF VERTICAL
 - 6- PD 10' UNF VERTICAL
 - 7- PD 8' MAW DISH - KEWELA
 - 8- PD 8' MAW DISH - USN COMM
 - 9- PD 18' VHF STACKED DIPOLE
 - 10- PD 18' VHF STACKED DIPOLE
 - 11- DTS 10' UNF VERTICAL

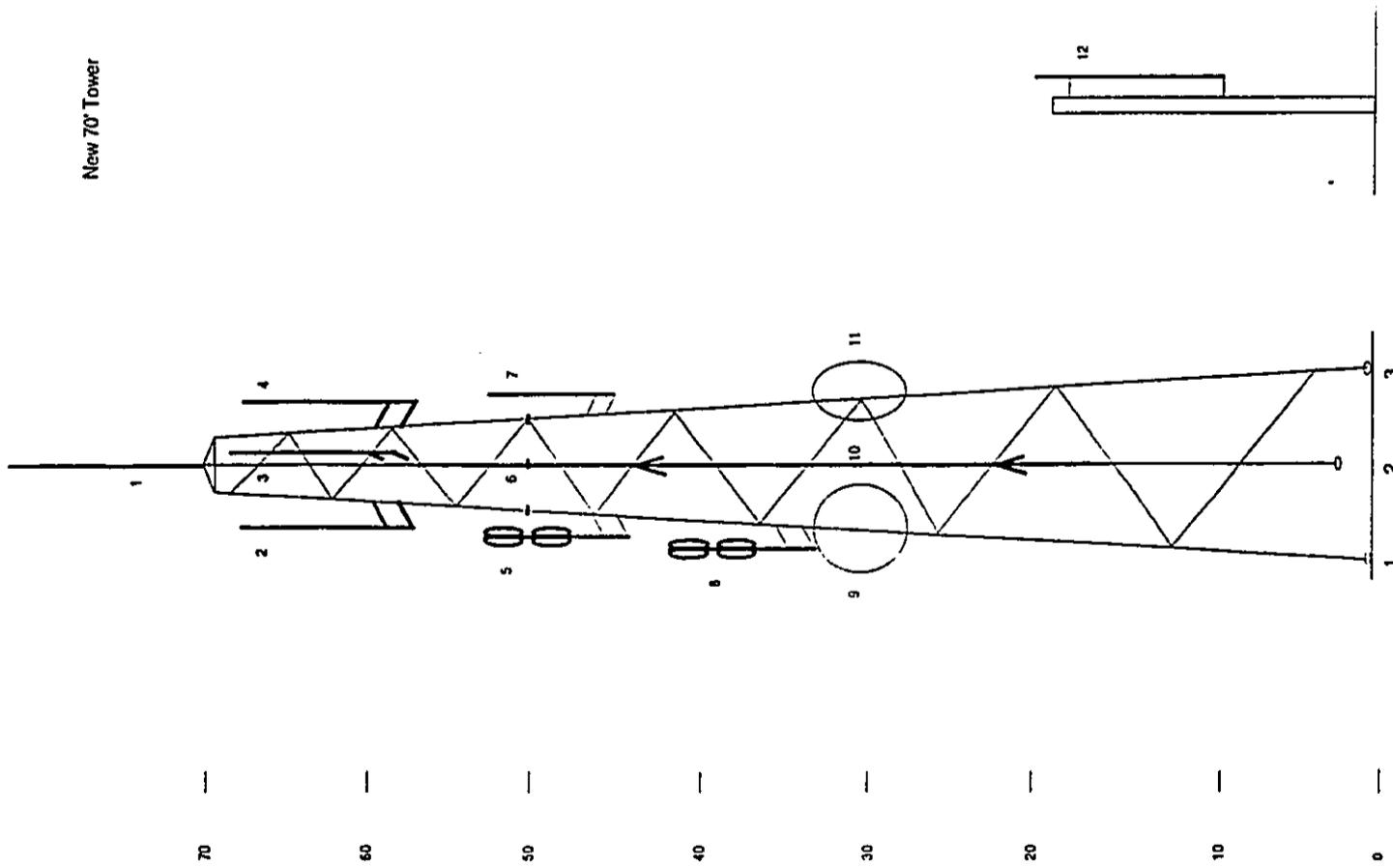


○ OTS MONOPOLE



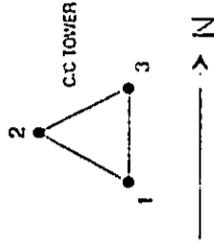
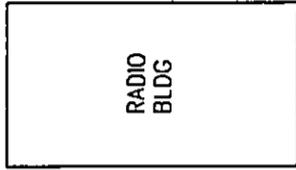
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|----------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| MOKULEIA | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG # 1 | REV #2 | 06/30/92 |

New 70' Tower



ANTENNAS

- 1 - 13' 800 MHZ VERTICAL
- 2 - 13' 800 MHZ VERTICAL
- 3 - 13' 800MHZ VERTICAL
- 4 - 13' 800 MHZ VERTICAL
- 5 - PD 10' UHF STACKED DIPOLE - VICE
- 6 - PD 20' VHF VERTICAL
- 7 - PD 10' UHF VERTICAL - IEU
- 8 - PD 10' UHF STACKED DIPOLE - CIU
- 9 - PD 6' 1/2" DISH - KAWELA
- 10 - PD 20' VHF VERTICAL
- 11 - PD 6' 1/2" DISH - USN COMM
- 12 - DTS 10' UHF VERTICAL



| | |
|------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| MOKULEIA | |
| NEW 70' TOWER | |
| NEW SYSTEM ANTENNA LOCATIONS | |
| DWG # 1 | REV #3 |
| | 06/30/92 |

**Puu Manawahua Communications Facility (13)
Development Profile**

TMK: 9-2-005: 014

AREA OF SITE: 34.3 acres
Area of Use: less than 4,000.0 sq.ft.

LANDOWNER: State of Hawaii

NEAREST TOWN/LANDMARK: Nanakuli neighborhood
Distance from Site: 2.0 miles

EXISTING USE: Communications facilities

PROPOSED USE: Upgrade communications facility

STATE LAND USE DISTRICT: Conservation
Subzone: Resource (R)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: Ewa
Land Use Designation: Preservation
Public Facilities Designation: None

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Not located within SMA

LAND USE APPROVALS REQUIRED: Conservation District Use Application

A. Site Location and Existing Uses

The existing communications facility is located at the 2,400-foot elevation on Palehua Ridge along the Waianae mountain range and occupies a portion of a decommissioned Nike missile site. Use of the facility by the City and County is authorized under State Revocable Permit No. S-5563.

The facility is a backbone link to the U.S. Navy-EASTPAC, Pearl City Police Station, Sand Island Sewage Treatment Plant and Waianae Police Station sites. In addition to the Police Department, the Fire Department, Department of Transportation Services, Board of Water Supply, other local government and State Department of Health use the facility.

The communications building measures 1,030 square feet and is of CMU construction with a metal deck roof over steel joists. The front of the building has five door penetrations measuring about eight feet tall. All but one are sealed off with plywood panels. A 200-ft.-tall tower is located east of the equipment building. Four six-ft.-diameter microwave dishes, six stacked dipole antennas and ten vertical antennas are attached to the tower. A fuel tank lies north of the equipment building.

Isolated from habitation within the Honouliuli Forest Reserve, the former Nike site also harbors Hawaiian Electric Company and the State Department of Land and Natural Resources, Division of Forestry and Wildlife facilities. The site is about 2.0 miles from the nearest houselot in Nanakuli.

B. Proposed Action

Improvements proposed for the building include sealing off four of the five door penetrations with new CMU construction and constructing a five-ft.-wide perimeter concrete walkway. Other improvements include making minor antenna modifications and various interior alterations, and general cleanup and repainting. Weeds will also be cleared away from the structures.

The construction cost for the proposed improvements is estimated at \$150,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing site is located on a relatively flat area with slopes ranging from zero to ten percent. Slopes in the adjacent areas vary dramatically, ranging from about 20 percent on the eastern side of the ridge to 70 percent on the western side of the ridge. According to the U.S. Soil Conservation Service, the soil is reddish-brown silty clay, within the Tropohumults-Dystrandeps association.

The improvements proposed for the facility will require minimum alteration to the site. Limited grading will be performed to allow construction of a perimeter concrete walkway. In addition, some weeds will be cleared away from the structures. These activities, however, will not result in any significant erosion or sedimentation impacts.

Flood Hazard

Rainfall in the area averages 20 to 30 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined. Given the 2,386-ft. site elevation, flooding is unlikely. In addition, the proposed improvements will not result in any flooding of lower elevation properties.

Flora and Fauna

The natural vegetation consists of lantana, molassesgrass, and yellow foxtail. At the higher elevations, the vegetation is mainly ohia, puakiawe, koa, aalii and ferns. No threatened or endangered flora or fauna exist in the area. The proposed improvements will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The proposed improvements will not impact existing public views.

Access and Traffic

Access is from Palehua Road, a 20-foot wide easement running roughly 3.8 miles. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Land Use Approvals Required

Conservation District Use Application

The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

The project site lies within the Resource (R) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

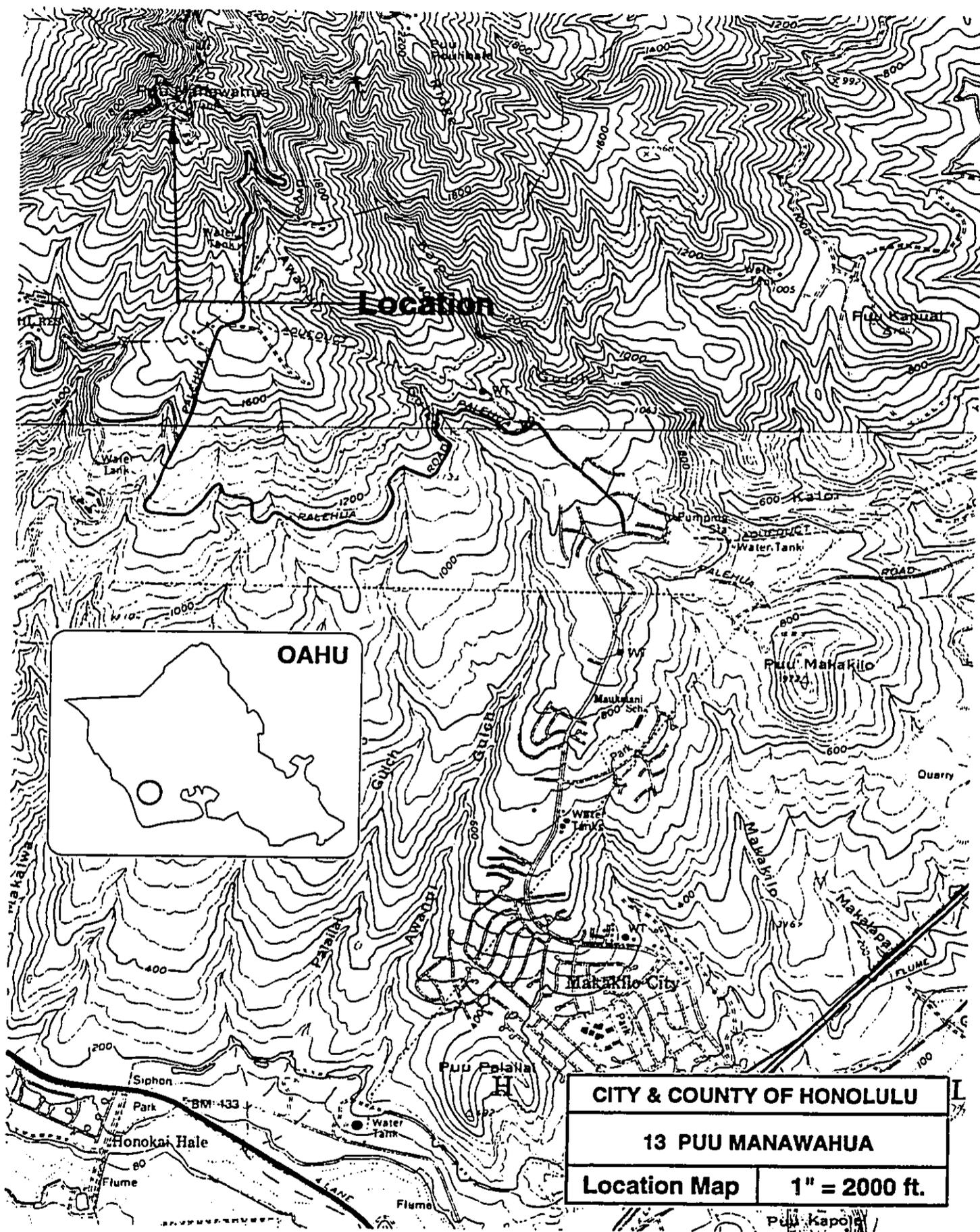
Prior CDUA Approvals

OA-1019: *January 1978* - Install a 220-ft.-tall tower and two six-ft.-diameter microwave dishes.

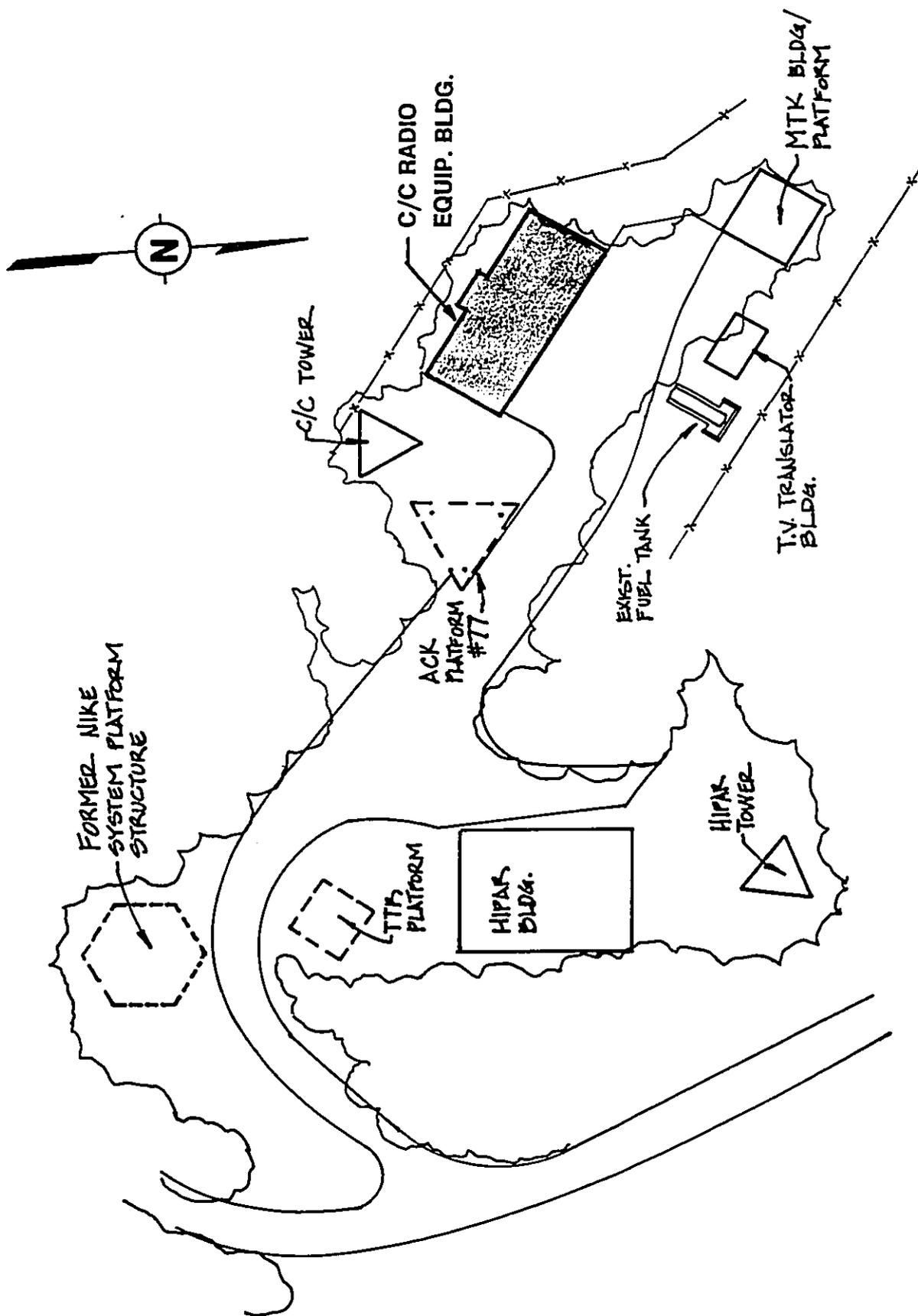
October 1984 - Install a fuel tank.

January 1988 - Construct a 196-sq.ft. building extension.

90-677: *June 1990* - Replace batteries and battery charges (emergency authorization)

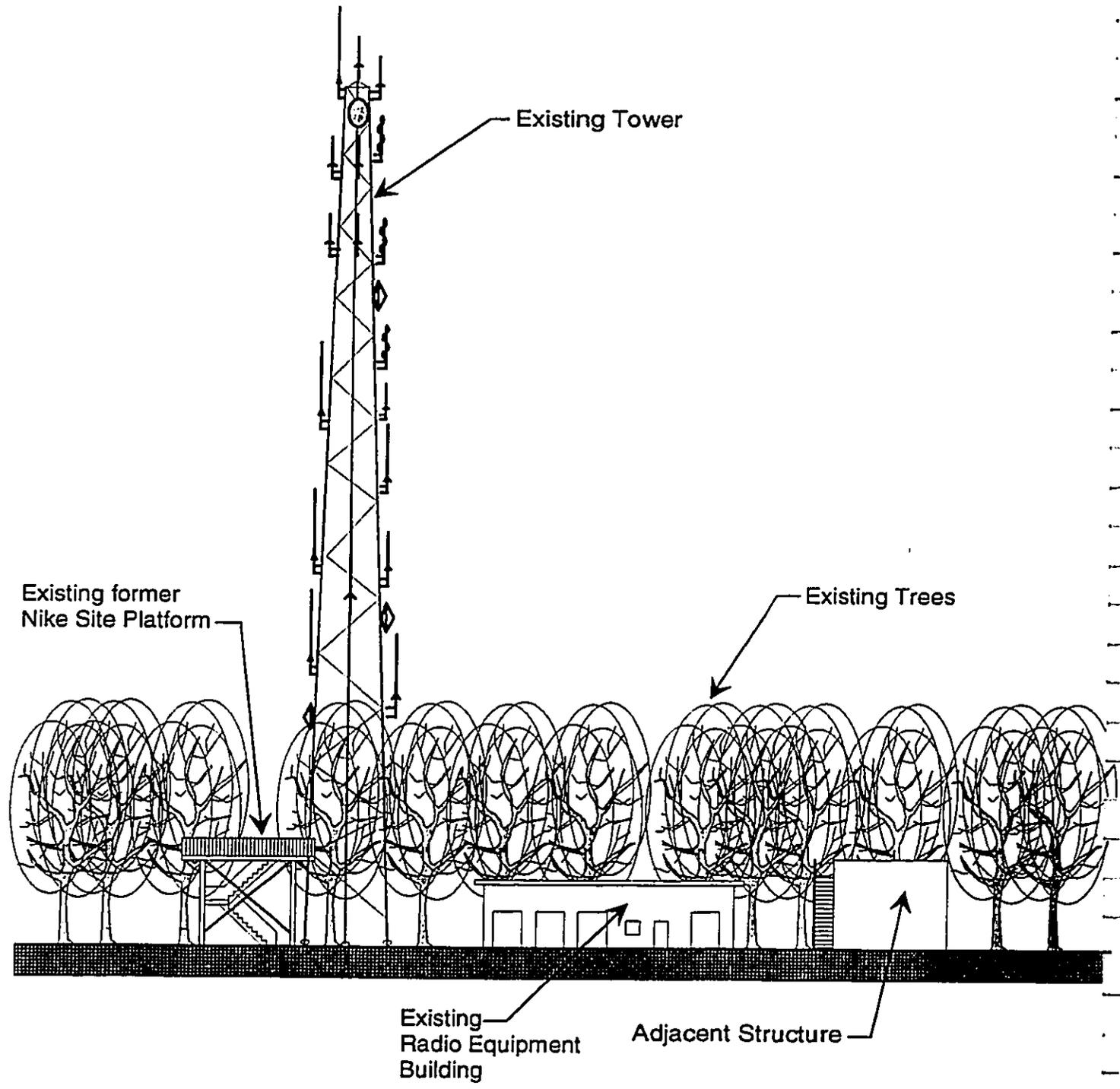


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



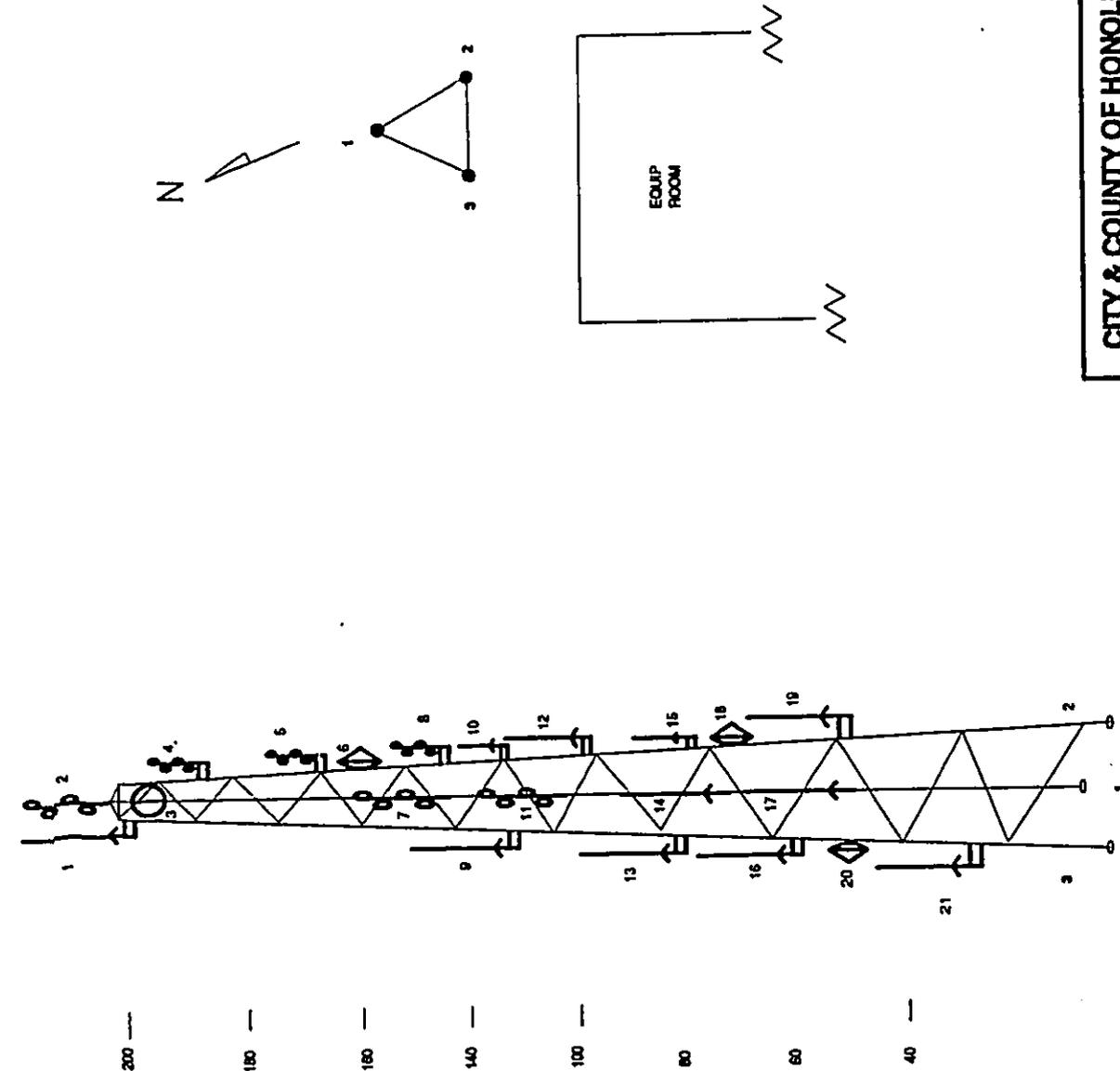
HONOLULU POLICE DEPARTMENT 79 COMMUNICATIONS FACILITIES UPGRADE

| | |
|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 13 PUU MANAWAHUA | |
| Site Vicinity Plan | 1" = 40'-0" |



| | |
|---|--------------------|
| CITY & COUNTY OF HONOLULU | |
| 13 PUU MANAWAHUA Looking toward the southwest | |
| Site Profile | 1" = 30'-0" |

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

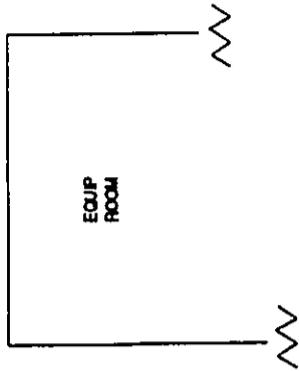
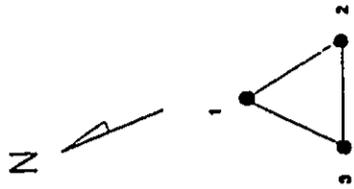
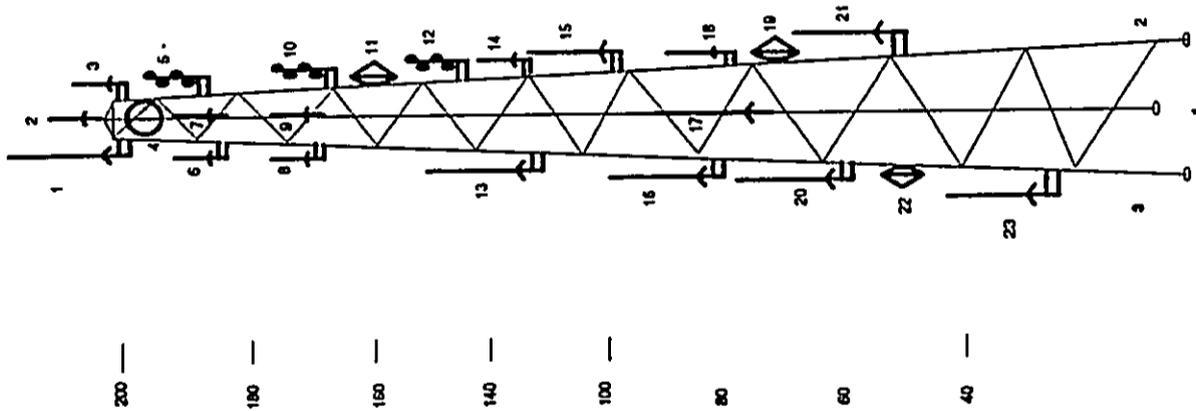


- ANTENNAS**
- 1 - 20' FD VHF VERTICAL - F-34
 - 2 - 18' PD VHF STACKED DIPOLE - F6
 - 3 - PD 6' MW DISH - USN
 - 4 - 8' PD UHF STACKED DIPOLE - VICE
 - 5 - 8' PD UHF STACKED DIPOLE - CIU
 - 6 - PD 6' MW DISH - PEARL CITY
 - 7 - 18' PD VHF STACKED DIPOLE - IEU
 - 8 - 8' PD UHF STACKED DIPOLE - F2
 - 9 - 20' LOCAL GOV VHF VERTICAL - F2
 - 10 - 8' PD UHF VERTICAL - VICE
 - 11 - 20' PD VHF STACKED DIPOLE - F1
 - 12 - 20' HEALTH VHF VERTICAL
 - 13 - 20' LOCAL GOV VHF VERTICAL - F3
 - 14 - 20' FD VHF VERTICAL - F2
 - 15 - 8' DTS UHF VERTICAL
 - 16 - 20' CITY PAGING VHF VERTICAL
 - 17 - 20' PD VHF VERTICAL - F9
 - 18 - PD 6' MW DISH - SAND ISLAND
 - 19 - 20' HEALTH VHF VERTICAL
 - 20 - PD 6' MW DISH - WAIANAIE
 - 21 - BWS 15' VERTICAL

| | |
|----------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| PUU MANAWAHUA | |
| EXISTING TOWER/ANTENNA LOCATIONS | |
| DWG #1 | REV #2 |
| | 06/23/92 |

ANTENNAS

- 1 - 20' FD VHF VERTICAL - F-34
- 2 - 13' 800 MHZ VERTICAL
- 3 - 13' 800 MHZ VERTICAL
- 4 - PD 6' MW DISH - USH
- 5 - 8' PD UHF STACKED DIPOLE - VICE
- 6 - 13' 800 MHZ VERTICAL
- 7 - 13' 800 MHZ VERTICAL
- 8 - 13' 800 MHZ VERTICAL
- 9 - 13' 800 MHZ VERTICAL
- 10 - 8' PD UHF VERTICAL - CIU
- 11 - PD 6' MW DISH - PEARL CITY
- 12 - 8' PD UHF STACKED VERTICAL - IEU
- 13 - 20' LOCAL GOV VHF VERTICAL
- 14 - 8' PD UHF VERTICAL - VICE DVP
- 15 - 20' HEALTH VHF VERTICAL
- 16 - 20' LOCAL GOV VHF VERTICAL
- 17 - 20' FD VHF VERTICAL - F2
- 18 - 8' OTS UHF VERTICAL
- 19 - PD 6' MW DISH - SAND ISLAND
- 20 - 20' CITY PAGING VHF VERTICAL
- 21 - 20' HEALTH VHF VERTICAL
- 22 - PD 6' MW DISH - WAIAUAE
- 23 - 8WS 15' VERTICAL



| | |
|------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| PUU MANAWAHUA | |
| NEW SYSTEM ANTENNA LOCATIONS | |
| DWG #1 | REV #2 |
| | 06/23/92 |

**Waianae 242 Reservoir Communications Facility (13A)
Development Profile**

TMK: 8-6-001: 048

AREA OF SITE: 3.1 acres
Area of Use: less than 50.0 sq.ft.

LANDOWNER: Board of Water Supply

NEAREST TOWN/LANDMARK: Waianae neighborhood
Distance from Site: 0.2 miles

EXISTING USE: Water tank
Communications facility

PROPOSED USE: Upgrade communications facility

STATE LAND USE DISTRICT: Conservation
Subzone: Limited (L)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: Waianae Development Plan Area
Land Use Map: Preservation
Public Facilities Map: None

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Not located within SMA

LAND USE APPROVALS REQUIRED: Conservation District Use Application

A. Site Location and Existing Uses

The existing communications facility is located at the 240-ft. elevation at the Paheehee headland. Currently only used by the Police Department, this passive facility is comprised of a reflector billboard measuring 96-sq.ft. and mounted on the Board of Water Supply water tank. The board reflects the signal from Puu Manawahua to the Waianae Police Station.

Primarily used for the water tank, the site is located on the makai end of Paheehee Ridge. Surrounding uses include a cemetery and private residences. The site is about 0.2 miles from the nearest houselot in Waianae.

B. Proposed Action

No changes to the existing facility are anticipated.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing facility sits on a flat site cut into the headland. Surrounding slopes range from 20 and 25 percent. According to the U.S. Soil Conservation Service, the area is made up of rock outcrops of mainly

basalt and andesite. Centuries of weathering, however, has created a layer of soil deposits and vegetation has already taken hold in most of the area.

Flood Hazard

Rainfall in the area averages 20 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined. Given the 650-ft. site elevation, flooding is unlikely.

Flora and Fauna

The natural vegetation at the lower elevations consists mainly of kiawe, piligrass and koa haole. Lantana, guava, Natal redtop and molassesgrass are dominant at the higher elevations. No threatened or endangered flora or fauna exist on the site.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

There will be no impact to existing public views.

Access and Traffic

Access is from Kawili Street and a Board of Water Supply access driveway. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Land Use Approvals Required

Conservation District Use Application

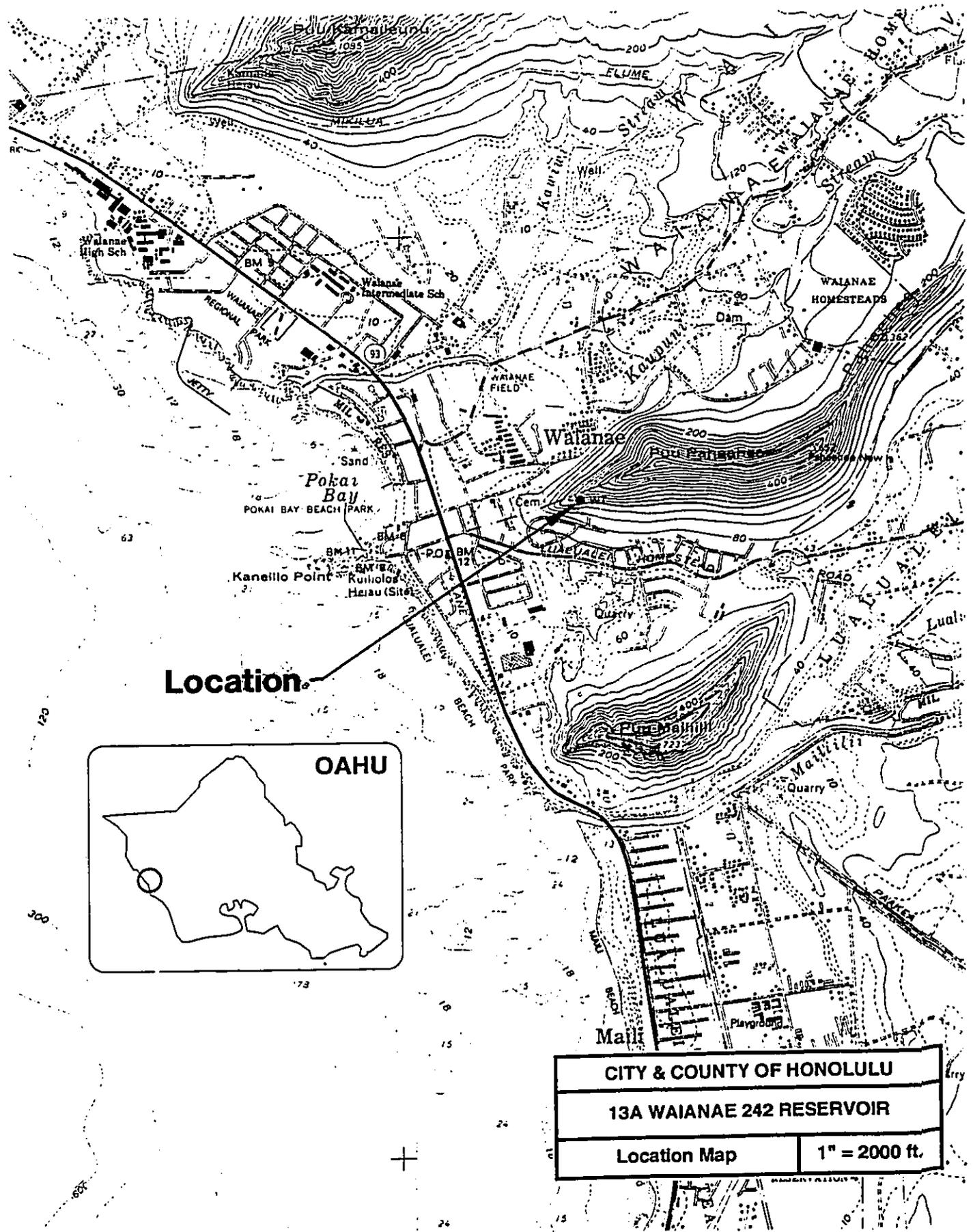
The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

The project site lies within the Limited (L) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to limit uses where natural conditions suggest constraints on human activities". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

Prior CDUA Approvals

No record of previous approvals.



**Keau Beach Park Communications Facility (13C)
Development Profile**

| | |
|--------------------------------|---|
| TMK: | 8-3-001: 001 |
| AREA OF SITE: | 37.9 acres |
| Area of Use: | 80.0 sq.ft. |
| LANDOWNER: | City and County of Honolulu |
| NEAREST TOWN/LANDMARK: | Makaha subdivision |
| Distance from Site: | 200 feet |
| EXISTING USE: | Beach park Comfort stations |
| PROPOSED USE: | New communications facility |
| STATE LAND USE DISTRICT: | Conservation |
| Subzone: | Limited (L) |
| Type of Use Requested: | Permitted Use |
| COUNTY DEVELOPMENT PLAN AREA: | Waianae Development Plan Area |
| Land Use Designation: | Parks and Recreation |
| Public Facilities Designation: | None |
| ZONING: | P-1 Restricted Preservation |
| SPECIAL MANAGEMENT AREA: | Located within SMA |
| LAND USE APPROVALS REQUIRED: | Conservation District Use Application Special Management Area Use Permit |

A. Site Location and Existing Uses

The City and County is proposing to develop a new communications facility within the Keau Beach Park site on the western (Waianae) coast of Oahu. Connected by a wireline to the Waianae Police Station, this new facility is intended to provide improved radio coverage for the northern part of the Waianae coast.

The proposed site is bordered by Farrington Highway and surrounded by a grassy area, sandy beach and a small residential subdivision. The area across the highway is comprised primarily of brush and scrubland covering the hillside, with a few private residences along the road. The residential subdivision is located about 200 feet south of the proposed site, along Kepuhi Beach.

B. Proposed Action

The City and County is proposing to construct a new 80-sq.ft. equipment building of CMU construction on the southeast corner of the park, abutting the highway and residential area. A 25-ft.-tall pole will be sited behind the building and two vertical antennas will be attached to the pole. Soils testing will be conducted to ensure that the site can accommodate the proposed building and antenna pole. A heavy-duty battery back-up system will be installed in place of an emergency generator.

The construction cost for the proposed improvements is estimated at \$575,000.

C. Affected Environment

Topography and Soils

The proposed site is flat with soils consisting of coral or cemented calcareous sand. The new equipment building will occupy only 80 square feet and will require minimum alteration to the site. Although limited grading will be performed to allow construction of the new building, these activities will not result in any significant erosion or sedimentation impacts.

Flood Hazard

Rainfall in the area averages less than 20 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined and considered negligible. The proposed equipment building will not increase the flood hazard to adjacent properties.

Flora and Fauna

The natural vegetation in the area is sparse, consisting of kiawe, koa haole, fingergrass and palms. No threatened or endangered flora or fauna exist on the site. The proposed facility will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, there are a number of Hawaiian burials located further north of the proposed site, within Keaau Beach Park. Because of the proximity of these burials and the sandy soil characteristics of the area, there is a possibility that burials could also exist on the proposed site. Given these conditions, the City and County will consult with the State Historic Preservation Division and will have an archaeologist on site during the grading phase of the proposed construction.

Viewplanes

The new facility, which will consist of a small radio equipment building and a single antenna pole, will be sited in a corner of the park near Farrington Highway and existing development. The site is located away from the shoreline and away from the undeveloped portion of the park, which extends up the coast toward Makua. The building will be much smaller than neighboring residences and park trees. The pole will be no taller than utility poles located along Farrington Highway.

Recreational

The proposed facility will occupy only 80 square feet and will be placed on the southeast corner of the park, adjacent to the nearby residential subdivision. The facility will be located about 600 feet from the shoreline and will not interfere with camping or other recreational activities conducted at the park.

Access and Traffic

Access to the site is from Farrington Highway. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

The proposed facility will be located on the southeast corner of the park about 600 feet from the shoreline and will not affect access to the shoreline, any publicly owned or used beach, or recreation area.

D. Summary of Impacts and Mitigative Measures

Viewplanes

The building and any perimeter fencing will be designed and/or painted to make them as unobtrusive as possible in the context of the surrounding park and residential landscape.

E. Land Use Approvals Required

Conservation District Use Application

The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation District Subzone

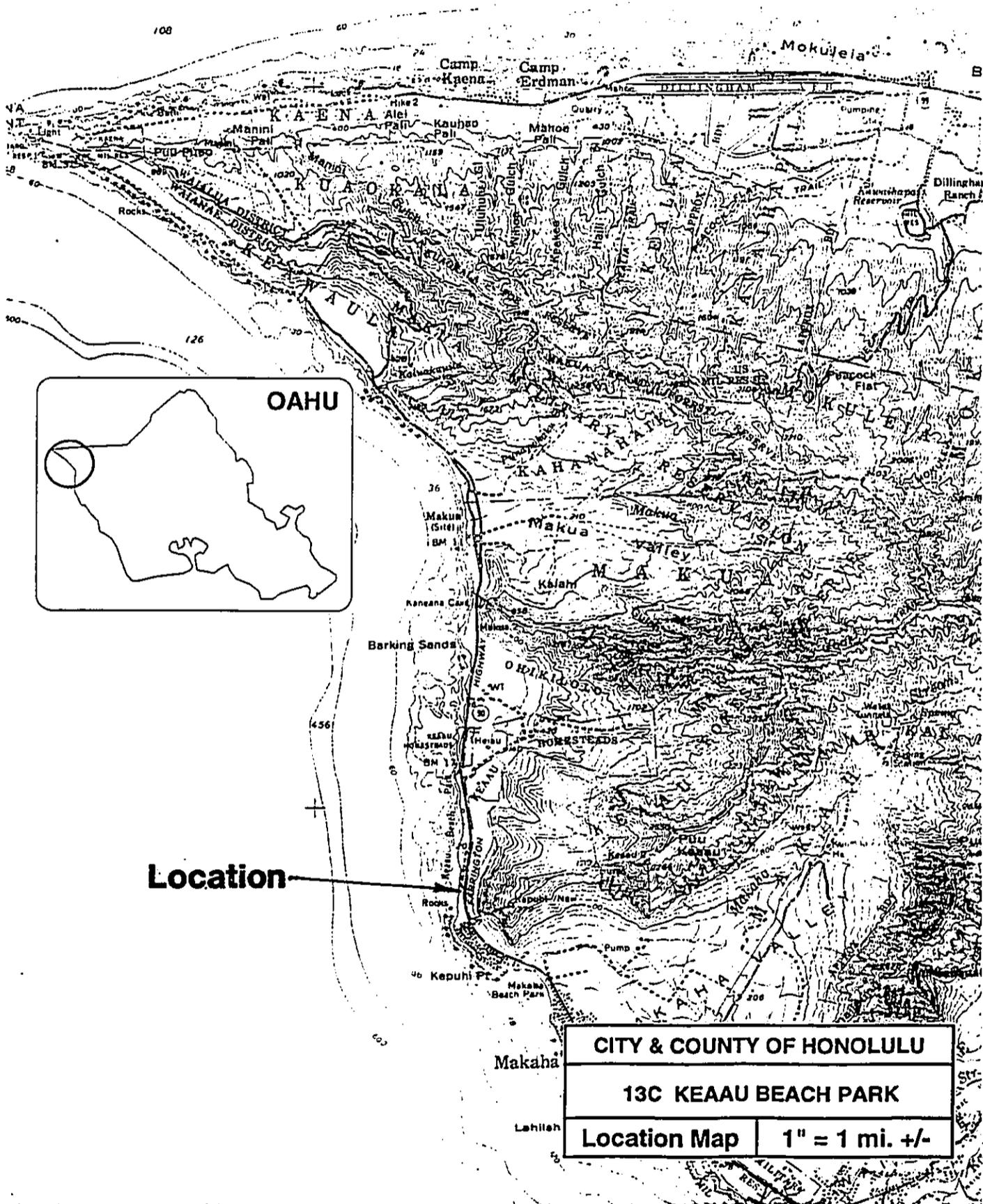
The project site lies within the Resource (R) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

Prior CDUA Approvals

None. The city is proposing a new facility.

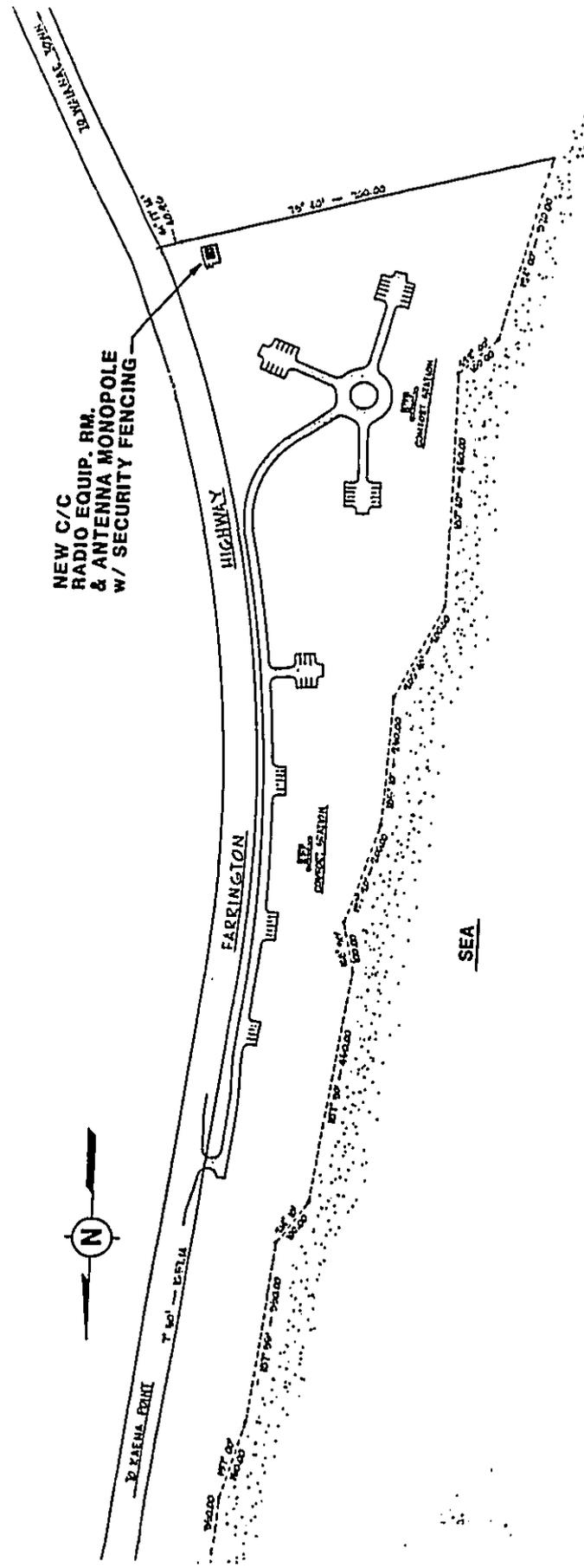
Special Management Area Use Permit

The site is within the Special Management Area, approximately 600 feet from the shoreline. A Special Management Area Use Permit application will be submitted to the City and County of Honolulu, Department of Land Utilization prior to submittal of the CDUA.

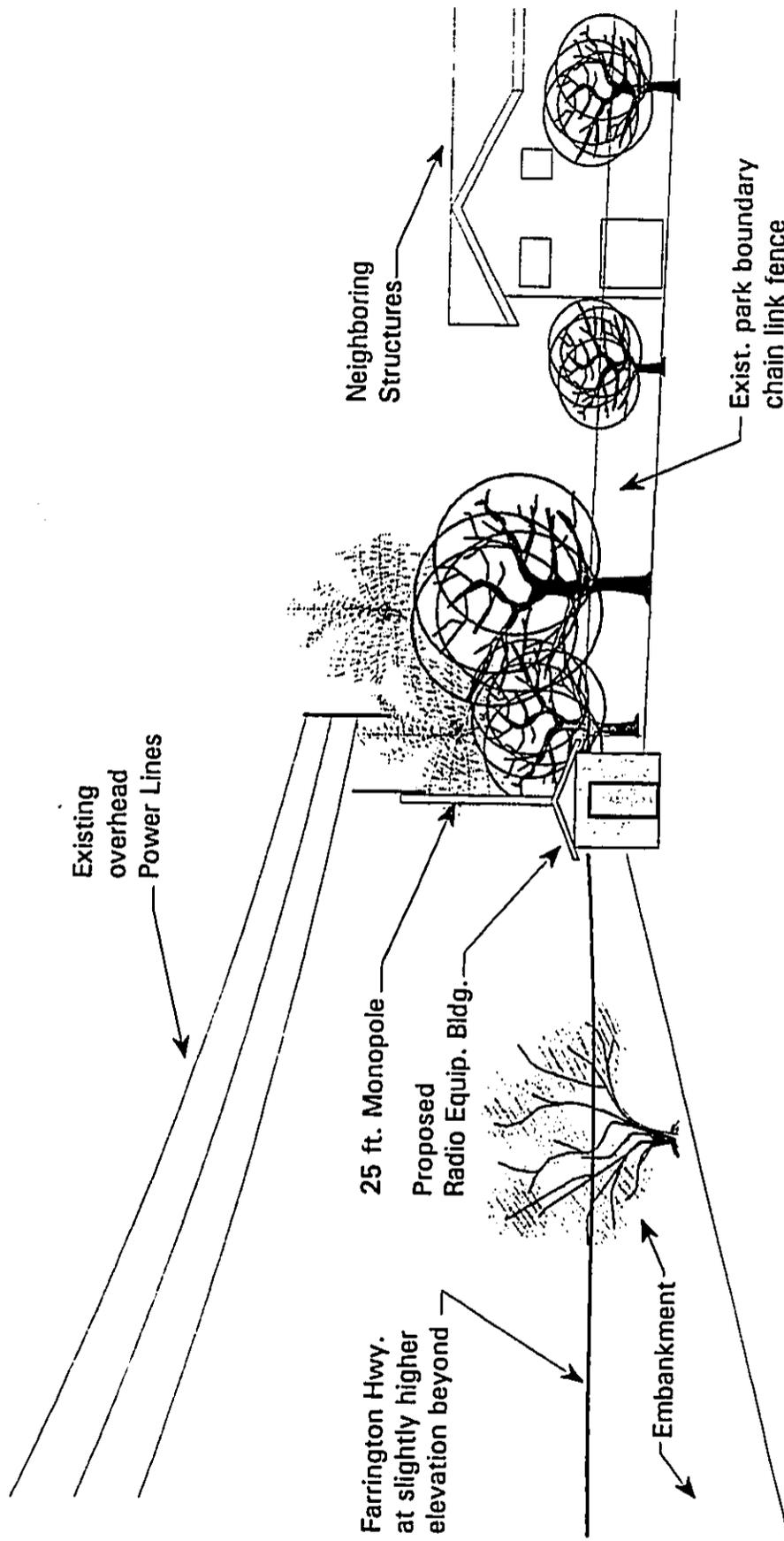


CITY & COUNTY OF HONOLULU
 13C KAAUI BEACH PARK
 Location Map 1" = 1 mi. +/-

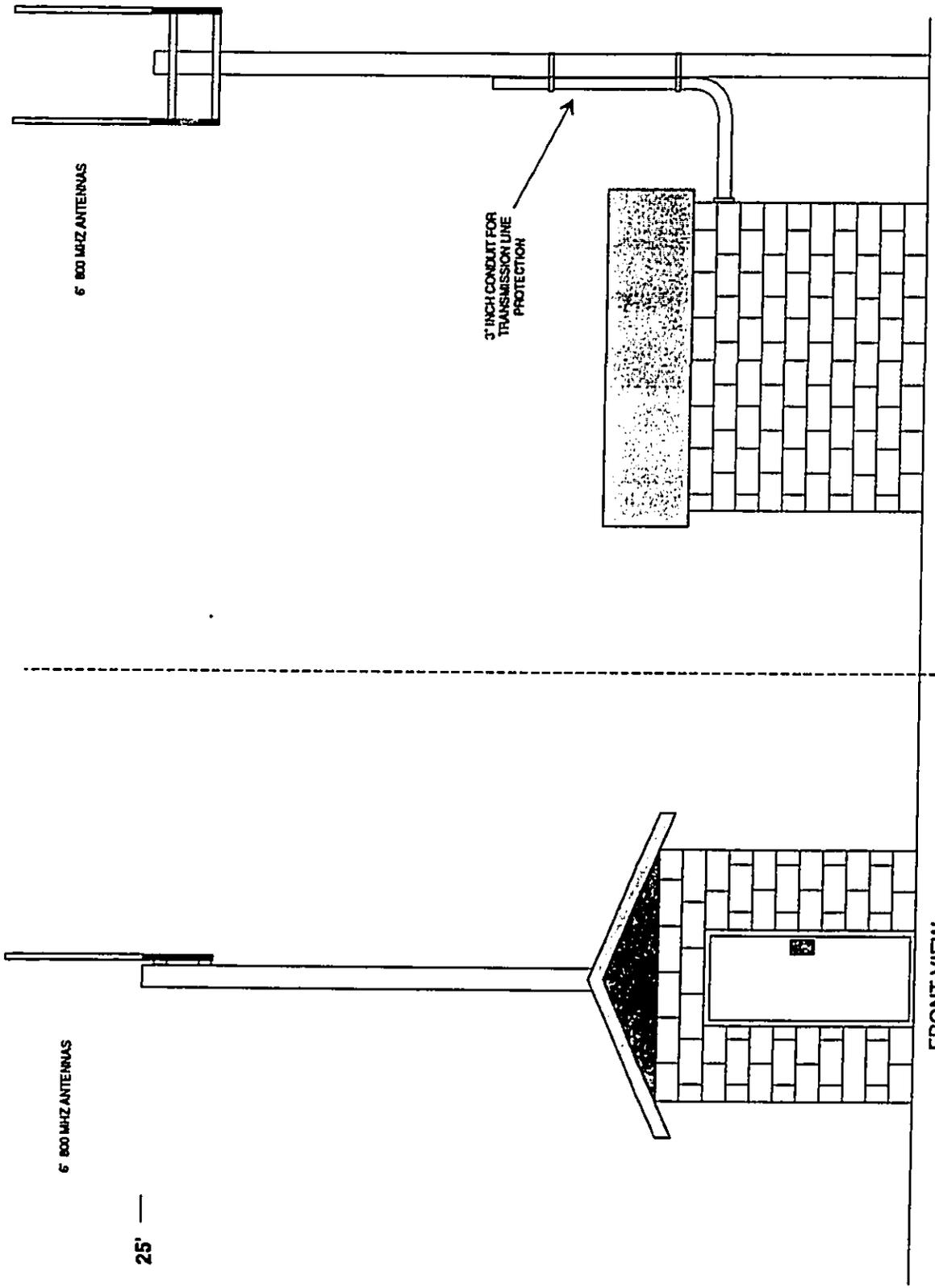
100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000



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| CITY & COUNTY OF HONOLULU | |
| 13C KEAAU BEACH PARK | |
| Site Plan | 1"=300'-0" |



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| CITY & COUNTY OF HONOLULU | |
| 13C KEAAU BEACH PARK Looking toward the South | |
| Site Profile | +/- 1/16" = 1'-0" |



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|--|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KEEAU BEACH PARK PROPOSED 8' x 10' BUILDING AND 25' POLE | | |
| DWG # 1 | REV #1 | 06/06/92 |

**Aliamanu 385 Reservoir Communications Facility (14)
Development Profile**

TMK: 1-1-063: 010

AREA OF SITE: 54,493 sq.ft.
Area of Use: less than 2,100 sq.ft.

LANDOWNER: City and County

NEAREST TOWN/LANDMARK: Aliamanu neighborhood
Distance from Site: 0.2 miles

EXISTING USE: Water reservoir

PROPOSED USE: New communications facility

STATE LAND USE DISTRICT: Conservation
Subzone: General (G)
Type of Use Requested: Permitted Use

COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Preservation
Public Facilities Designation:

ZONING: P-1 Restricted Preservation

SPECIAL MANAGEMENT AREA: Not located within SMA

LAND USE APPROVALS REQUIRED: Conservation District Use Application

A. Site Location and Existing Uses

The City and County is proposing to develop a new communications facility within the Aliamanu 385 Reservoir site at the 385-ft. elevation on the ridge of Aliamanu Crater. To be used only by the Police Department, this new facility will be a spur link to the Puu Manawahua, HPD Telecom Service Section and Sand Island Sewage Treatment Plant sites.

The proposed site is primarily used by the Board of Water Supply for a one million gallon water tank, measuring 23 feet tall and 100 feet in diameter, bounded by a chain-link perimeter fence. Surrounding uses include the Aliamanu Military Housing, Salt Lake Elementary School, Honolulu International Country Club and private residences in Salt Lake. The proposed site is about 0.2 miles from the nearest house in Salt Lake.

B. Proposed Action

The City and County is proposing to construct a new 360-sq.ft. building of CMU construction and concrete slab roof on the northeast corner of the park, behind the water tank. (As an alternative, a prefabricated fiberglass facility may be installed in place of the CMU structure. A final decision will be made at a later time.) A 50-ft.-tall tower will be located west of the building. Three six-ft.-diameter microwave dishes and five vertical antennas will be attached to the tower. The new tower and building will be designed to withstand Category 5-Hurricane Forces and soils testing will be conducted to

ensure that the site can accommodate the proposed building and tower. A new fuel tank will be located on the eastern side of the equipment building.

The construction cost for the proposed improvements is estimated at \$575,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The proposed site is located on a relatively flat area, leading to slopes ranging from 35 to 60 percent beyond the park's security fence. According to the U.S. Soil Conservation Service, the area is made up of rock outcrops of mainly basalt and andesite. Centuries of weathering, however, has created a layer of soil deposits supporting dryland vegetation.

To construct the new 50-ft.-tall tower, either one 11-ft. x 11-ft. x six-ft.-deep monolithic footing or three cylindrical footings, measuring four feet in diameter by 12 feet deep, will be dug west of the building. Reinforcing steel will be placed into the holes and then concrete will be pumped to the site and filled into the holes. Tower base plates will be cast into the wet concrete. After the concrete cures, the tower will then be transported to the site by a crane and bolted onto its base plates. Other than the crane, no heavy machinery will be used during construction, and no significant erosion or sedimentation impacts are anticipated. Limited grading will also be performed to allow construction of the new equipment building. This structure will occupy only 360 square feet and will require minimum alteration to the site.

Flood Hazard

Rainfall in the area averages 20 to 30 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards in the area are undetermined. Given the 385-ft. site elevation, flooding is unlikely. In addition, the proposed new facility should not result in any flooding of lower elevation properties.

Flora and Fauna

The natural vegetation in the area include glauca, koa haole, lantana and fingergrass. No threatened or endangered flora or fauna exist on the site. The proposed facility will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

About 100 feet in diameter and 23 feet tall, the Salt Lake Reservoir occupies a visually-prominent site on the ridge which overlooks Salt Lake and divides it from Aliamanu Crater. The reservoir is visible from many parts of Salt Lake but not from Aliamanu.

The proposed radio facility will be sited on the Aliamanu side of the reservoir. Only about 12 feet in height, the radio equipment building will be obscured from view by the reservoir and the tall stand of haole koa brush which surrounds the site. At 50 feet in height, the antenna tower will be visible throughout Salt Lake. It will be most visible from residences at the 100-200-ft. elevation in the southwestern part of Salt Lake, relatively close to the reservoir site.

Access and Traffic

Access to the site is from Likini Street and a paved access road. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

Public Services

The site is not equipped with electrical service. The Hawaiian Electric Company, under contract with the Board of Water Supply, will be installing a new transformer to provide underground service to the reservoir and is prepared to also service the proposed communications facility.

D. Summary of Impacts and Mitigative Measures***Viewplanes***

The building will be painted an earth-tone color to match the color of the reservoir. The tower will be painted gray to blend with the sky.

E. Land Use Approvals Required**Conservation District Use Application**

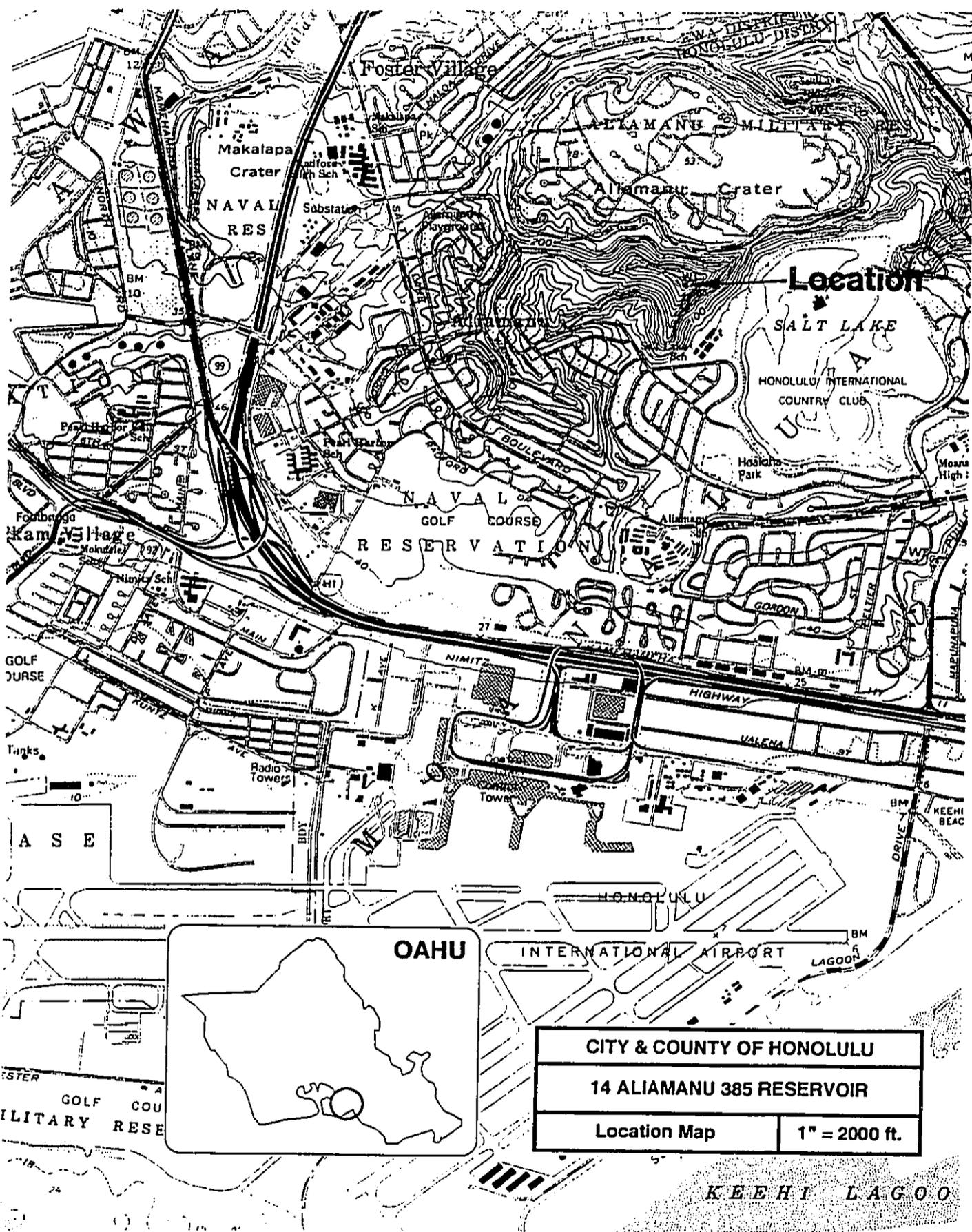
The project is located within the State's Conservation District and a Conservation District Use Application will be submitted to the Hawaii Department of Land and Natural Resources.

Conservation Subzone

The project site lies within the General (G) subzone. The objective of this subzone, as stated in Title 13, Chapter 2, Hawaii Administrative Rules, "is to designate open space where specific conservation uses may not be defined, but where urban use would be premature". The proposed use is permitted under §13-2-11(c)(8) and §13-2-12(c)(2).

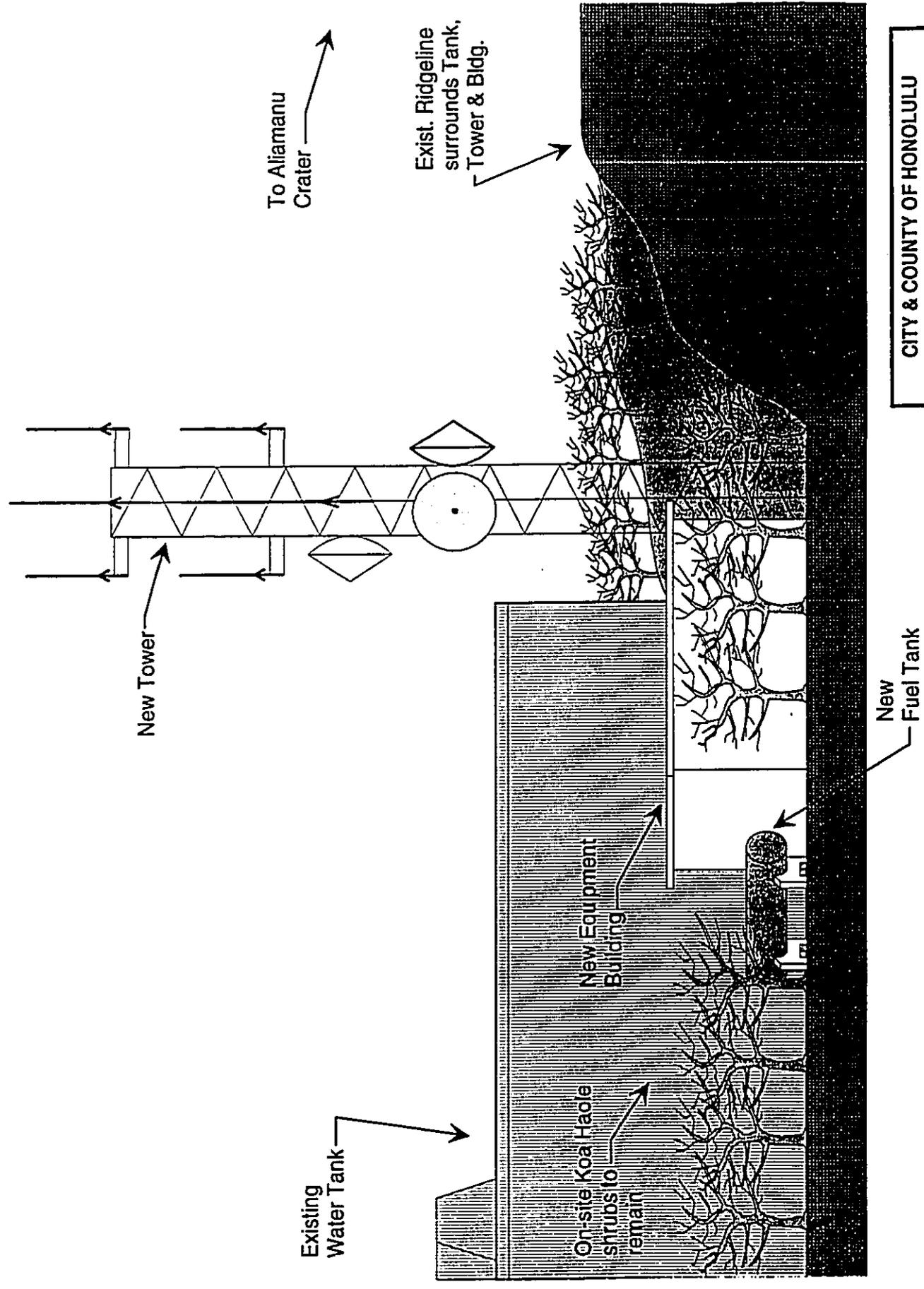
Prior CDUA Approvals

None. The city is proposing a new facility.

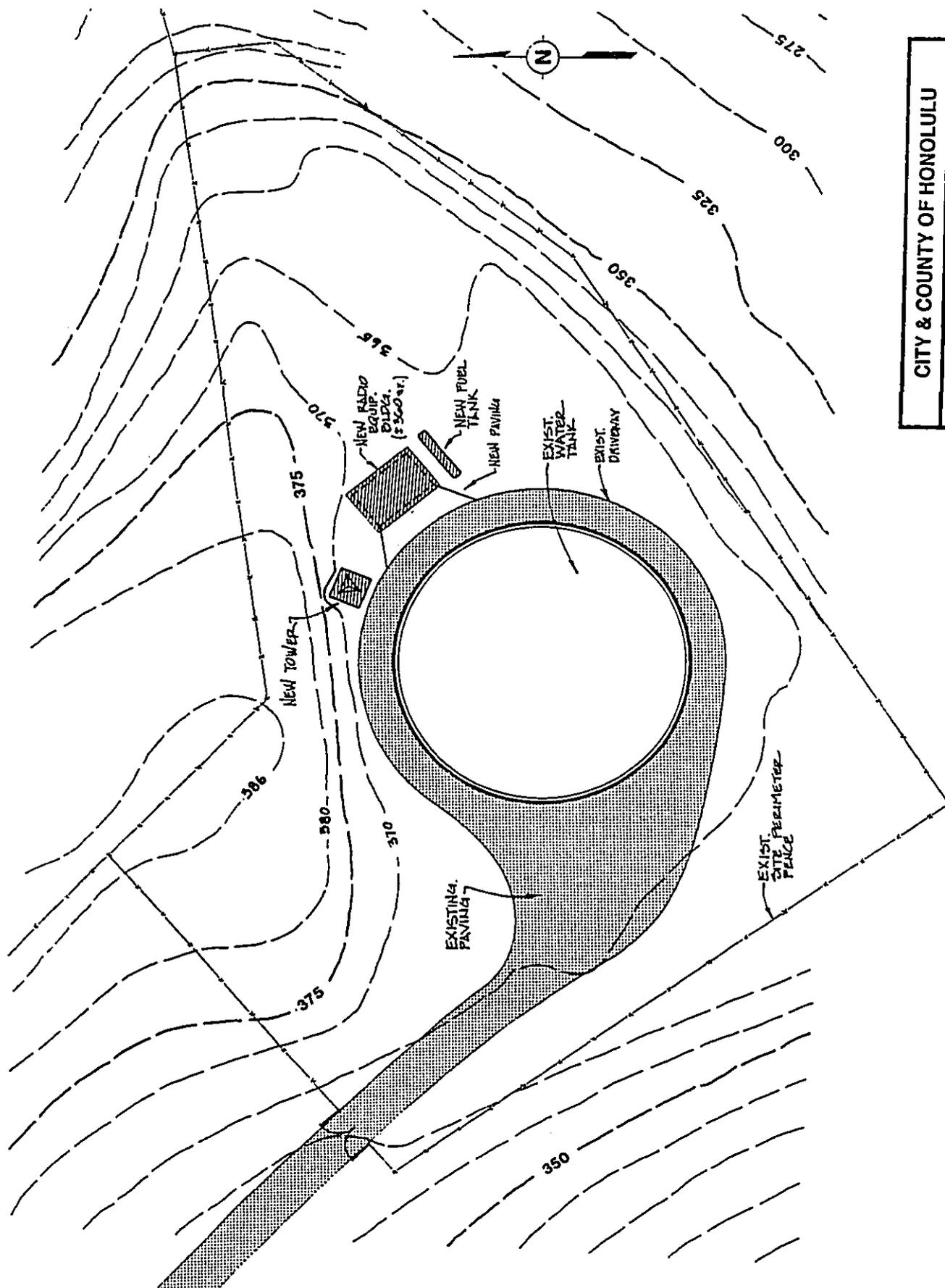


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|---------------------------|---------------|
| CITY & COUNTY OF HONOLULU | |
| 14 ALIAMANU 385 RESERVOIR | |
| Location Map | 1" = 2000 ft. |

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



| | |
|--|-------------|
| CITY & COUNTY OF HONOLULU | |
| 14 ALIAMANU 385 RESERVOIR Looking toward the west | |
| Site Profile | 1" = 10'-0" |



| | |
|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 14 ALIAMANU 385 RESERVOIR | |
| Site Plan | 1" = 60'-0" |

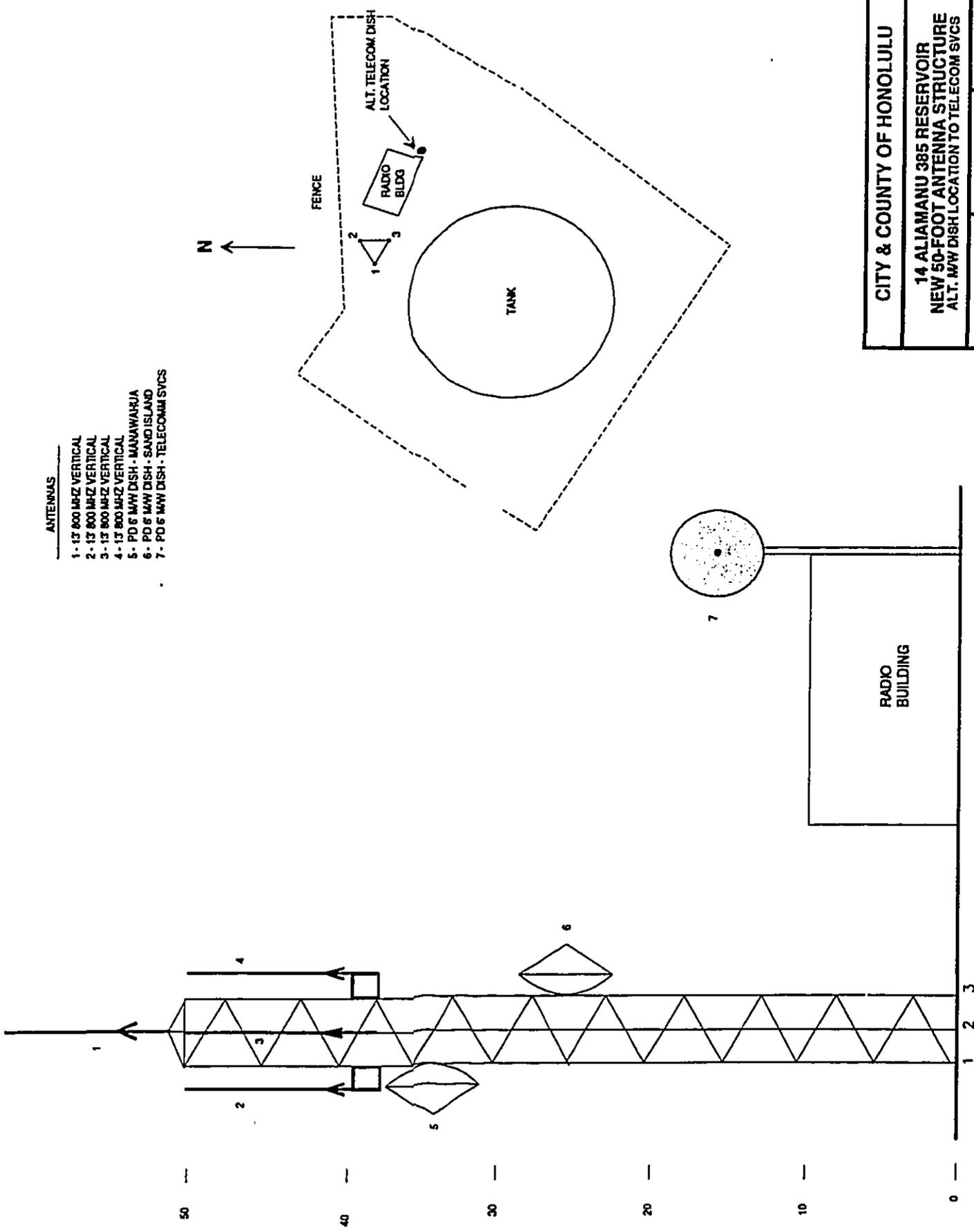
HONOLULU POLICE DEPARTMENT 100 COMMUNICATIONS FACILITIES UPGRADE



11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

ANTENNAS

- 1- 13' 600 MHZ VERTICAL
- 2- 13' 800 MHZ VERTICAL
- 3- 13' 800 MHZ VERTICAL
- 4- 13' 800 MHZ VERTICAL
- 5- PD 6 MW DSH - MANAWARUA
- 6- PD 6 MW DSH - SAND ISLAND
- 7- PD 6 MW DSH - TELECOM SYCS



HONOLULU POLICE DEPARTMENT 101 COMMUNICATIONS FACILITIES UPGRADE

| | |
|--|----------|
| CITY & COUNTY OF HONOLULU | |
| 14 ALIAMANU 385 RESERVOIR NEW 50-FOOT ANTENNA STRUCTURE ALT. MW DSH LOCATION TO TELECOM SYCS | |
| DWG #2 | REV #1 |
| | 11/16/92 |

Section IV.

**Proposed Facilities
Not Within Hawaii Conservation District**

Honolulu Municipal Building

Kaaawa Fire Station

Sunset Beach Neighborhood Park

Sand Island Sewage Treatment Plant

IV. PROPOSED FACILITIES NOT WITHIN THE CONSERVATION DISTRICT

This section assesses the environmental impacts of the proposed improvements to the four facilities subject to EIS requirements but not located with the State Conservation District. Each site description is accompanied by site plans and tower plans. The site plans depict the proposed towers and/or equipment rooms relative to existing structures and natural features. Refer to the tower plans for accurate representation of antenna and dish placements and orientations. Note however, that all vertical antennas are drawn at their maximum heights of thirteen feet. The actual antenna lengths, however, will vary from site to site and cannot be determined until the system is installed. Nevertheless, no antenna will exceed thirteen feet in length. The total number of antennas are accurately represented on the tower plans.

Honolulu Municipal Building Communications Facility (1) Development Profile

| | |
|--------------------------------|--|
| TMK: | 2-1-033: 010 |
| AREA OF SITE: | 10.26 acres |
| LANDOWNER: | City and County of Honolulu |
| EXISTING USE: | Government building Communications facility |
| PROPOSED USE: | Upgrade communications facility |
| STATE LAND USE DISTRICT: | Urban |
| COUNTY DEVELOPMENT PLAN AREA: | Primary Urban Center |
| Land Use Designation: | Public and Quasi Public |
| Public Facilities Designation: | GB (Government Building) |
| ZONING: | B-2 Community Business |
| SPECIAL DISTRICT: | Hawaii Capital Special District |

A. Site Location and Existing Uses

The existing communications facility is located on top of the Honolulu Municipal Building. The facility is a backbone link between the Makiki Round Top and Sand Island Sewage Treatment Plant sites. It also links to the Kalihi Police Station. Currently, only the Police Department uses the facility.

The facility consists of a 468-sq.ft. equipment room within the building and a 20-ft.-tall tower located on the building rooftop. Three six-ft.-diameter microwave dishes are attached to the tower. An open mechanical system lies adjacent to the tower and is surrounded by metal guard rails.

The 15-floor Municipal Building is within the Hawaii Capital Special District and is surrounded by landscaped open space. A childcare facility is located adjacent to the Municipal Building above its

underground parking structure. Other nearby government structures include Honolulu Hale and the State Kalanimoku Building. In addition, the recently completed Police Department Office Building is located on the corner of Beretania Street and Alapai Street. A City and County bus terminal is located adjacent to the construction along Alapai Street. A new office building and bus transfer station has been proposed for this area.

B. Proposed Action

Improvements proposed for this facility include attaching four vertical antennas onto the top of tower, sand blasting and repainting the rusted guard rails, and making various interior alterations.

The construction cost for the proposed improvements is estimated at less than \$125,000.

C. Affected Environment and Anticipated Impacts

Physical Environment

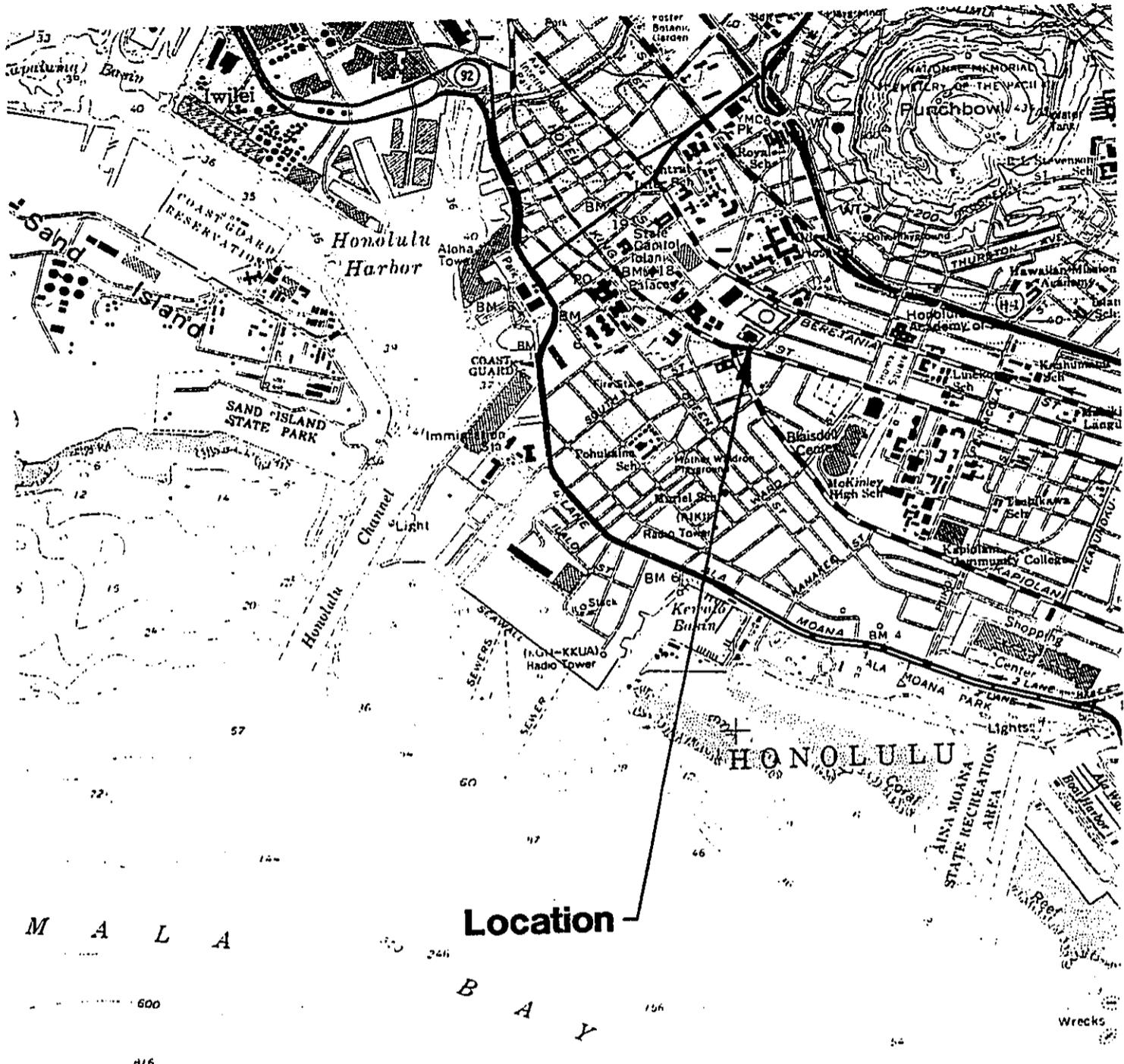
The existing facility is located within a built-up area on top of the 15-floor Municipal Building. The improvements proposed for the facility will not require any ground disturbance, will not result in any negative impacts to the area's physical environment and will not impact existing public views.

Access to the site is from Alapai Street and South Beretania Street. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Land Use Approvals Required

Hawaii Capital Special District Permit Application

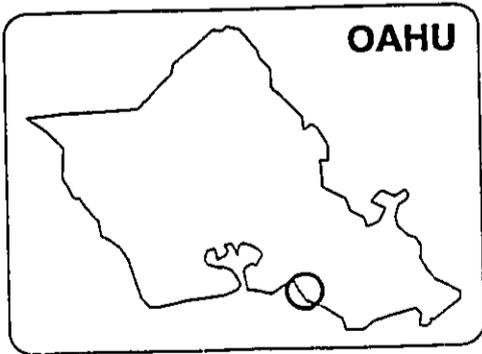
The facility is located in the Hawaii Capital Special District within the Municipal Service Building Precinct. The proposed improvements, however, consist of minor repairs and additions that will not adversely change the character or appearance of the structure, and therefore, are exempt from Special District Permit requirements.



M A L A

Location

B A Y

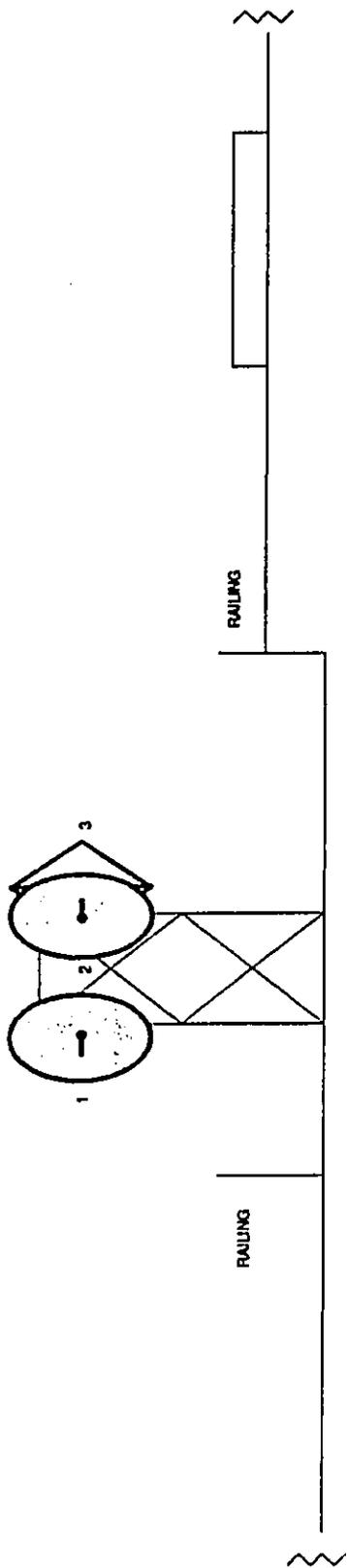


OAHU

| | |
|----------------------------|---------------|
| CITY & COUNTY OF HONOLULU | |
| 1 HONOLULU MUNICIPAL BLDG. | |
| Location Map | 1" = 2000 ft. |

HONOLULU POLICE DEPARTMENT 105 COMMUNICATIONS FACILITIES UPGRADE

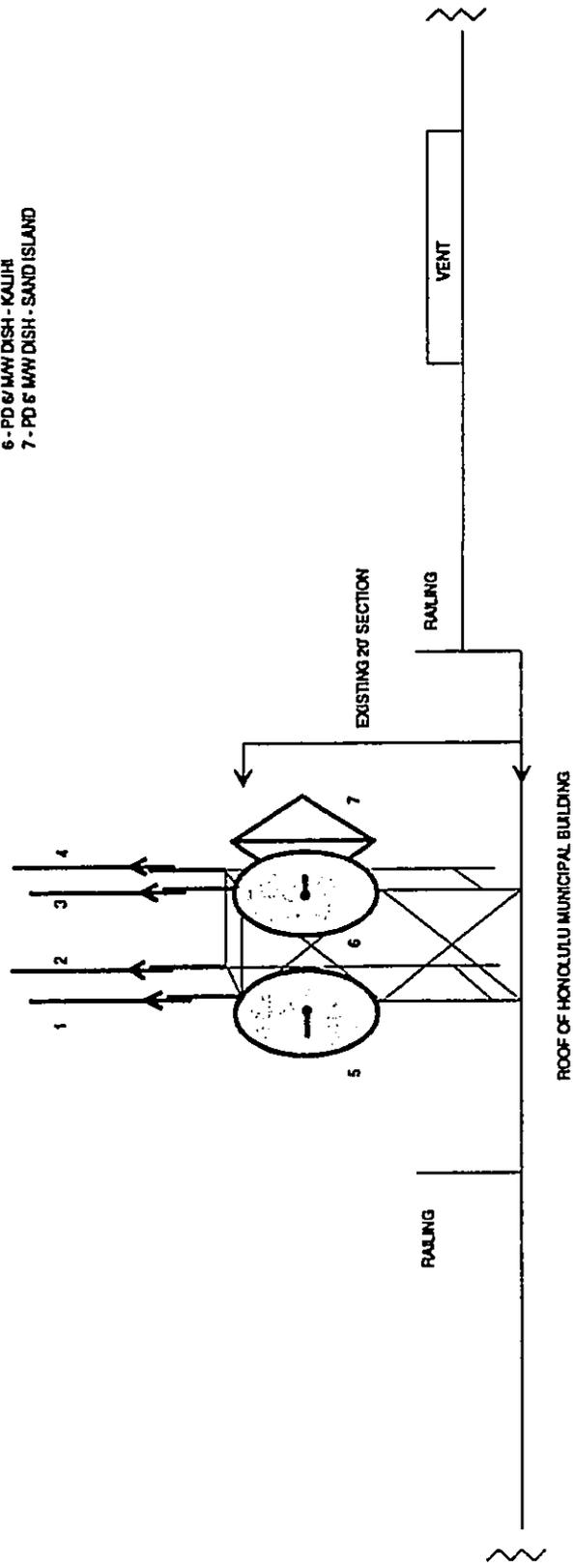
- ANTENNAS**
- 1 - PD 6 MW DISH - ROUND TOP
 - 2 - PD 6 MW DISH - KALHI
 - 3 - PD 6 MW DISH - SAND ISLAND



ROOF OF HONOLULU MUNICIPAL BUILDING

| | | |
|-----------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| HONOLULU MUNICIPAL BUILDING | | |
| EXISTING ANTENNA STRUCTURE | | |
| DWG # 1 | REV #1 | 06/06/92 |

- ANTENNAS**
- 1 - 13' 800 MHZ VERTICAL
 - 2 - 13' 800 MHZ VERTICAL
 - 3 - 13' 800 MHZ VERTICAL
 - 4 - 13' 800 MHZ VERTICAL
 - 5 - PD 6' MW DISH - ROUND TOP
 - 6 - PD 6' MW DISH - KAUHI
 - 7 - PD 6' MW DISH - SAND ISLAND



HONOLULU POLICE DEPARTMENT 107 COMMUNICATIONS FACILITIES UPGRADE

| | | |
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| CITY & COUNTY OF HONOLULU | | |
| HONOLULU MUNICIPAL BUILDING | | |
| NEW SYSTEM ANTENNA STRUCTURE | | |
| DWG # 1 | REV #2 | 06/30/92 |

**Kaaawa Fire Station Communications Facility (8)
Development Profile**

TMK: 5-1-011: 051
AREA OF SITE: 12,524 sq.ft.
LANDOWNER: City and County of Honolulu
EXISTING USE: Fire station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Koolauloa
Land Use Designation: Public and Quasi-Public
Public Facilities Designation: (FS/M) Fire Station/Modify
ZONING: R-5 Residential
SPECIAL MANAGEMENT AREA: Located within the Special Management Area
LAND USE APPROVALS REQUIRED: Special Management Area Use Permit

A. Site Location and Existing Uses

The existing communications facility is located in Kaaawa, Koolauloa, along Kamehameha Highway, directly across Swanzy Beach Park. The facility is a backbone link between the Kahuku Police Station and Aikahi Sewage Treatment Plant sites. In addition to the Police Department, the Fire Department, Board of Water Supply, Department of Transportation Services, and State Emergency Medical Service use the facility.

The facility consists of a 415-sq.ft. equipment building within the fire station complex and a 100-ft.-tall tower located on the northeast corner of the site. Two eight-ft.-diameter microwave dishes, one six-ft.-diameter microwave dish, seven vertical antennas and one yagi antenna are attached to the tower. A fuel tank is located about ten feet east of the building.

In addition to Swanzy Beach Park to the north, the site is bordered by Makua Stream to the west. Other uses in the area include neighborhood businesses and private residences.

B. Proposed Action

Improvements proposed for this facility are limited to installing a chain link security fence, making various interior alterations, and general cleanup and repainting of the building.

The construction cost for the proposed improvements is estimated at \$100,000.

C. Affected Environment and Anticipated Impacts

Topography and Soils

The existing facility site is located on a relatively flat area with slopes ranging from two to six percent. According to the U.S. Soil Conservation Service, soils in the area are of the Hanalei series and consists of poorly-drained, stony silty clay. Runoff is slow and erosion hazard is slight.

The improvements proposed for the facility will require minimum alteration to the site and will not result in any significant erosion or sedimentation impacts.

Flood Hazard

Rainfall in the area averages 50 to 75 inches per year. According to the Federal Flood Insurance Rate Maps, the site lies outside the 500-year floodplain. The improvements proposed for the facility will not increase the flood hazard to adjacent properties.

Flora and Fauna

The natural vegetation in the area consists of paragrass, sensitiveplant, honohono, Java plum and guava. No threatened or endangered flora or fauna exist on the site. The proposed improvements will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The proposed improvements will not impact any public views.

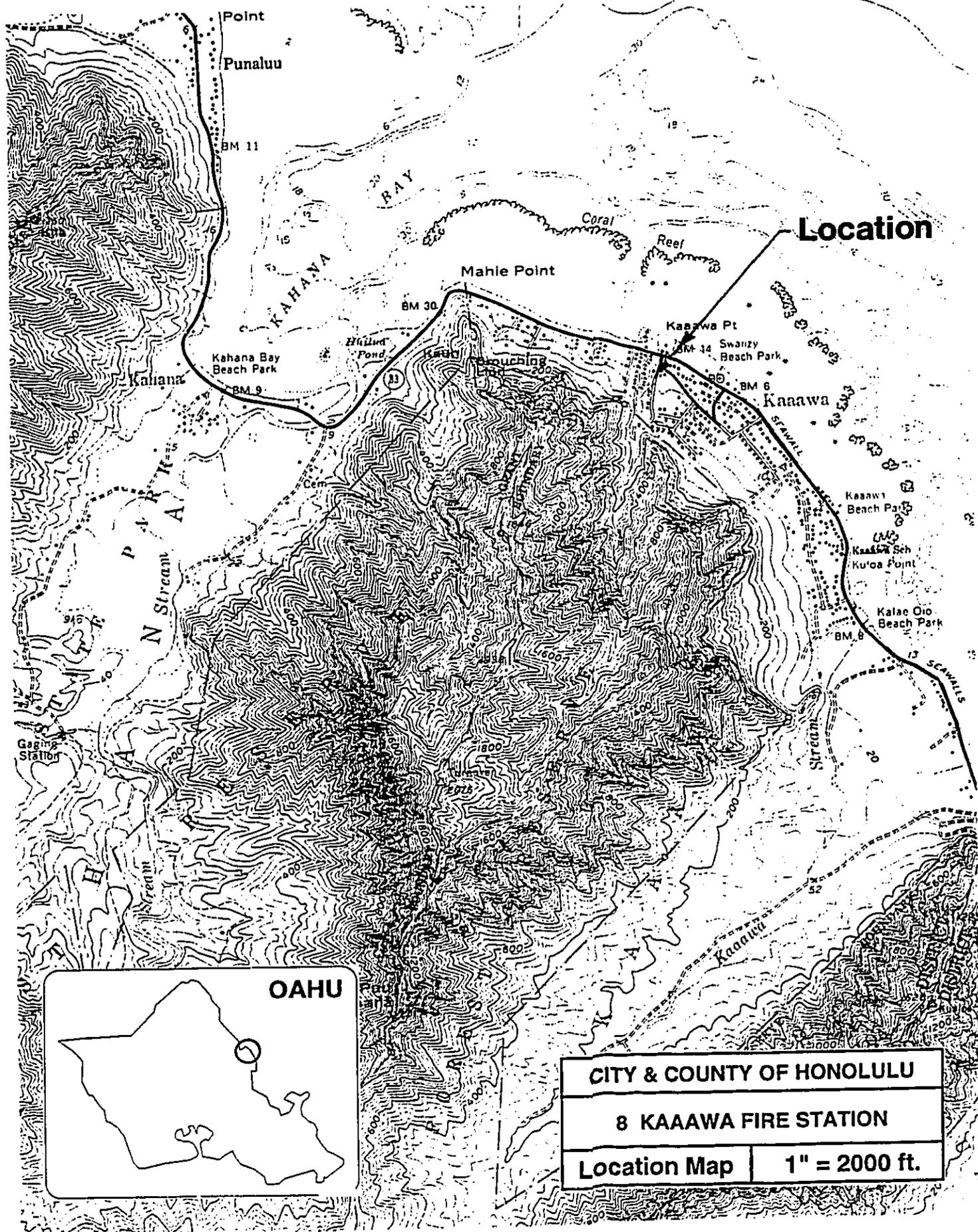
Access and Traffic

Access to the site is from Lihimauna Road and Kamehameha Highway. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

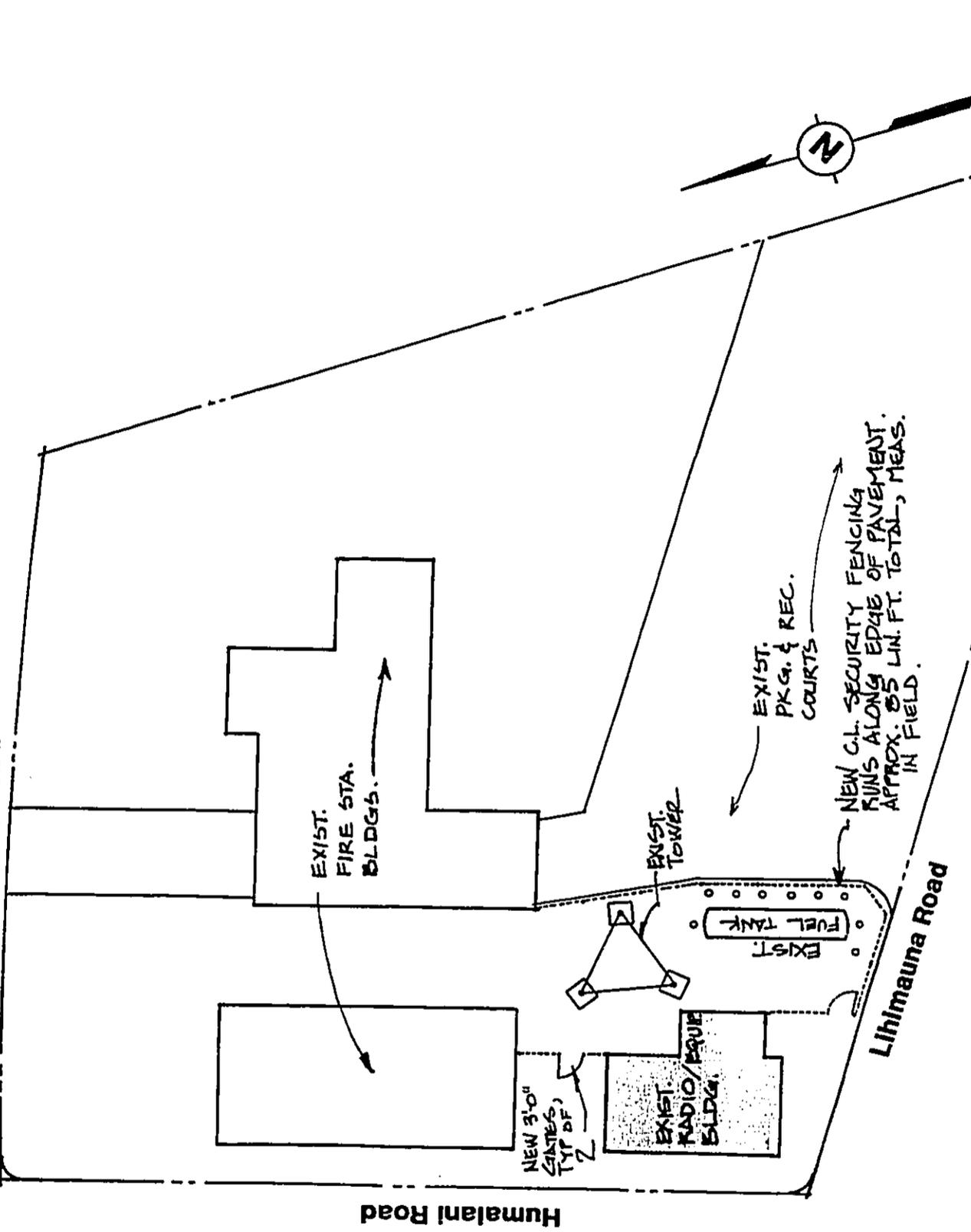
D. Land Use Approvals Required

Special Management Area Use Permit

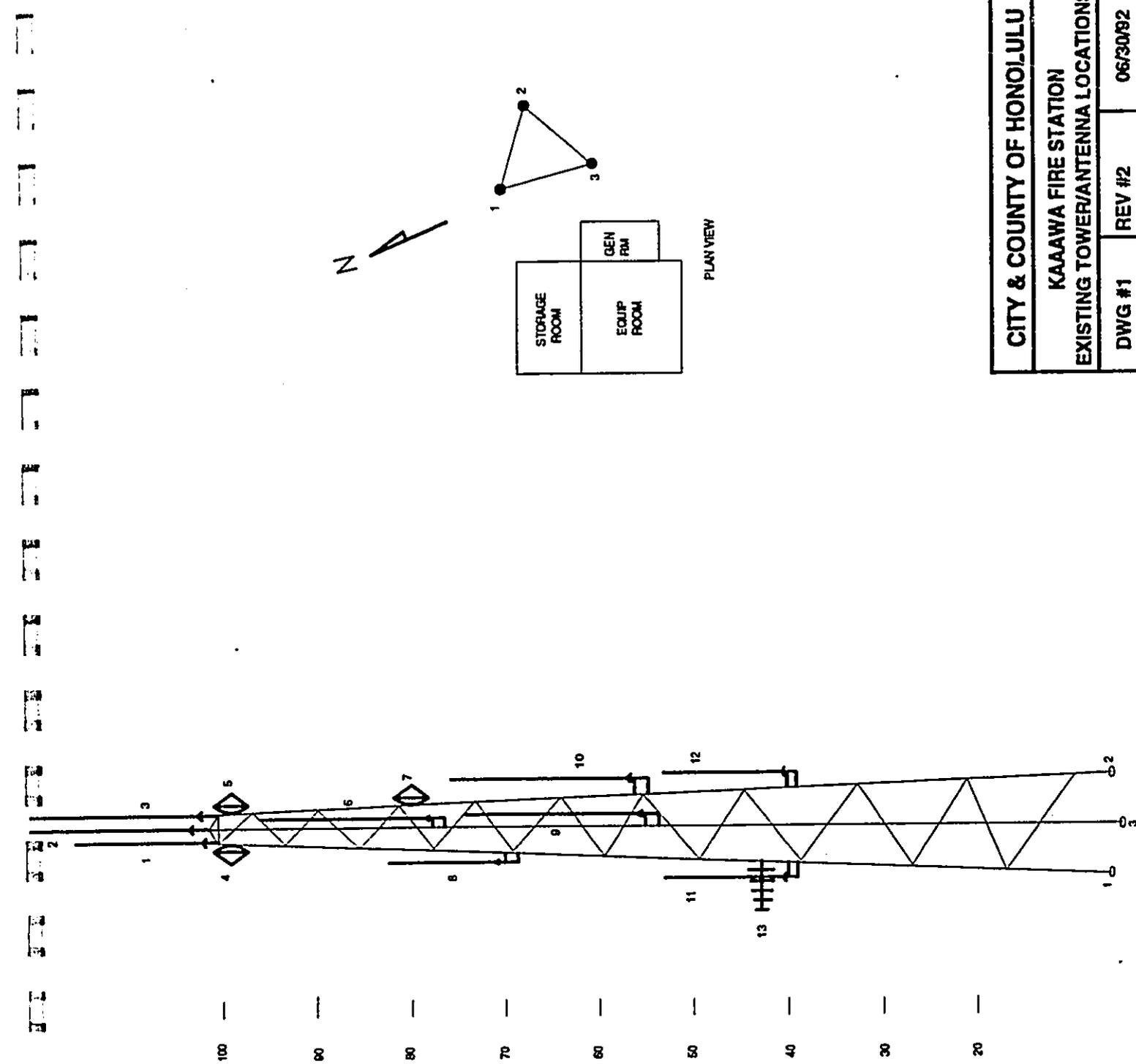
The site is within the Special Management Area, approximately 400 feet from the shoreline. A Special Management Area Permit application will be submitted to the City and County of Honolulu, Department of Land Utilization.



KAMEHAMEHA HIGHWAY



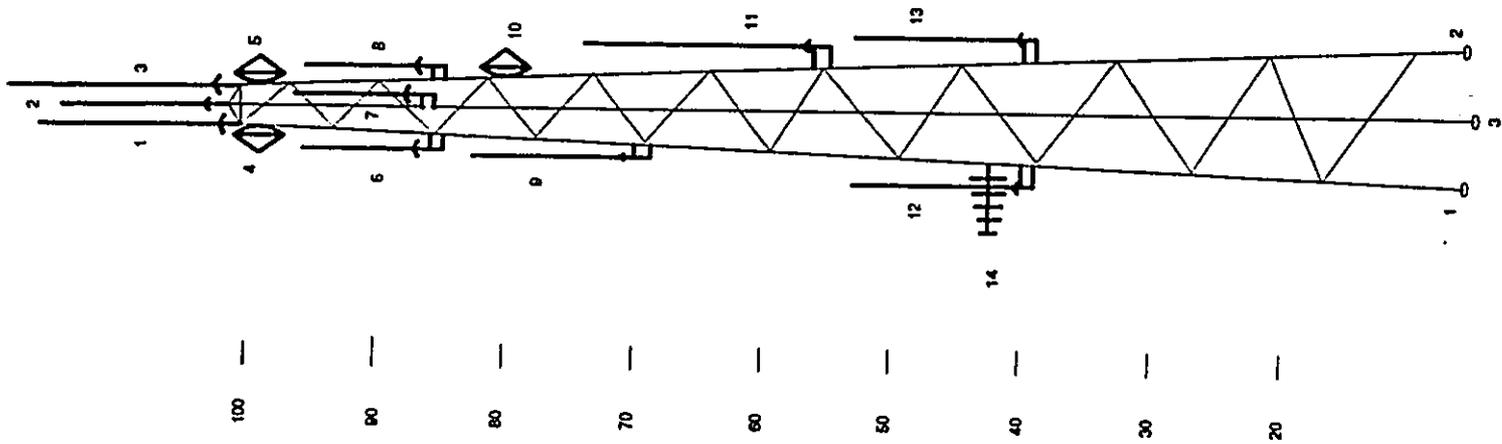
| | |
|---------------------------|-------------|
| CITY & COUNTY OF HONOLULU | |
| 8 KAAAWA FIRE STATION | |
| Site Plan | 1" = 20'-0" |



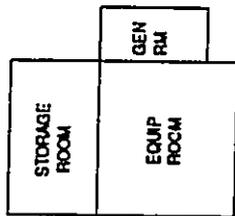
- ANTENNAS**
- 1 - EMS 15 VERTICAL
 - 2 - 20' PD VERTICAL - F8
 - 3 - 20' PD VERTICAL
 - 4 - PD 6' MW DISH - KAHUKU
 - 5 - PD 8' MW DISH - AUKAHI 'A'
 - 6 - 20' PD VERTICAL - F1
 - 7 - PD 8' MW DISH - AUKAHI 'B'
 - 8 - 15' EMS VERTICAL
 - 9 - 20' PD VERTICAL
 - 10 - 20' PD VERTICAL
 - 11 - 15' BWS VERTICAL
 - 12 - 15' BWS VERTICAL
 - 13 - OTS UHF YAGI

HONOLULU POLICE DEPARTMENT 113 COMMUNICATIONS FACILITIES UPGRADE

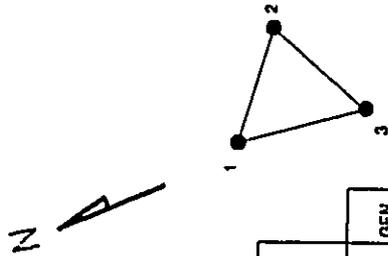
| | | |
|----------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KAAAWA FIRE STATION | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/30/92 |



- ANTENNAS**
- 1 - EMS 15' VERTICAL
 - 2 - 13' 800 MHZ VERTICAL
 - 3 - 20' FD VERTICAL
 - 4 - PD 6' MW DISH - KAHUKU
 - 5 - PD 8' MW DISH - AKAHI "A"
 - 6 - 13' 800 MHZ VERTICAL
 - 7 - 13' 800 MHZ VERTICAL
 - 8 - 13' 800 MHZ VERTICAL
 - 9 - 15' EMS VERTICAL
 - 10 - PD 8' MW DISH - AKAHI "B"
 - 11 - 20' FD VERTICAL
 - 12 - 15' BWS VERTICAL
 - 13 - DTS UHF YAGI



PLAN VIEW



| | |
|------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| KAAWA FIRE STATION | |
| NEW SYSTEM ANTENNA LOCATIONS | |
| DWG #1 | REV #2 |
| | 06/30/92 |

**Sunset Beach Neighborhood Park Communications Facility (9A)
Development Profile**

TMK: 5-9-005: 070
AREA OF SITE: 261,360 sq.ft.
LANDOWNER: City and County of Honolulu
EXISTING USE: Neighborhood park
PROPOSED USE: New communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: North Shore
Land Use Designation: Park
Public Facilities Designation: None
ZONING: P-2 General Preservation
SPECIAL MANAGEMENT AREA: Located within Special Management Area
LAND USE APPROVALS REQUIRED: Special Management Area Use Permit

A. Site Location and Existing Uses

The City and County is proposing to develop a new communications facility fronting Kamehameha Highway within the Sunset Beach Neighborhood Park site. Connected by a wireline to the Kahuku Police Station, this new facility is intended to provide improved radio coverage for the north shore area.

The existing park includes a large grassy area, basketball, volleyball and tennis courts, picnic benches and a restroom/storage building. A State of Hawaii Civil Defense siren and antenna are mounted on a 30-ft.-tall wooden pole and located west of the building. Sunset Beach Elementary School is located adjacent to the park. Other surrounding uses include Pupukea-Paumalu Homesteads to the north, and Ehukai Beach Park and private residences across the highway.

B. Proposed Action

The City and County is proposing to the expand the existing comfort station and place the radio equipment within an extended office/storage space. Building improvements include expanding the exterior building shell by about 168-sq.ft. along the southwest wall, and adding a partition within the existing office/storage space. One vertical antenna and one yagi antenna will be mounted on top of the existing 30-ft.-tall pole. The State of Hawaii Civil Defense will be replacing their existing mechanical siren with an electronic unit, which will then be mounted onto the pole.

The construction cost for the proposed improvements is estimated at less than \$125,000.

C. Affected Environment

Topography and Soils

The proposed site is flat with soils consisting of Waialua silty clay. Permeability is moderate, runoff is slow and erosion hazard is no more than slight. The new equipment building will occupy only 168 square feet and will require minimum alteration to the site. Although limited grading will be performed to allow construction of the new equipment room, this activity will not result in any significant erosion or sedimentation impacts.

Flood Hazard

Rainfall in the area averages less than 20 inches per year. According to the Federal Flood Insurance Rate Maps, flood hazards at the site are undetermined and considered negligible. The proposed building addition will not increase the flood hazard to adjacent properties.

Flora and Fauna

The natural vegetation in the area is sparse, consisting of hibiscus, monkeypod, fingergrass and palms. No threatened or endangered flora or fauna exist on the site. The proposed facility will not result in any substantial negative impacts to the plants or animals in the area.

Cultural Resources

According to the Department of Land and Natural Resources, State Historic Preservation Division, the site is not known to have any archaeological or cultural resources.

Viewplanes

The new antenna will be fixed to the existing Civil Defense monopole. The building extension will be painted to match the existing structure. Given the minor scale of the improvements, they will have no impact on public views.

Recreational

The proposed building expansion will occupy only 168 square feet and will be added to the existing comfort station. The building is located about 900 feet from the shoreline and will not interfere with the recreational activities conducted at the beach or the park.

Access and Traffic

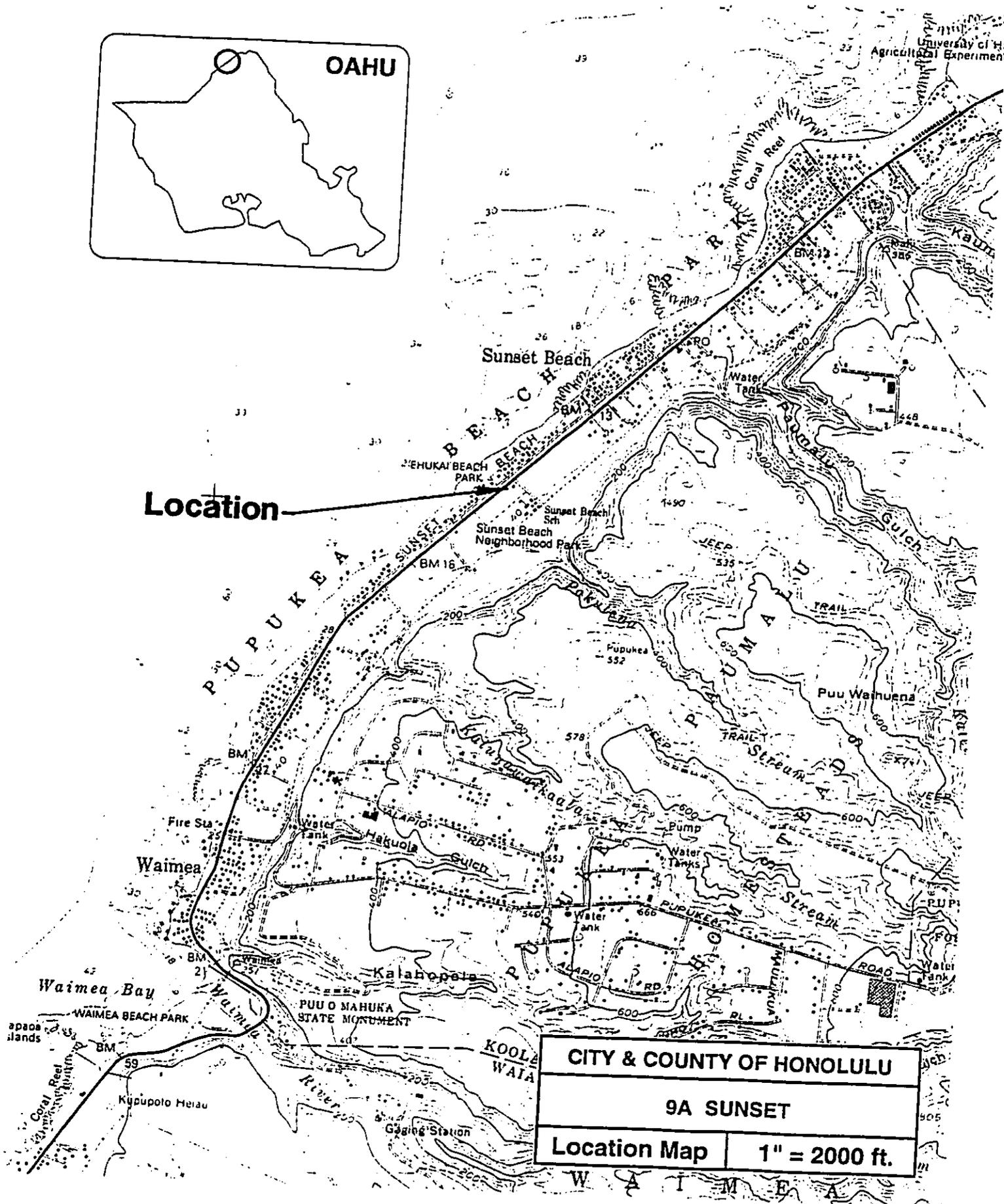
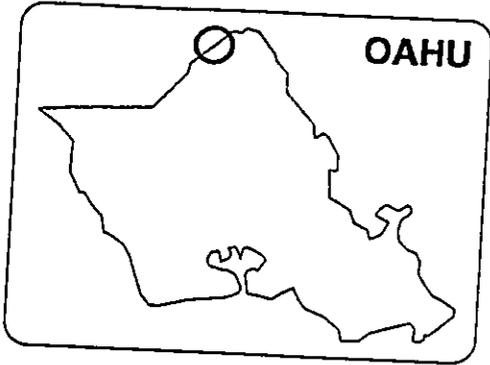
Access to the site is from Kamehameha Highway. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

The proposed building expansion will be added to the existing comfort station within the park about 900 feet from the shoreline, and will not affect access to the shoreline, any publicly owned or used beach, or recreation area.

D. Land Use Approvals Required

Special Management Area Use Permit

The site is within the Special Management Area, approximately 900 feet from the shoreline. A Special Management Area Use Permit application will be submitted to the City and County of Honolulu, Department of Land Utilization.

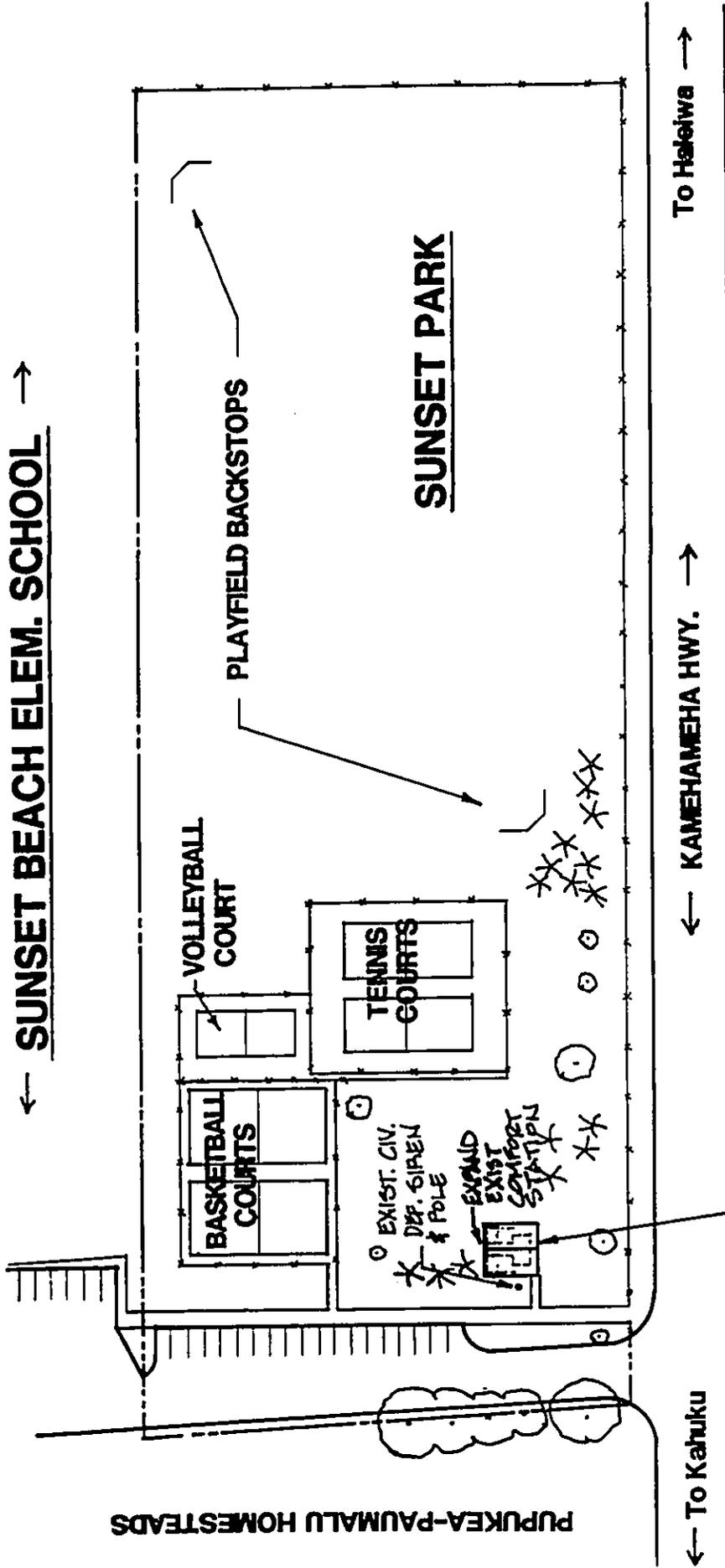


Location

CITY & COUNTY OF HONOLULU
9A SUNSET
Location Map 1" = 2000 ft.

← SUNSET BEACH ELEM. SCHOOL →

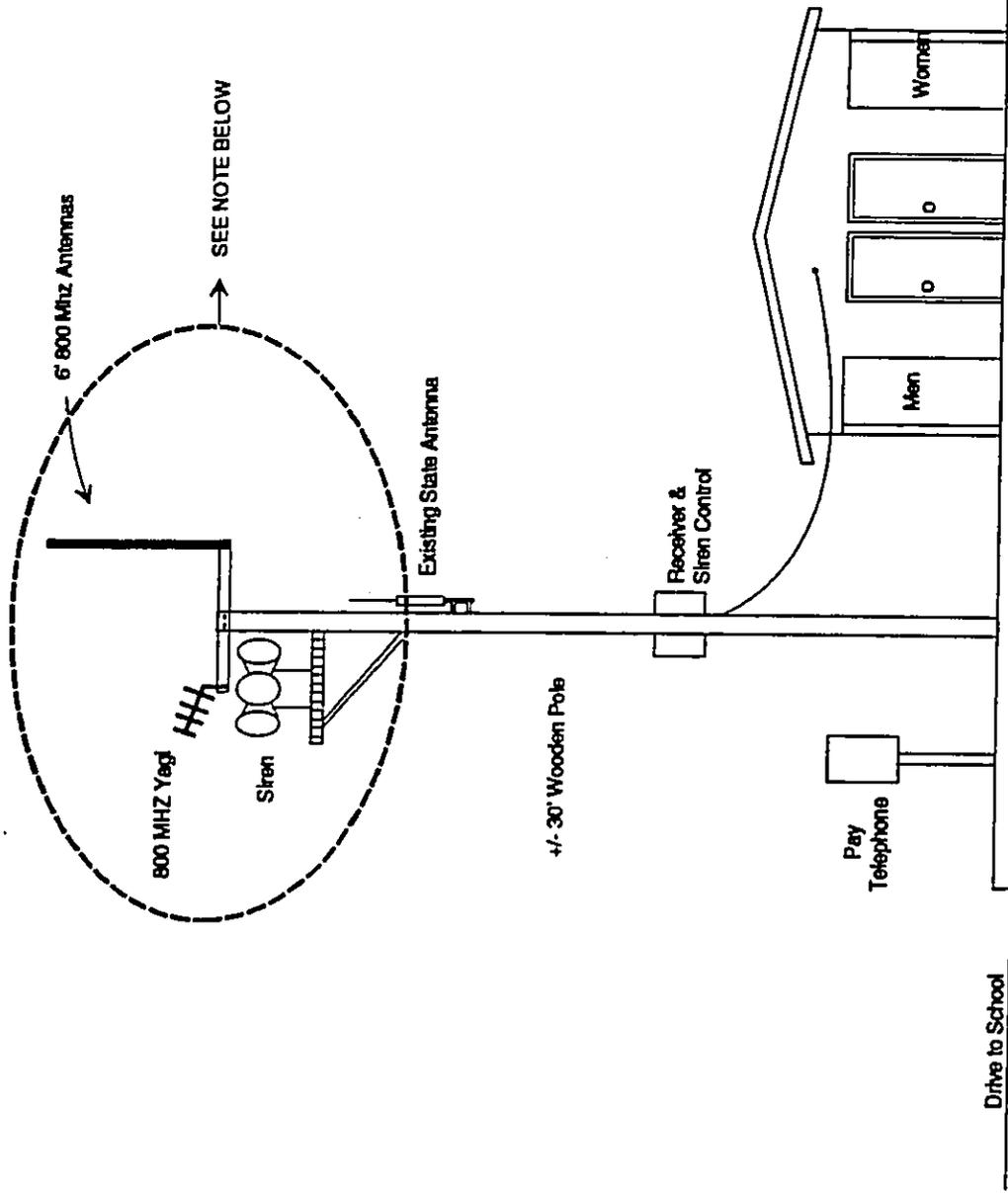
PUPUKA-PAUMALU HOMESTEADS



EXIST. PARK COMFORT STATION. NEW SECURE ROOM TO HOUSE RADIO EQUIPMENT W/IN EXIST. BLDG. CONFINED.

N

| | |
|---------------------------|--------------|
| CITY & COUNTY OF HONOLULU | |
| 9A SUNSET | |
| Site Plan | 1" = 100'-0" |

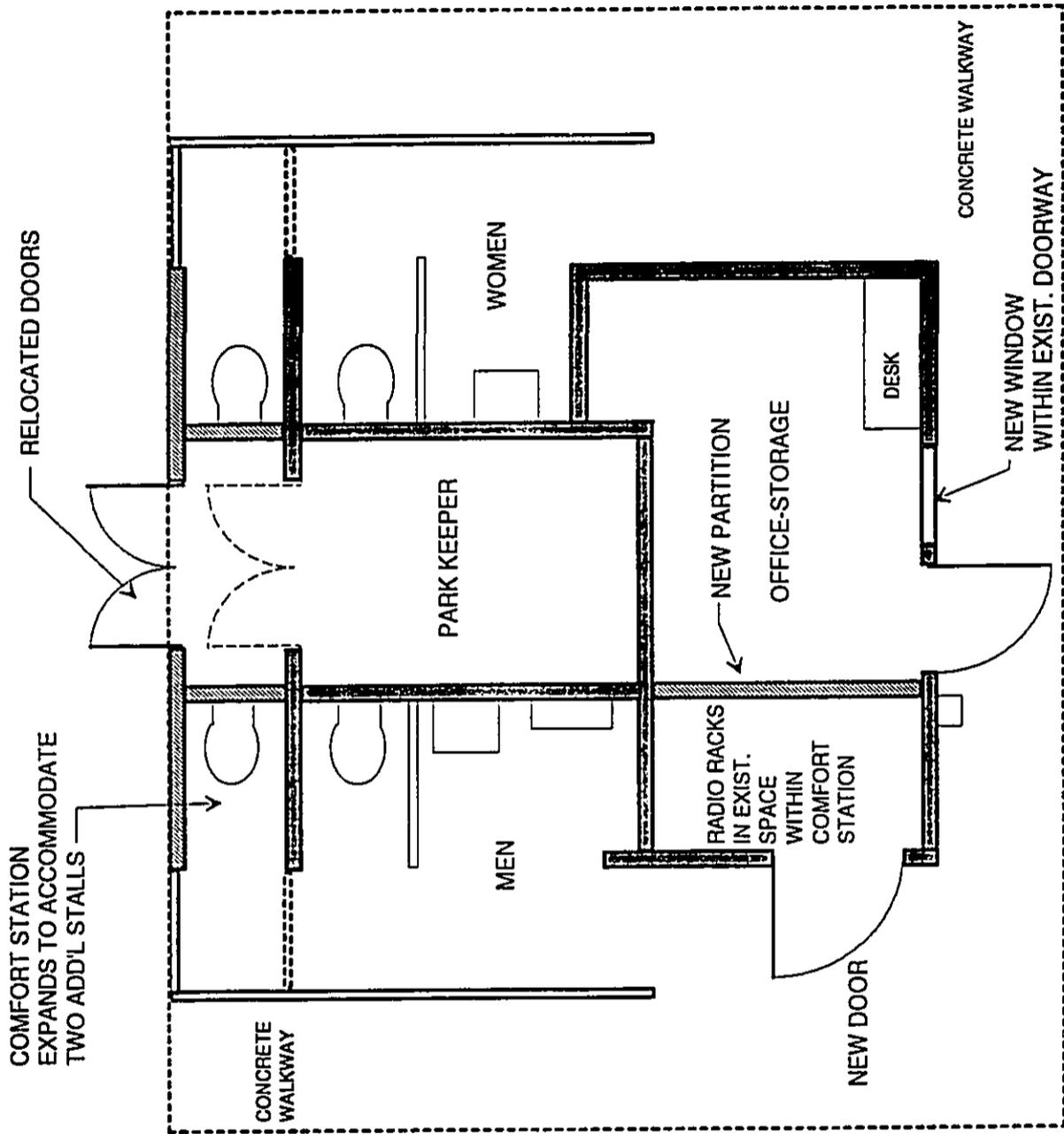


NOTE: STATE OF HAWAII CIVIL DEFENSE TO CHANGE OUT THE MECHANICAL SIREN TO AN ELECTRONIC UNIT WHICH WILL BE MOUNTED ATOP THE POLE. A CROSSARM IS TO BE PROVIDED FOR HPD 800 MHZ ANTS

View from Kam Highway
Looking Toward School Grounds

| | | |
|--|-------|----------|
| SUNSET | | |
| PROPOSED 800 MHZ RECEIVE SITE TO ENHANCE PORTABLE RADIO COVERAGE | | |
| DWG #2 | REV # | 06/06/82 |

H O N O L U L U P O L I C E D E P A R T M E N T



SIREN POLE

HONOLULU POLICE DEPARTMENT 121 COMMUNICATIONS FACILITIES UPGRADE

| | |
|------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| SUNSET PARK | |
| BLDG EXPANSION FOR HPD RADIO | |
| DWG #1 | REV # |
| | 11/19/92 |

**Sand Island Sewage Treatment Plant Communications Facility (15)
Development Profile**

TMK: 1-5-041: 005

AREA OF SITE: 50 acres

LANDOWNER: City and County of Honolulu

EXISTING USE: Sewage treatment plant
Communications facility

PROPOSED USE: Upgrade communications facility

STATE LAND USE DISTRICT: Urban

COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Public and Quasi-Public
Public Facilities Designation: EG/STP/M (Energy Generation/Sewage Treatment
Plant/Modify)

ZONING: I-3 Waterfront Industrial

SPECIAL MANAGEMENT AREA: Located within Special Management Area

LAND USE APPROVALS REQUIRED: Special Management Area Use Permit

A. Site Location and Existing Uses

The existing communications facility is located within the Sand Island Sewage Treatment Plant site along Sand Island Parkway Road. The facility is a backbone link to the Aliamanu 385 Reservoir and Honolulu Municipal Building sites. Currently, only the Police Department uses the facility.

The facility consists of an equipment room on the second floor of a two-story control building and a 12-ft.-tall tower. Two six-ft.-diameter microwave dishes and one vertical antenna are attached to the tower. Another vertical antenna is located about 55 feet from the equipment room.

The southern and western sides of the site are unused and part of the State's Sand Island Recreation Area. The Matson Container Handling Facility and various light industrial activities are located to the north of the plant. Other light industrial businesses are also located east of the site.

B. Proposed Action

Improvements proposed for this facility include extending the existing 12-ft.-tall tower with a 12-ft. tower segment and making minor antenna modifications. Other improvements include making various interior alterations, and general cleanup and repainting of the building.

The cost of construction for the proposed improvements is estimated at less than \$125,000.

C. Affected Environment and Anticipated Impacts

Physical Environment

The existing facility is located within a built-up area on top of a two-story control building. No threatened or endangered flora or fauna exist in the area. The improvements proposed for the facility will not require any ground disturbance and will not result in any negative impacts to the area's physical environment.

The existing radio facility is not visible from Sand Island Parkway or from Sand Island State Park, looking mauka. Sited on top of the Control Building, the extended tower will rise to a height about 40 feet from ground level. The tower will, however, remain substantially shorter than the 150-ft.-tall light standards and the 300-ft.-tall cranes which are located in the Sand Island container facilities.

Access to the site is from Sand Island Parkway Road. Although periodic maintenance and servicing will be required at the facility, such services will have minimal impact on current traffic levels. Existing roads and rights-of-way will be adequate to accommodate any access required to the site.

D. Summary of Impacts and Mitigative Measures

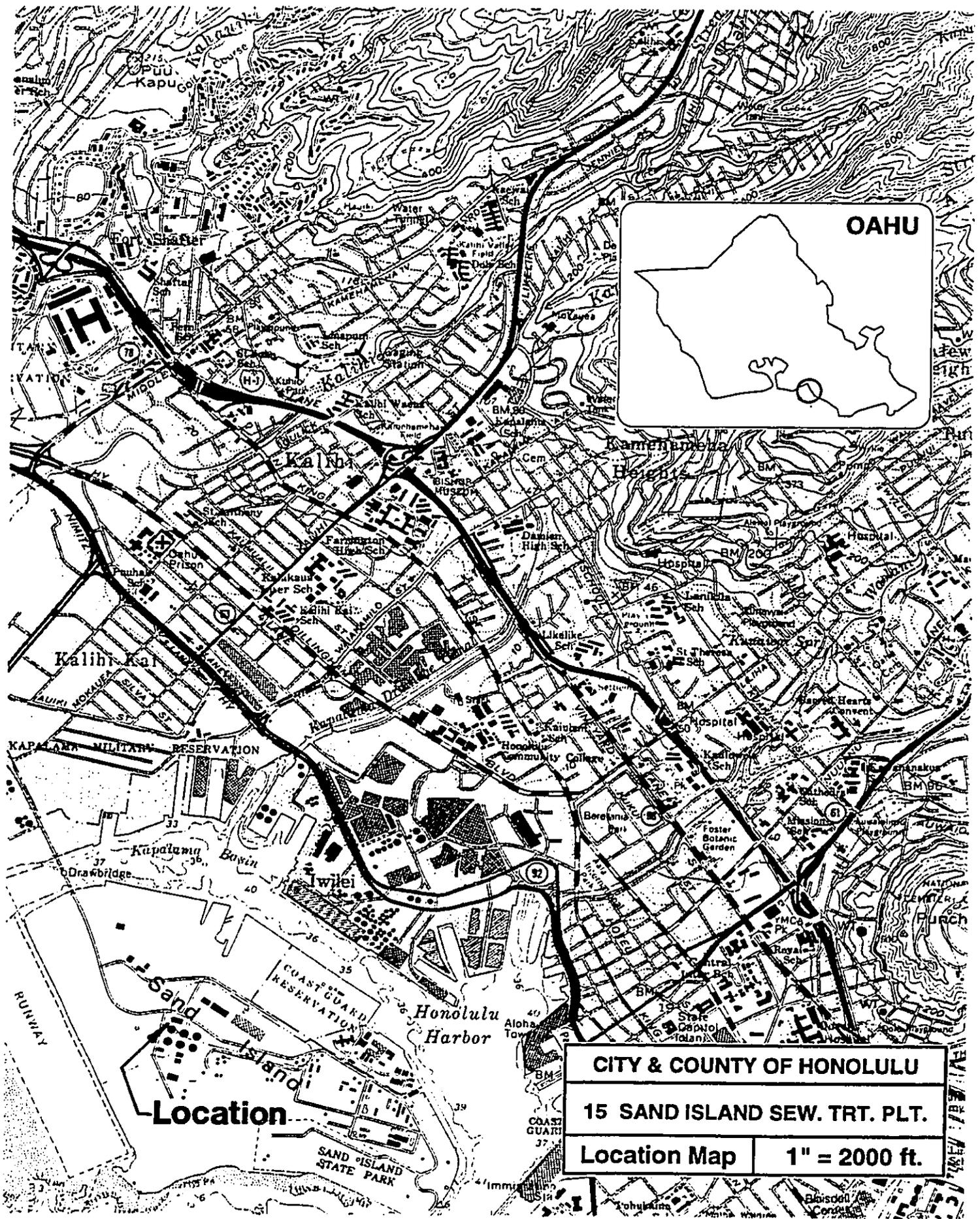
Viewplanes

The tower will be painted gray to blend with the sky.

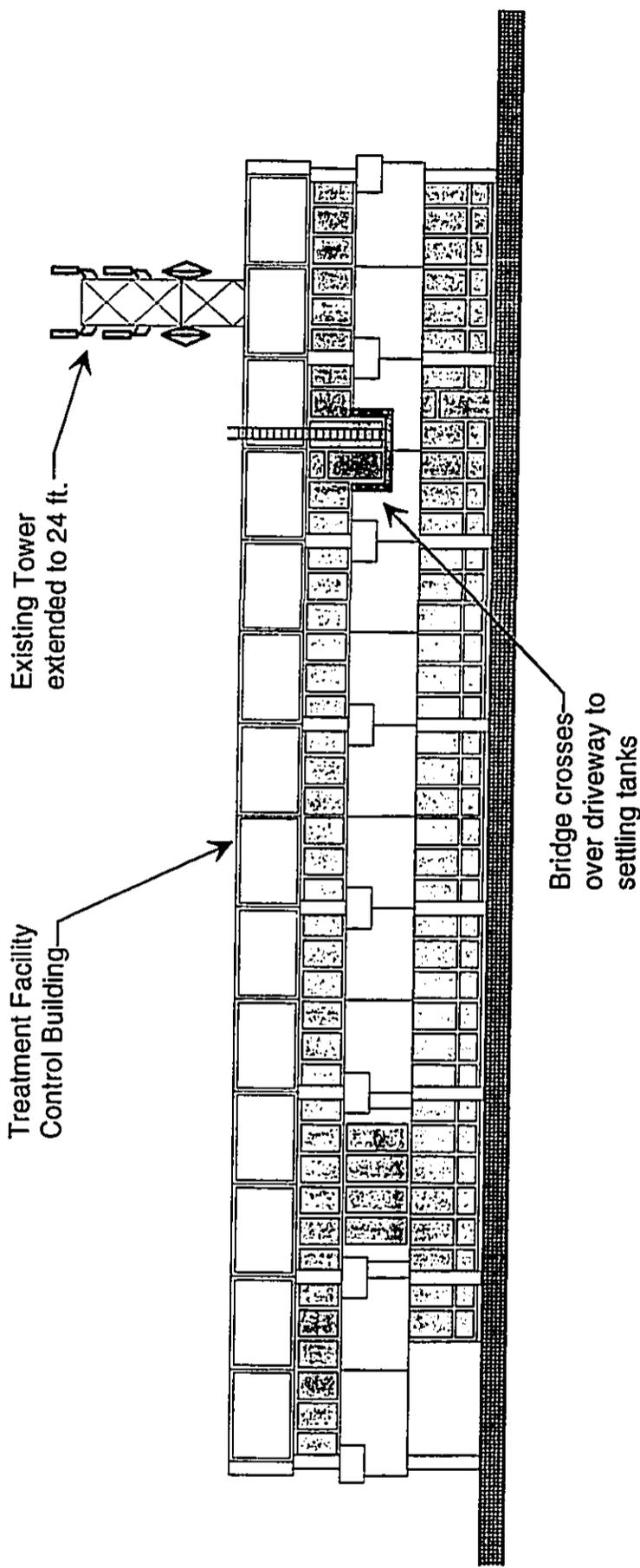
E. Land Use Approvals Required

Special Management Area Use Permit

The site is within the Special Management Area, approximately 0.45 miles from the shoreline. A Special Management Area Permit application will be submitted to the City and County of Honolulu, Department of Land Utilization.



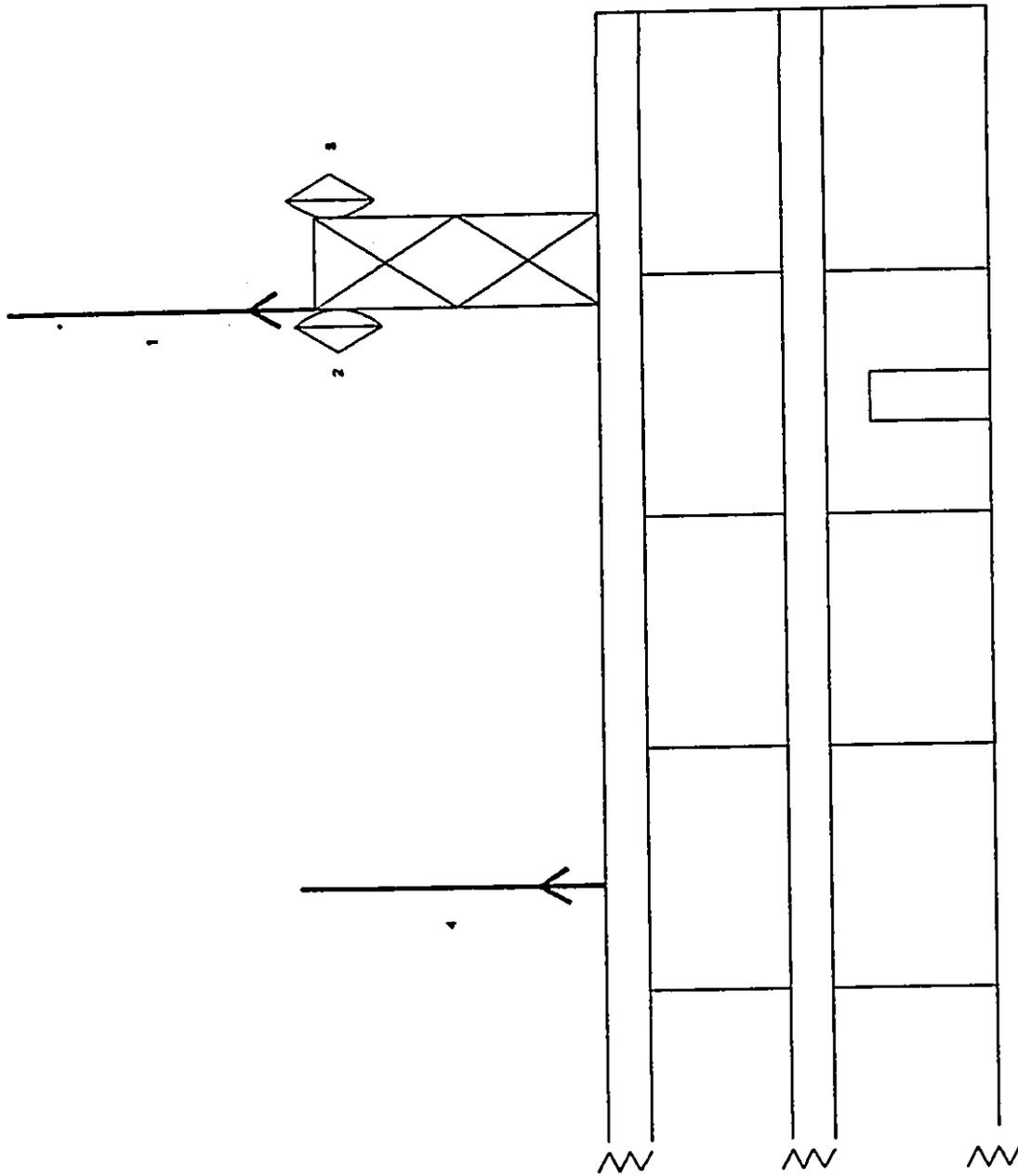
HONOLULU POLICE DEPARTMENT 125 COMMUNICATIONS FACILITIES UPGRADE



| | |
|--|-------------|
| CITY & COUNTY OF HONOLULU | |
| 15 SAND ISLAND SEW. TRT. PLANT Looking toward the north | |
| Site Profile | 1" = 20'-0" |

ANTENNAS

- 1- 20' PD VHF VERTICAL
- 2- PD 6' MW DISH - MAHAWAHAUA
- 3- PD 6' MW DISH - HMB
- 4- 20' PD VHF VERTICAL



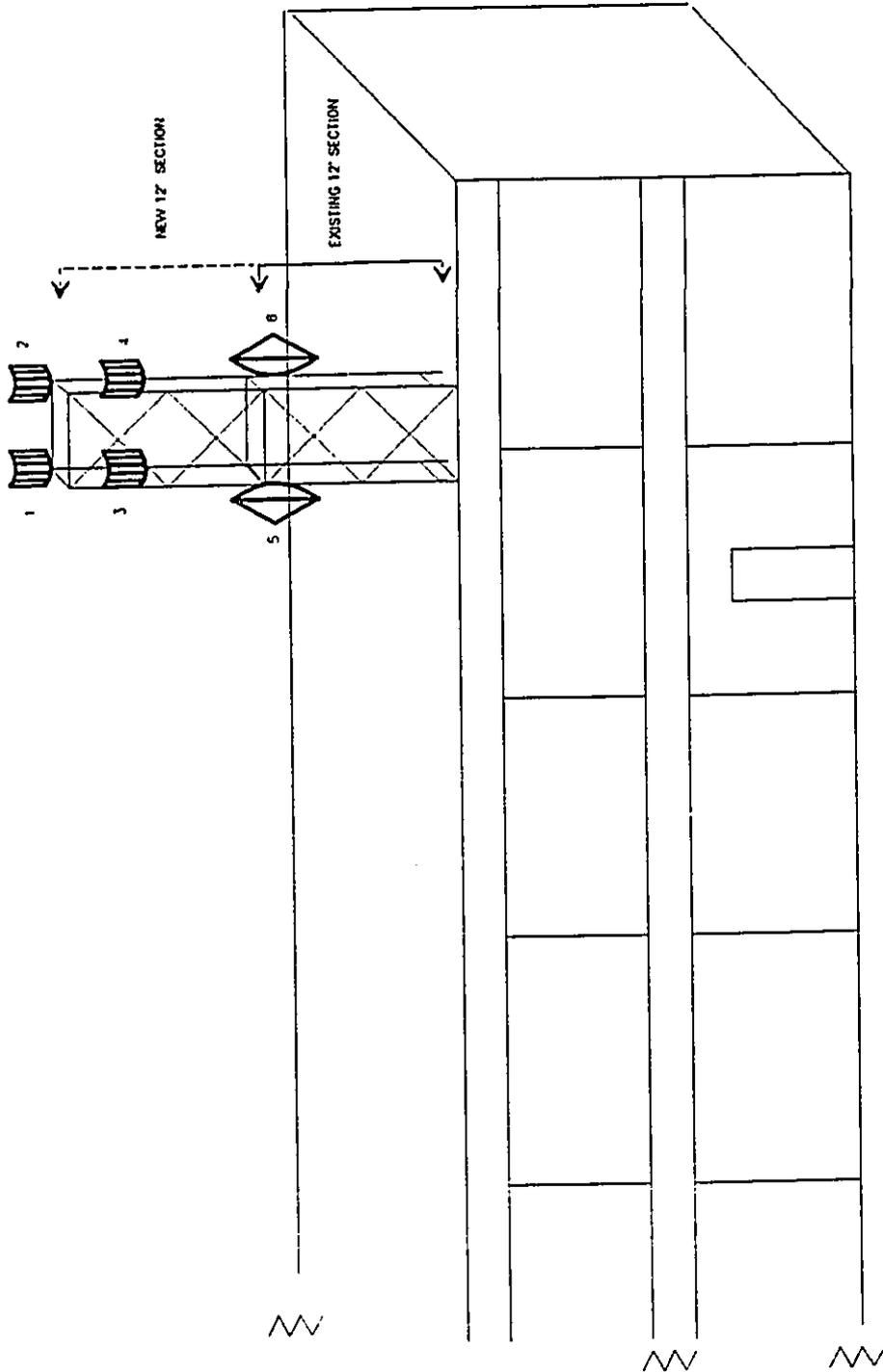
HONOLULU POLICE DEPARTMENT 128 COMMUNICATIONS FACILITIES UPGRADE

| | | |
|------------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| SAND ISLAND SEWAGE TREATMENT PLANT | | |
| EXISTING ANTENNA STRUCTURE | | |
| DWG # 1 | REV #1 | 06/06/02 |

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

ANTENNAS

- 1 - 800 MHZ PARAFLECTOR ANTENNA
- 2 - 800 MHZ PARAFLECTOR ANTENNA
- 3 - 800 MHZ PARAFLECTOR ANTENNA
- 4 - 800 MHZ PARAFLECTOR ANTENNA
- 5 - PD 6' MWV DISH - SALT LAKE
- 6 - PD 6' MWV DISH - HMB



| | | |
|------------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| SAND ISLAND SEWAGE TREATMENT PLANT | | |
| NEW SYSTEM TOWER/ANTENNA | | |
| DWC # 1 | REV #3 | 11/06/92 |

**Section V. Proposed Facilities Exempt
From Hawaii EIS Requirements**

Kalihi Police Station

Walkiki

Kailua Police Station

Kaneohe Police Station

Alkahi Sewage Treatment Plant

Kahuku Police Station

U.S. Navy-EASTPAC

Wahiawa Police Station

Pearl City Police Station

Waianae Police Station

HPD Telecom Service Section

V. PROPOSED FACILITIES EXEMPT FROM HAWAII ENVIRONMENTAL IMPACT STATEMENT REQUIREMENTS

This section presents those existing communications facilities requiring only minimum improvements. The proposed improvements will not significantly affect the environment and are included in the Building Department's list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules and approved by the Environmental Quality Commission. Proposed minor improvements fall under the following exemption classes:

Exemption Class #1

"Operations, repairs or maintenance of existing structures, facilities, equipment or topographical features involving negligible or no expansion or change of use beyond that previously existing."

Exemption Class #2

"Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have substantially the same purpose, capacity, density, height and dimensions as the structure replaced."

Exemption Class #3

"Construction of single, new small facilities or structures of same and installation of new, small, equipment and facilities and the alteration and modification of same including but not limited to...water, sewage, electrical, gas, telephone, and other essential public utility services extensions to serve such structures or facilities..."

Exemption Class #8

"Interior alterations involving such things as partitions, plumbing, and electrical conveyances."

Each site description is accompanied by existing and proposed tower plans, and provide an accurate representation of antenna and dish placements and orientations. Note however, that all vertical antennas are drawn at their maximum heights of thirteen feet. The actual antenna lengths, however, will vary from site to site and cannot be determined until the system is installed. Nevertheless, no antenna will exceed thirteen feet in length. The total *number* of antennas are accurately represented on the tower plans.

**Kalihi Police Station Communications Facility (1A)
Development Profile**

TMK: 1-3-024: 006
AREA OF SITE: 0.94 acres
LANDOWNER: City and County of Honolulu
EXISTING USE: Police station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Public and Quasi Public
Public Facilities Designation: PS/M (Police Station/Modify)
ZONING: R-5 Residential

A. Site Location and Existing Uses

The existing communications facility is located within the Kalihi Police Station site along Kamehameha Highway. The facility is a spur link to the Honolulu Municipal Building and Makiki Round Top sites. Currently, only the Police Department uses the facility.

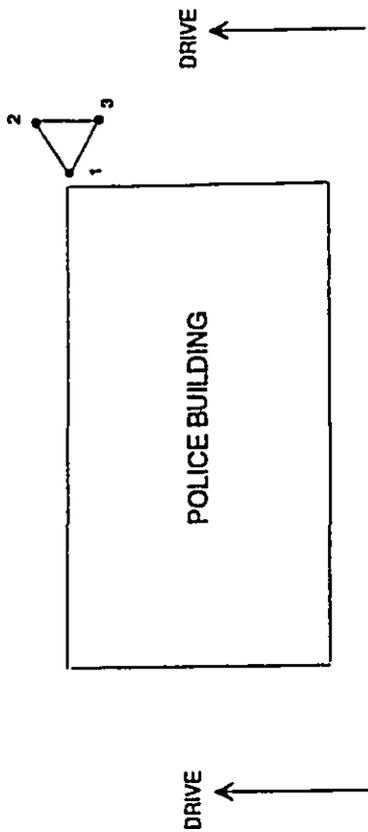
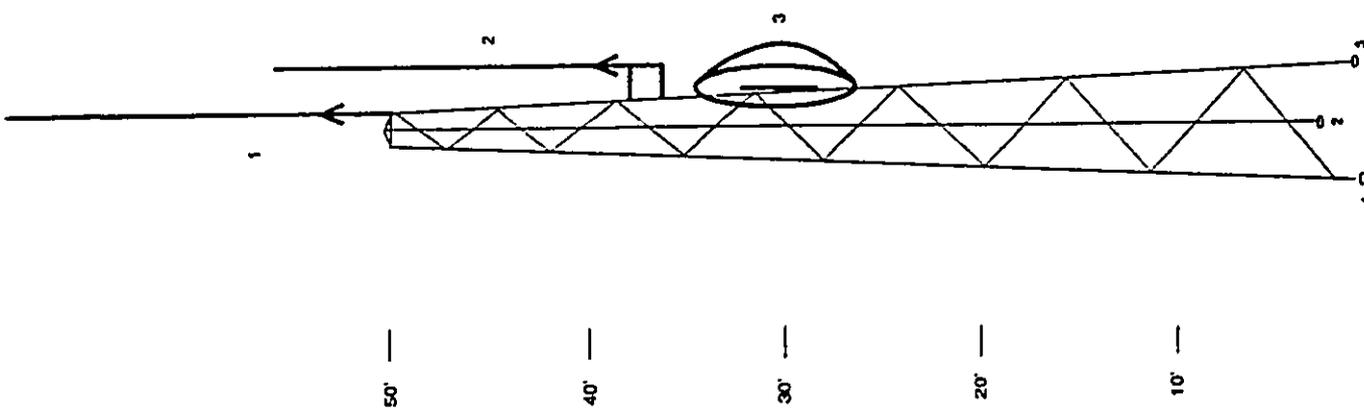
The facility consists of an equipment room within the police station and a 50-ft.-tall tower located southwest of the station. One six-ft.-diameter microwave dish and two vertical antennas are attached to the tower.

Surrounding uses include Kalihi Valley Field, Dole Intermediate School, Kaewai Elementary School and private residences.

B. Exempt Action

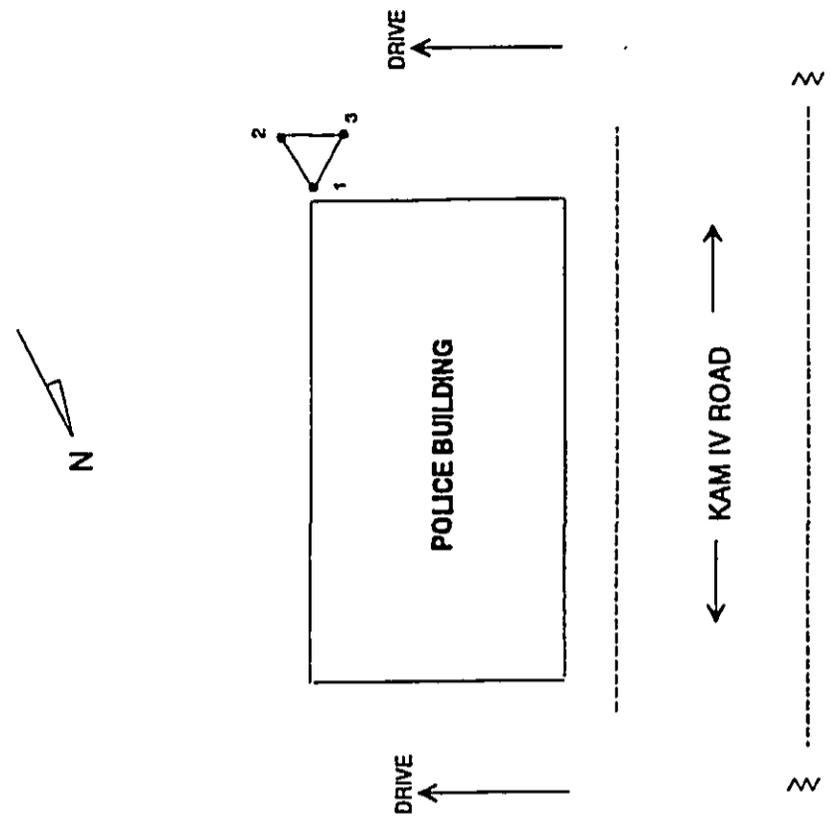
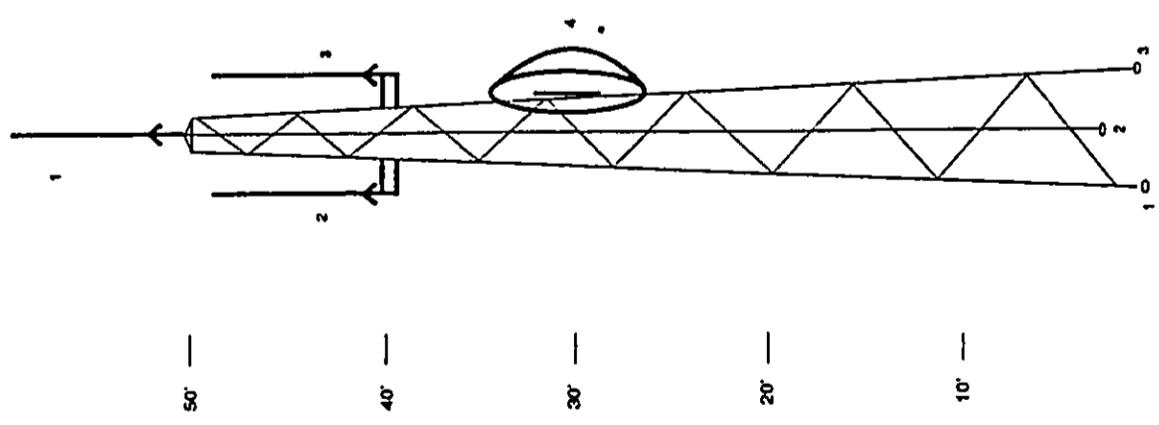
Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. The proposed activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

ANTENNAS
 1 - 21' PD VERTICAL
 2 - 21' PD VERTICAL
 3 - PD 6' MW DISH - HMB



| | |
|----------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| KALIHI POLICE STATION | |
| EXISTING TOWER/ANTENNA LOCATIONS | |
| DWG #1 | REV #1 |
| | 06/30/92 |

- ANTIENNAS**
- 1 - 6' 800 MHZ VERTICAL
 - 2 - 5' 800 MHZ VERTICAL
 - 3 - PD 6' 800 MHZ VERTICAL
 - 4 - PD 6' 800 MHZ DISH - HMB



| | | |
|------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KALIHU POLICE STATION | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG #1 | Rev #1 | 06/30/92 |

HONOLULU POLICE DEPARTMENT 135 COMMUNICATIONS FACILITIES UPGRADE

Waikiki Communications Facility (2A)

The City and County is proposing to improve their hand-held radio coverage in Waikiki by altering its three subsites. The existing mobile receive subsite on top of the Outrigger Hobron will be retained and improved. The existing mobile two-way site on top of the Outrigger West will be abandoned and replaced with a two-way site on top of the Outrigger Malia. The existing mobile receive site at the Honolulu Zoo will also be abandoned and replaced with a new receive site on top of the Outrigger Prince Kuhio.

Waikiki Special District Permit Application

All three hotels are within the Waikiki Special District and are surrounded by similar high-rise hotels and apartments. The proposed activities, however, consist of minor improvements to or replacement of existing communications facilities that will not adversely change the character or appearance of the structures, and are therefore, exempt from Special District Permit requirements. Each of the three sites are described below.

Waikiki Communications Facility (2A)

Outrigger Hobron Development Profile

TMK: 2-6-012: 047
AREA OF SITE: 44,276
LANDOWNER: Outrigger Hotels Hawaii
EXISTING USE: Hotel
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: High Density Apartment
Public Facilities Designation: None
ZONING: X2 Apartment
SPECIAL DISTRICT: Waikiki Special District

A. Site Location and Existing Uses

The existing communications facility is located on top of the 43-floor Outrigger Hobron. Used only by the Police Department, this facility is a mobile receive subsite that provides hand-held radio coverage within the Waikiki area. The facility consists of equipment located within the hotel's mechanical penthouse and two free-standing vertical antenna.

B. Exempt Action

Improvements proposed for the facility will consist of replacing the two existing antennas with one free-standing vertical antenna. The proposed improvement will have minimal or no significant effect on the environment and is included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

Waikiki Communications Facility (2A)

Outrigger Malia Development Profile

TMK: 2-6-019: 021
AREA OF SITE: 23,194 sq.ft.
LANDOWNER: Outrigger Hotels Hawaii
EXISTING USE: Hotel
PROPOSED USE: New communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Commercial
Public Facilities Designation: None
ZONING: X5 Resort Commercial
SPECIAL DISTRICT: Waikiki Special District

A. Site Location and Existing Uses

The City and County is proposing to replace the existing mobile two-way site on top of the Outrigger West with a two-way site on top of the 17-floor Outrigger Malia. Used only by the Police Department, this facility will be a spur link to the Makiki Roundtop site. In addition, the facility will function as a mobile receive subsite providing hand-held radio coverage within the Waikiki area.

B. Exempt Action

The proposed facility will consist of a four-ft.-diameter microwave dish and two vertical antennas on the rooftop of the hotel. The dish will be mounted on either a pole or a tri-pod about two feet higher than the roofline. An existing space on the roof adjacent to some mechanical equipment will be sealed and made into an equipment room. The proposed activities will have no significant effect on the environment and are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

Waikiki Communications Facility (2A)

Outrigger Prince Kuhio Development Profile

TMK: 2-6-025: 024
AREA OF SITE: 55,555 sq.ft.
LANDOWNER: Outrigger Hotels Hawaii
EXISTING USE: Hotel
PROPOSED USE: New communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Medium Density Apartment
Public Facilities Designation: None
ZONING: X2 Apartment
SPECIAL DISTRICT: Waikiki Special District

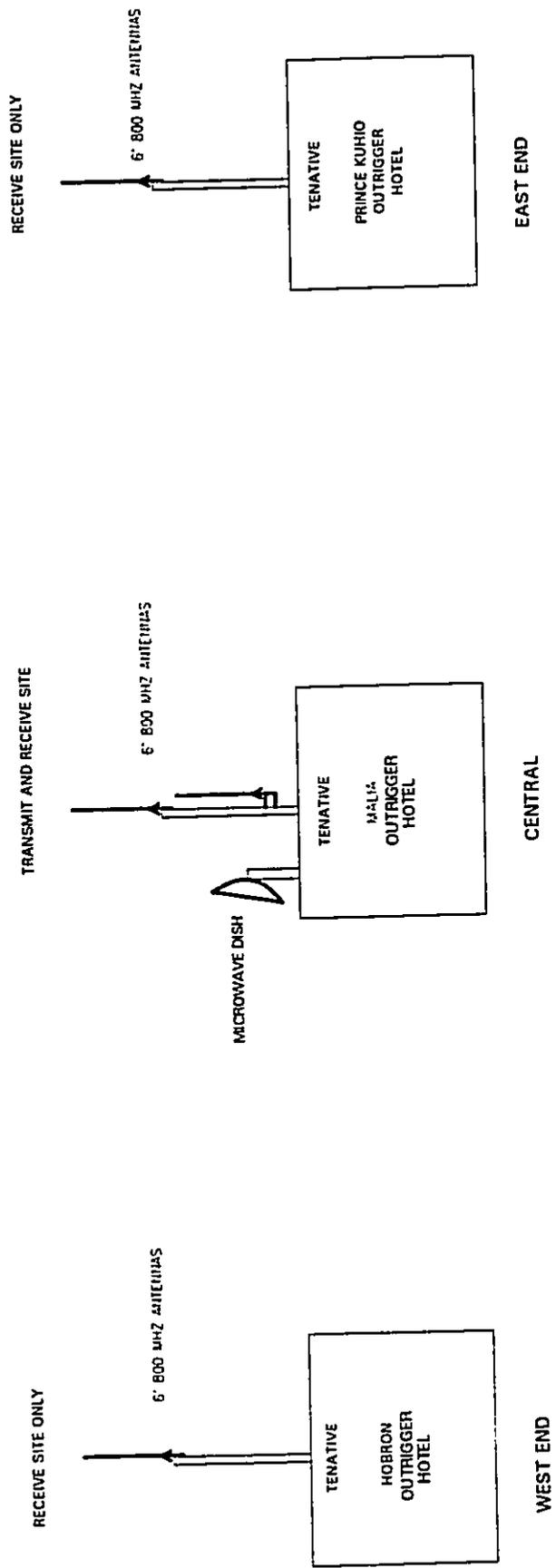
A. Site Location and Existing Uses

The City and County is proposing to replace the existing mobile receive site at the Honolulu Zoo with a new receive site on top of the 37-floor Outrigger Prince Kuhio. Used only by the Police Department, this facility will function as a mobile receive subsite providing hand-held radio coverage within the Waikiki area. Between 10 to 20 antennas are currently mounted on the hotel rooftop.

B. Exempt Action

The proposed facility will consist of one vertical antenna on the rooftop of the hotel and communications equipment housed within the hotel's existing mechanical room. The proposed activities will have no significant effect on the environment and are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



HONOLULU POLICE DEPARTMENT 141 COMMUNICATIONS FACILITIES UPGRADE

| | |
|----------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| WAIKIKI | |
| PROPOSED ANTENNA LOCATIONS | |
| DWG #1 | REV #2 |
| | 11/06/92 |

**Kailua Police Station Communications Facility (6)
Development Profile**

TMK: 4-3-056: 008
AREA OF SITE: 0.84 acres
LANDOWNER: City and County of Honolulu
EXISTING USE: Police station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Koolaupoko
Land Use Designation: Public and Quasi Public
Public Facilities Designation: PS/M (Police Station/Modify)
ZONING: R-5 Residential

A. Site Location and Existing Uses

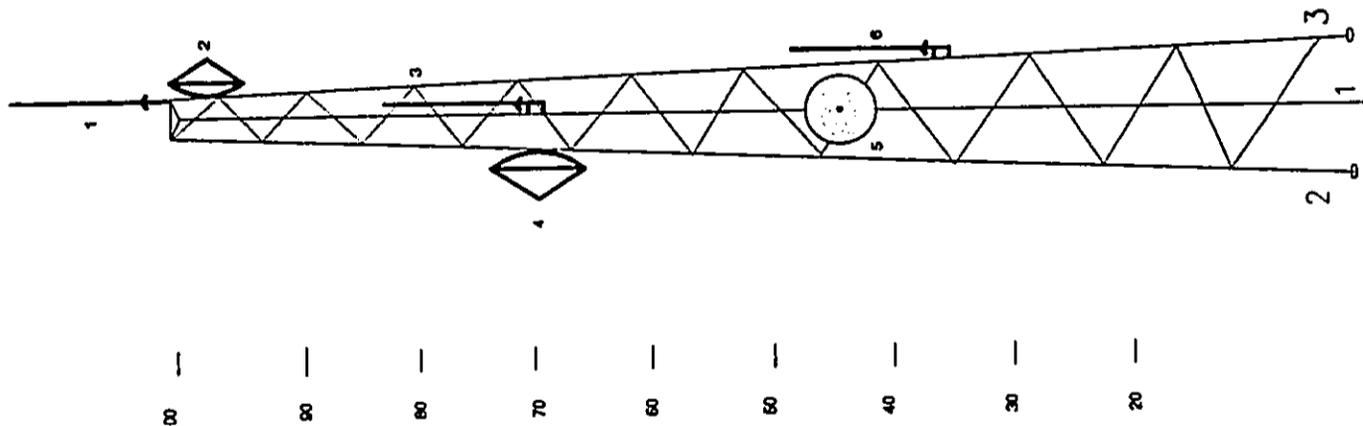
The existing communications facility is located within the Kailua Police Station site fronting Kuulei Avenue in Kailua Town. The facility is a backbone link between the Waimanalo Ridge and Aikahi Sewage Treatment Plant sites. It also provides a link to Kaneohe Police Station, relayed through the Kapaa 272 Reservoir site. In addition to the Police Department, other local government departments use the facility.

The facility consists of an equipment room within the police station and a 100-ft.-tall tower located northeast of the station. Two six-ft.-diameter microwave dishes, one eight-ft.-diameter microwave dish and two vertical antennas are attached to the tower.

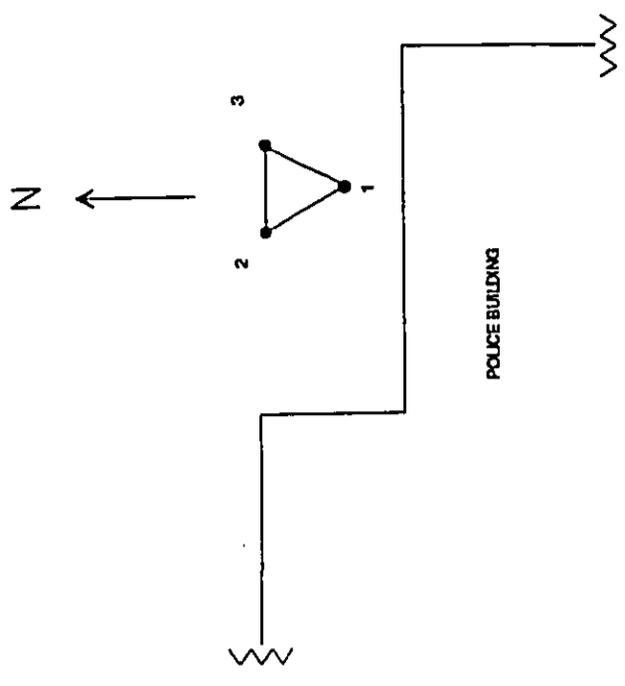
Surrounding uses include Kailua Public Library, Kailua Fire Station, Kailua Field and private residences.

B. Exempt Action

Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. These activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.



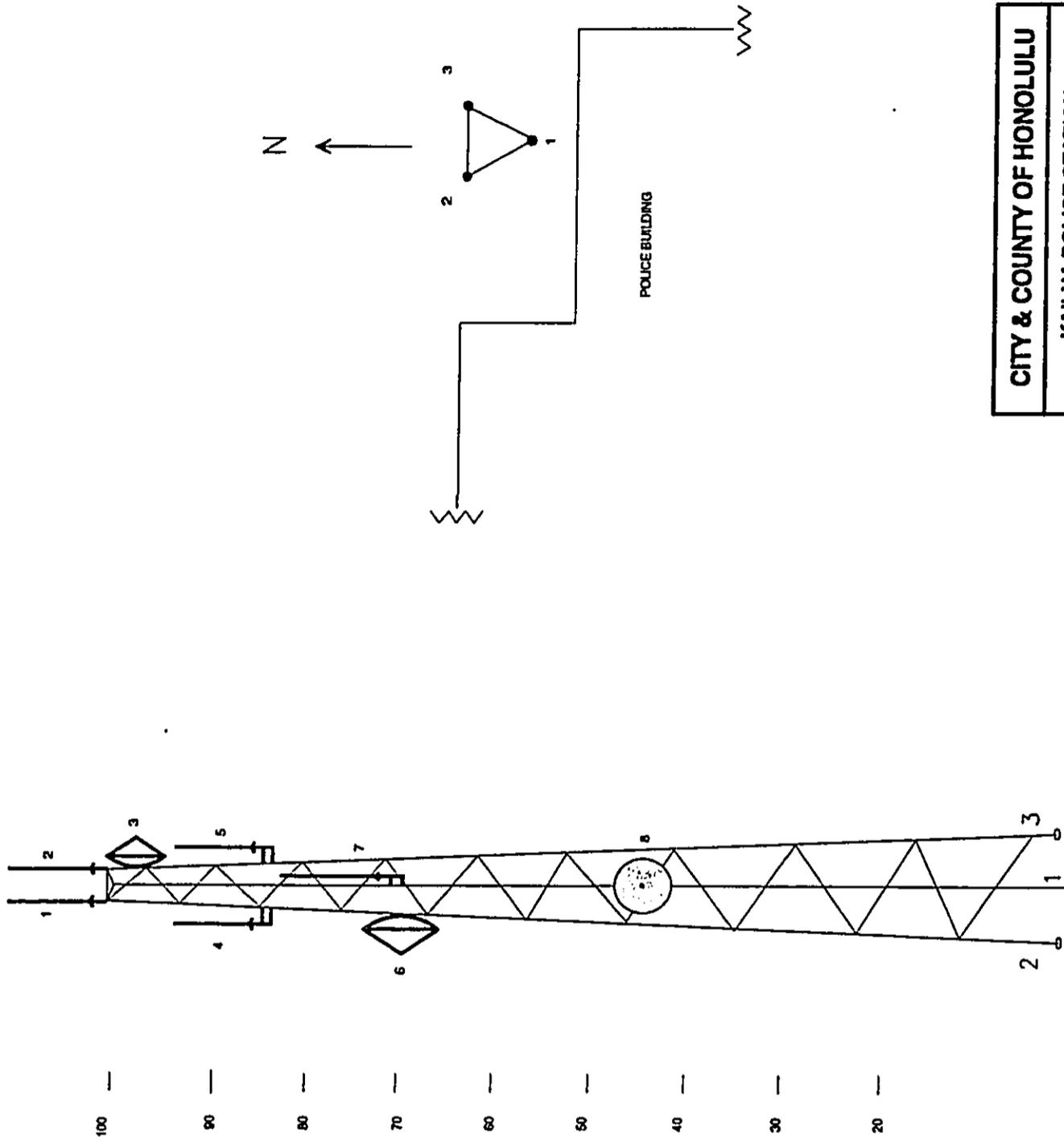
- ANTENNAS**
- 1 - 20' PD VHF VERTICAL - F8
 - 2 - PD 6' MW DISH - AIKAHI
 - 3 - LG - PAGING
 - 4 - PD 8' MW DISH - KANEHOHE
 - 5 - PD 6' MW DISH - WAIMANALO
 - 6 - 20' PD VERTICAL - F1



| | | |
|----------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KAILUA POLICE STATION | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/23/92 |

HONOLULU POLICE DEPARTMENT 144 COMMUNICATIONS FACILITIES UPGRADE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



- ANTENNAS**
- 1 - 13' 800 MHZ VERTICAL
 - 2 - 13' 800 MHZ VERTICAL
 - 3 - PD 6' MW DISH - AIKAHI
 - 4 - 13' 800 MHZ VERTICAL
 - 5 - 13' 800 MHZ VERTICAL
 - 6 - PD 6' MW DISH - KANEONE
 - 7 - LG - PAGING
 - 8 - PD 6' MW DISH - WAIMANALO

HONOLULU POLICE DEPARTMENT 145 COMMUNICATIONS FACILITIES UPGRADE

| | | |
|------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KAILUA POLICE STATION | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/23/92 |

**Kaneohe Police Station Communications Facility (6B)
Development Profile**

TMK: 4-5-018:002
AREA OF SITE: 5.44 acres
LANDOWNER: City and County of Honolulu
EXISTING USE: Police station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Koolaupoko
Land Use Designation: Public and Quasi Public
Public Facilities Designation: PS/M (Police Station/Modify)
ZONING: R-7.5 Residential

A. Site Location and Existing Uses

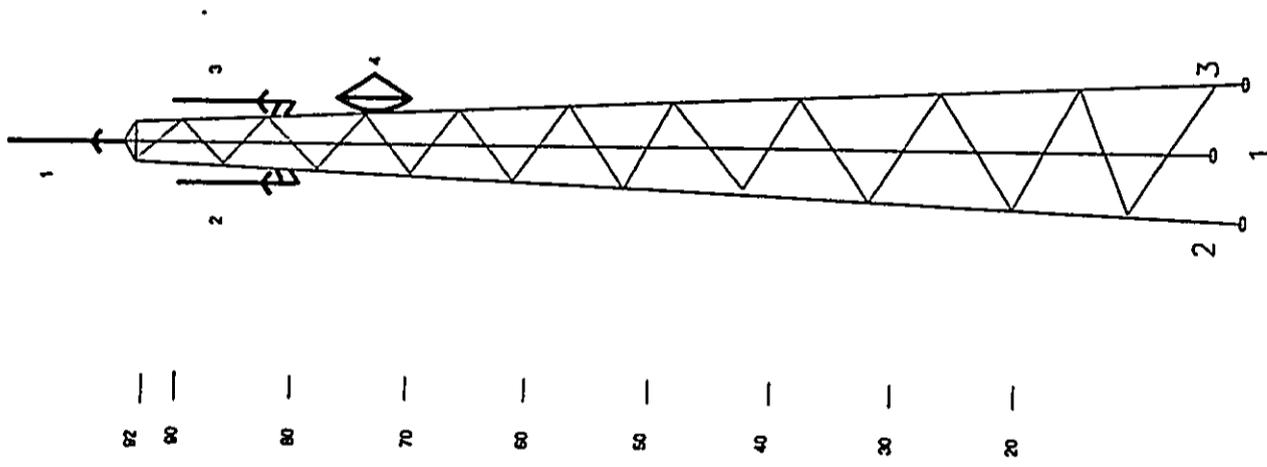
The existing communications facility is located within the Kaneohe Police Station site on the corner of Waikalua Road and Kamehameha Highway at the edge of Kaneohe Town. The facility is a spur link to the Kailua Police Station via the Kapaa 272 Reservoir site. Currently, only the Police Department uses the facility.

The facility consists of an equipment room within the police station and a 90-ft.-tall tower located north of the station. One six-ft.-diameter microwave dish and two stacked dipole antennas are attached to the tower.

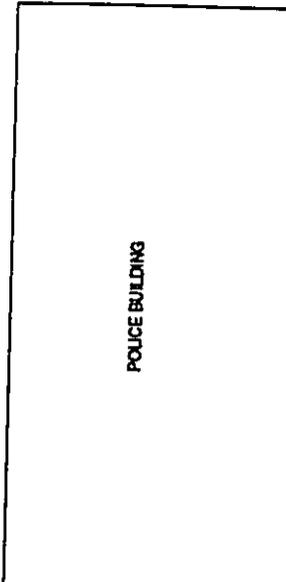
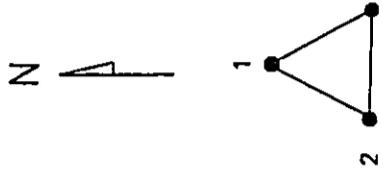
Surrounding uses include Kaneohe Civic Center, Kaneohe Public Library, Benjamin Parker Elementary School and private residences.

B. Exempt Action

Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. These activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.



- ANTENNAS**
- 1 - 5' 800 MHZ VERTICAL
 - 2 - 5' 800 MHZ VERTICAL
 - 3 - 5' 800 MHZ VERTICAL
 - 4 - PD 6 - MW DISH - KAAPAA



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|------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| KANEHOHE POLICE STATION | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/23/92 |

**Aikahi Sewage Treatment Plant Communications Facility (7)
Development Profile**

TMK: 4-4-011: 081
AREA OF SITE: 25.14 acres
LANDOWNER: City and County of Honolulu
EXISTING USE: Sewage treatment plant
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Koolaupoko
Land Use Designation: Public and Quasi Public
Public Facilities Designation: STPM (Sewage Treatment Plant/Modify)
ZONING: R-10 Residential

A. Site Location and Existing Uses

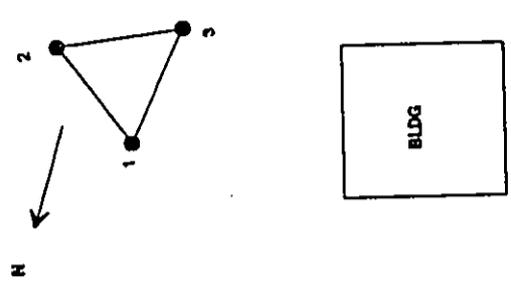
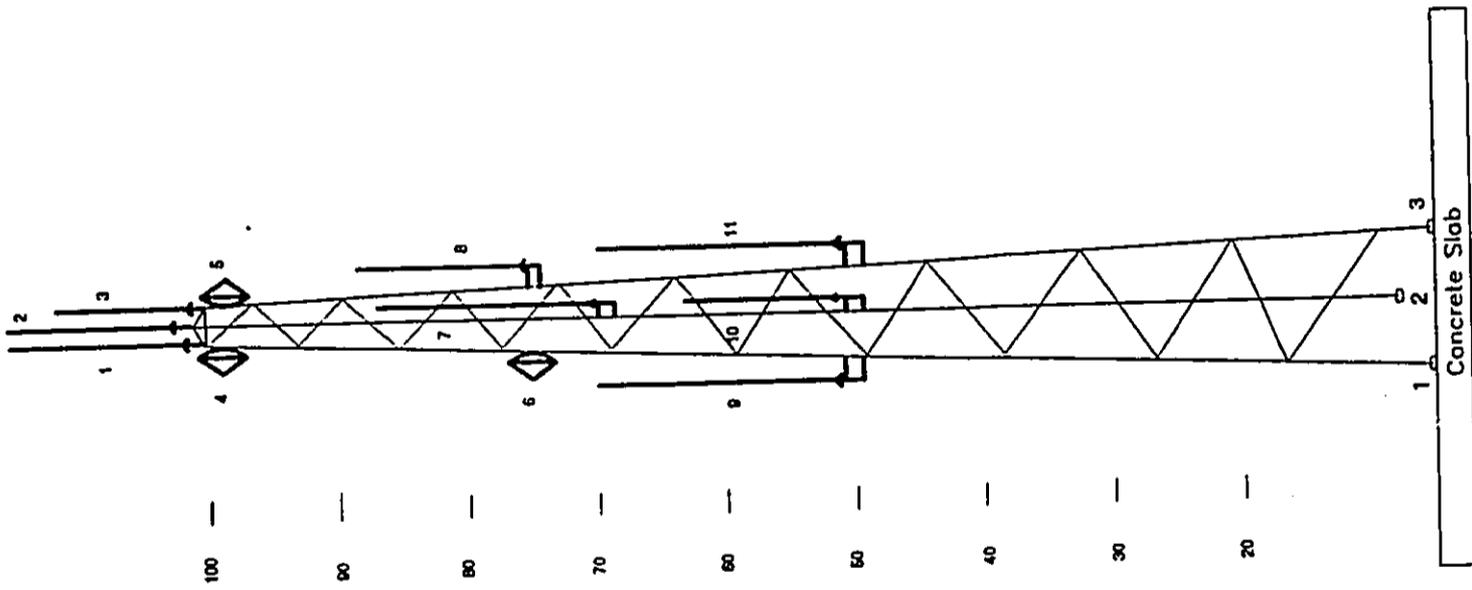
The existing communications facility is located on the grounds of the Aikahi Sewage Treatment Plant on Mokapu Peninsula along Kaneohe Bay Drive. The facility is a backbone link between the Kailua Police Station and Kaaawa sites. In addition to the Police Department, the Fire Department, Water Safety and State Emergency Medical Service use the facility.

The facility consists of a 196-sq.ft. equipment building located northeast of the sewage treatment facility and a 100-ft.-tall tower located north of the building. The building is of CMU construction with a reinforced concrete roof. Three six-ft.-diameter microwave dishes and eight omni antennas are attached to the tower.

The facility is surrounded by an open, grassy area. Aikahi Elementary School, Aikahi Playground, Kaneohe Marine Corps Air Station and private residences also located in the area.

B. Exempt Action

Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. These activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.



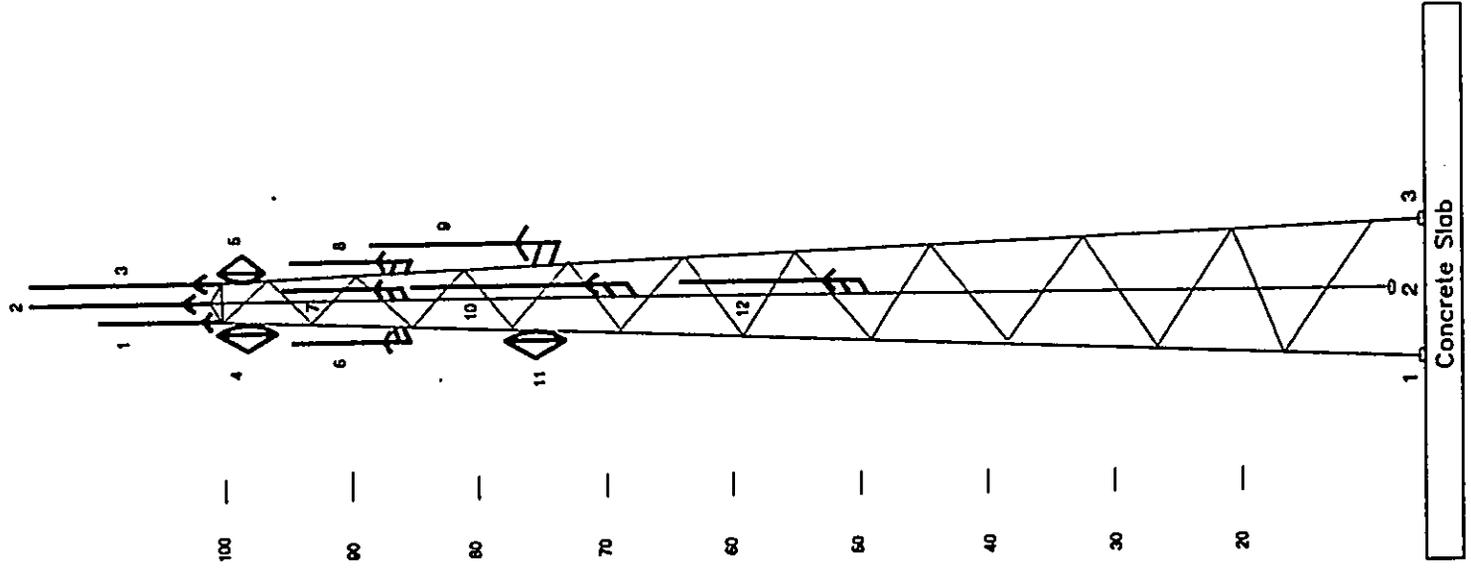
- 1 - PD 20' OMNI F8
- 2 - FD 20' OMNI
- 3 - EMS 15' OMNI
- 4 - PD 8' DISH KAAAWA 'A'
- 5 - PD 6' DISH KALUA
- 6 - PD 8' DISH KAAAWA 'B'
- 7 - FD 20' OMNI
- 8 - EMS 15' OMNI
- 9 - PD 20' OMNI F1
- 10 - WATER SAFETY 15' OMNI
- 11 - PD 20' OMNI F9

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|----------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| AIKAHI SEWAGE TREATMENT PLANT | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG #1 | REV #1 | 06/06/92 |

HONOLULU POLICE DEPARTMENT 152 COMMUNICATIONS FACILITIES UPGRADE



HONOLULU POLICE DEPARTMENT 153 COMMUNICATIONS FACILITIES UPGRADE



- 1 - 13 800 MHZ VERTICAL
- 2 - FD 20' VERTICAL
- 3 - EMS 15' VERTICAL
- 4 - PD 8' MW DSH KAAAWA 'A'
- 5 - PD 8' MW DSH KAILUA
- 6 - 13 800 MHZ VERTICAL
- 7 - 13 800 MHZ VERTICAL
- 8 - 13 800 MHZ VERTICAL
- 9 - EMS 15' VERTICAL
- 10 - FD 20' VERTICAL
- 11 - PD 8' MW DSH KAAAWA 'B'
- 12 - WATER SAFETY 15' VERTICAL

HONOLULU POLICE DEPARTMENT 153 COMMUNICATIONS FACILITIES UPGRADE

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|-------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| AIKAHI SEWAGE TREATMENT PLANT | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG #1 | REV #1 | 06/06/92 |

**Kahuku Police Station Communications Facility (9)
Development Profile**

TMK: 5-6-006: 020
AREA OF SITE: 4.58 acres
LANDOWNER: City and County of Honolulu
EXISTING USE: Police station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Koolauloa
Land Use Designation: Agricultural
Public Facilities Designation: PS/FS (Police Station/Fire Station)
ZONING: AG-1 Restricted Agricultural

A. Site Location and Existing Uses

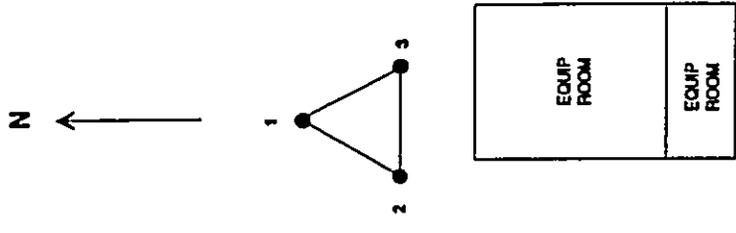
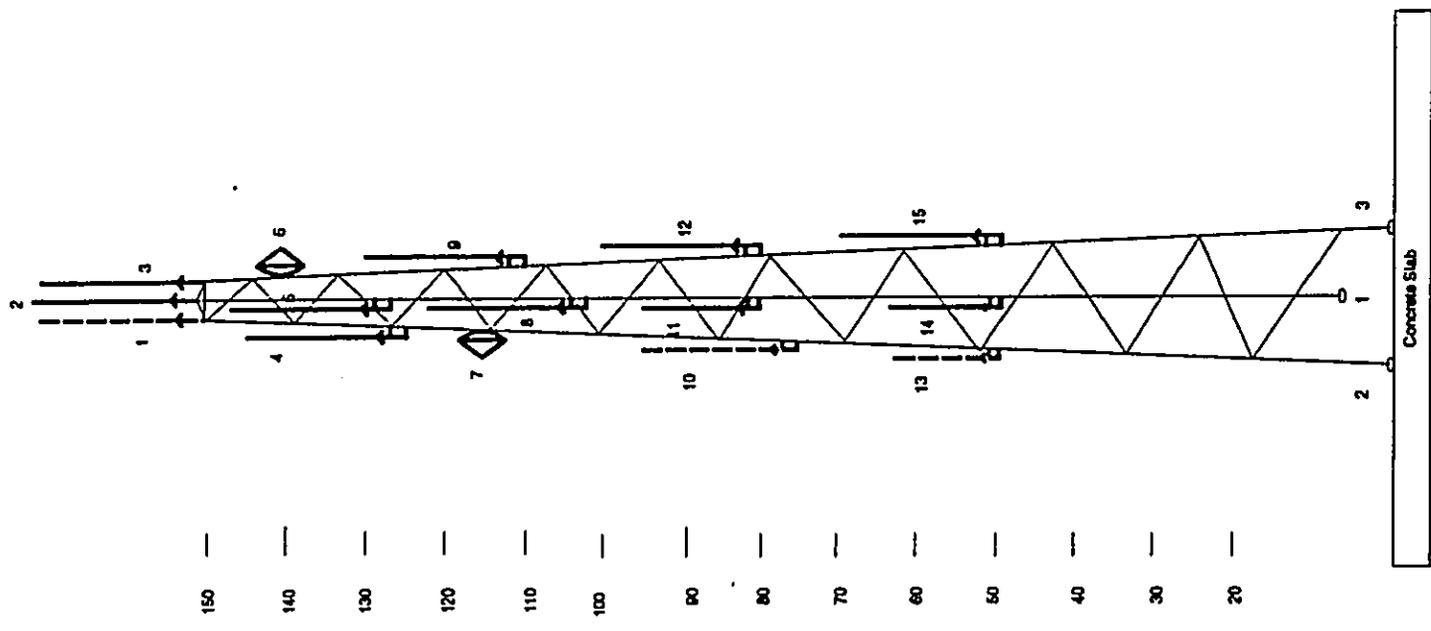
The existing communications facility is located within the Kahuku Police Station site at the intersection of Kamehameha Highway and Enos Road. The facility is a backbone link between the Kawela and Kaaawa sites. In addition to the Police Department, the Fire Department, other local government and State Emergency Medical Service use the facility.

The facility consists of a 288-sq.ft. equipment building adjacent to the station and a 150-ft.-tall tower located northeast of the building. The equipment building is of CMU construction with a reinforced concrete roof. Two six-ft.-diameter microwave dishes and ten vertical antennas (there are four additional vertical antennas that are not in use) are attached to the tower. A six-ft.-high chain link fence and hedge separate the facility from Kahuku High School.

Surrounding uses include Kahuku High School and Elementary School and Kahuku Fire Station.

B. Exempt Action

Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. These activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

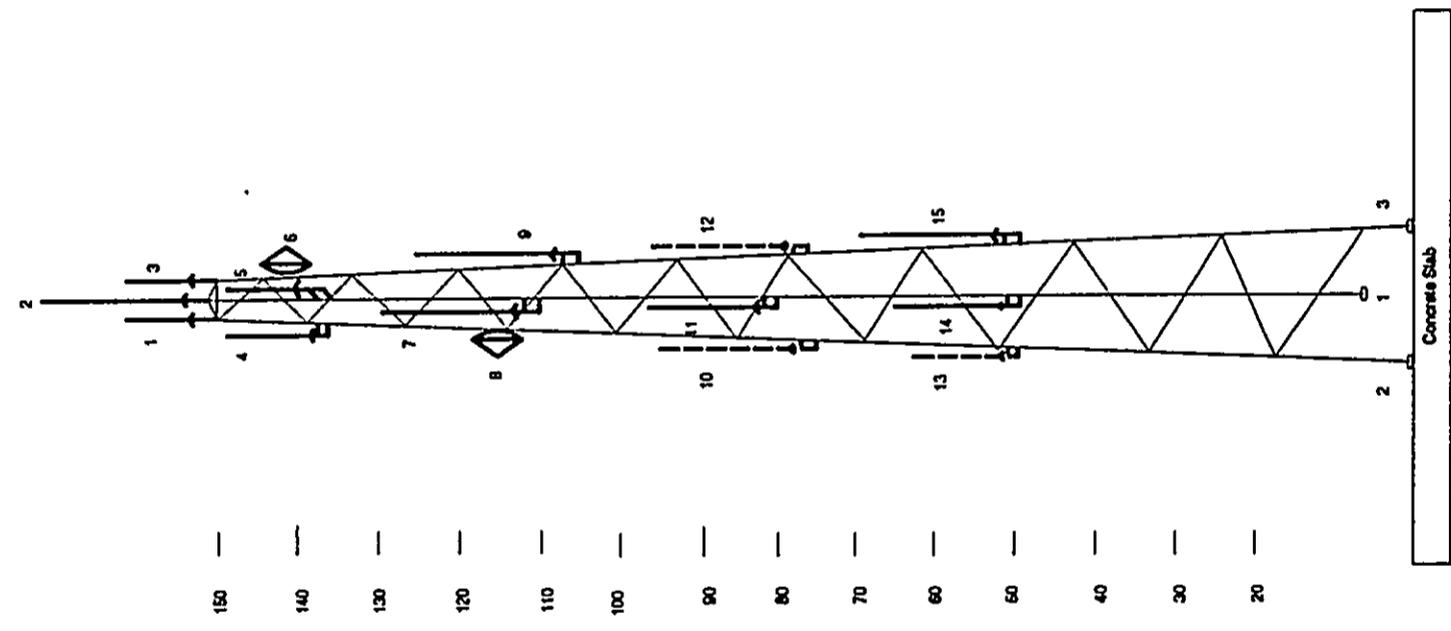


- ANTENNAS**
- 1 - RESERVED
 - 2 - 15' LG VERTICAL - PAGING
 - 3 - 20' PD VHF VERTICAL - F8
 - 4 - 15' LG VERTICAL
 - 5 - 20' PD VERTICAL
 - 6 - PD 6' MW DISH - KAAAWA
 - 7 - PD 6' MW DISH - KAMELA
 - 8 - 20' PD VHF VERTICAL
 - 9 - 20' PD VHF VERTICAL - F1/F2
 - 10 - RESERVED
 - 11 - 15' EMS VERTICAL
 - 12 - 20' PD VHF VERTICAL - F1
 - 13 - RESERVED
 - 14 - 15' EMS UHF VERTICAL
 - 15 - 20' PD VHF VERTICAL - F3/F4

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| CITY & COUNTY OF HONOLULU | | |
| KAHUKU POLICE STATION | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/23/92 |

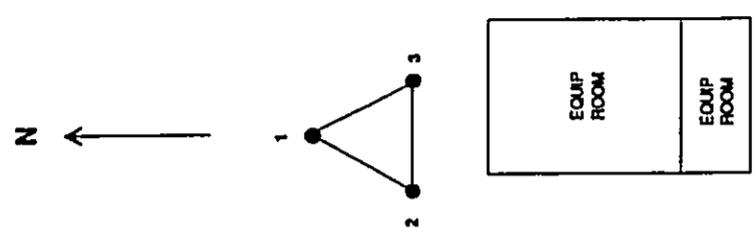
HONOLULU POLICE DEPARTMENT 156 COMMUNICATIONS FACILITIES UPGRADE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



ANTENNAS

- 1 - 13 800 MHZ VERTICAL
- 2 - 15 LO VERTICAL - PAGING
- 3 - 13 800 MHZ VERTICAL
- 4 - 13 800 MHZ VERTICAL
- 5 - 13 800 MHZ VERTICAL
- 6 - PD 6 M4Y DSH - KAAWA
- 7 - 15 LO VERTICAL
- 8 - PD 6 M4Y DSH - KAWELA
- 9 - 20' FD VHF VERTICAL - F1F2
- 10 - RESERVED
- 11 - 15' EMS VERTICAL
- 12 - RESERVED
- 13 - RESERVED
- 14 - 15' EMS UHF VERTICAL
- 15 - 20' FD VHF VERTICAL - F3F4



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| CITY & COUNTY OF HONOLULU | | |
| KAHUKU POLICE STATION | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/23/92 |

**U.S. Navy-EASTPAC Communications Facility (12)
Development Profile**

TMK: 7-1-002: 007
AREA OF SITE: 684.89 acres
LANDOWNER: U.S. Navy
EXISTING USE: Military installation
Communications facility
EXISTING USE: Upgrade communications facility
STATE LAND USE DISTRICT: Agricultural
COUNTY DEVELOPMENT PLAN AREA: Central Oahu
Land Use Designation: Agricultural and Military
Public Facilities Designation: None
ZONING: F-1 Military and Federal Preservation

A. Site Location and Existing Uses

The existing communications facility is located at the 1,169-ft. elevation within the U.S. Navy-EASTPAC installation in Wahiawa, in Central Oahu. Use of the site by the City and County is authorized under U.S. Navy License No. N6274290RP00068.

The facility is a backbone link between the Puu Manawahua and Mokuleia sites. It also serves the Wahiawa Police Station. In addition to the Police Department, the State Emergency Medical Service uses the facility.

The facility consists of a 153-sq.ft. equipment room attached to a larger military building and a 175-ft.-tall tower. Three six-ft.-diameter microwave dishes and six vertical antennas are attached to the tower.

The facility is surrounded by a military complex.

B. Exempt Action

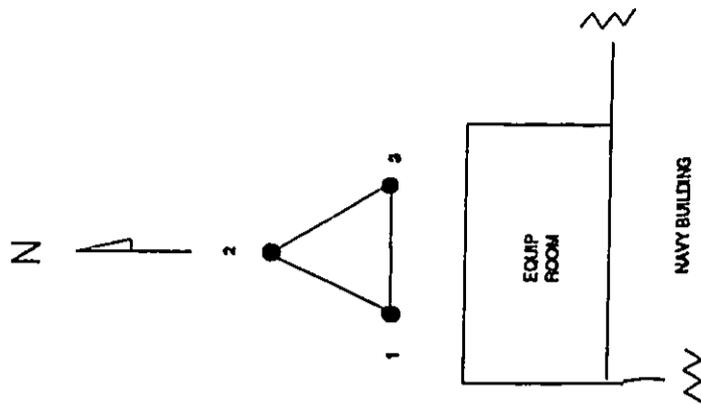
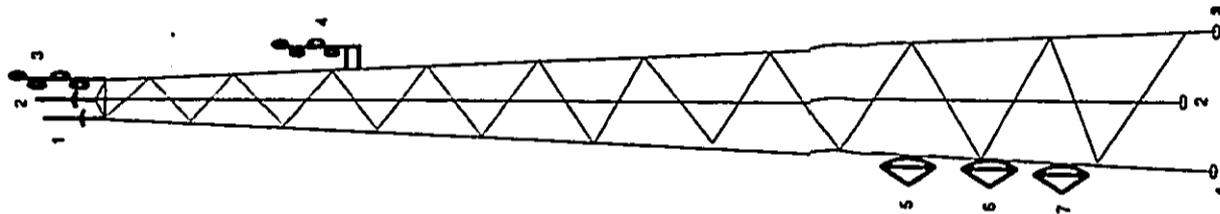
Improvements proposed for the communications facility include constructing a 110-sq.ft. addition to the existing equipment room. The room extension will be of CMU construction with a concrete slab roof. Soils testing will be conducted to ensure that the site can accommodate the proposed building expansion. A pre-fabricated fiberglass facility may be installed on a temporary basis. Other improvements include making minor antenna modifications and various interior alterations, and general cleanup and repainting.

The proposed improvements will have minimal or no significant effect on the environment and are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

ANTENNAS

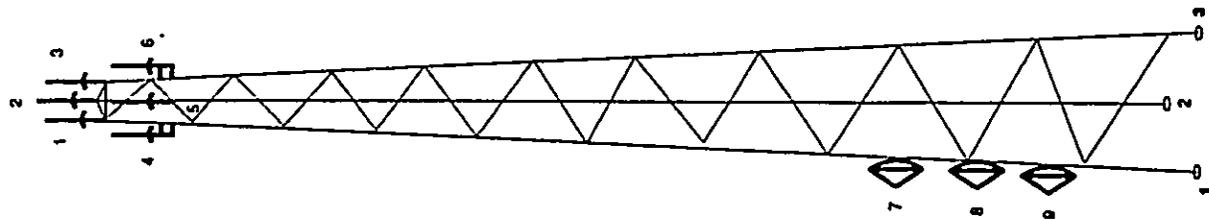
- 1 - 8' EMS UHF VERTICAL
- 2 - 8' EMS UHF VERTICAL
- 3 - 18' PD VHF STACKED DIPOLE
- 4 - 18' PD VHF STACKED DIPOLE
- 5 - PD 6' MW DISH - MAHAHAHA
- 6 - PD 6' MW DISH - WAHAHA
- 7 - PD 6' MW DISH - MOKOLEIA

175 —
150 —
125 —
100 —
75 —
50 —
25 —



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| CITY & COUNTY OF HONOLULU | |
| U. S. NAVY - EASTPAC | |
| EXISTING TOWER/ANTENNA LOCATIONS | |
| DWG #1 | REV #1 |
| | 06/06/92 |

HONOLULU POLICE DEPARTMENT 161 COMMUNICATIONS FACILITIES UPGRADE



ANTENNAS

- 1 - 6' EMS UHF VERTICAL
- 2 - 13' EMS UHF VERTICAL
- 3 - 8' EMS UHF VERTICAL
- 4 - 13' 800 MHZ VERTICAL
- 5 - 13' 800 MHZ VERTICAL
- 6 - 13' 800 MHZ VERTICAL
- 7 - PD 6' MW DISH - MANAHAUA
- 8 - PD 6' MW DISH - WAHIAWA
- 9 - PD 6' MW DISH - MOKULEIA
- 10 - PD 6' MW DISH - MOKULEIA

175 —

150 —

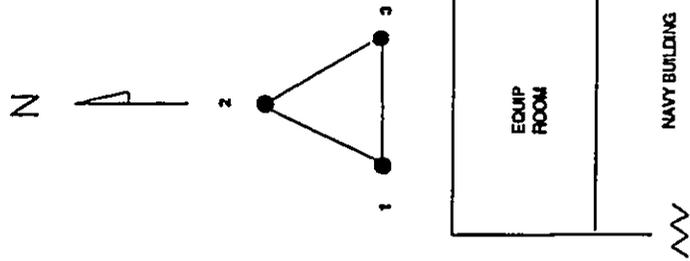
125 —

100 —

75 —

50 —

25 —



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| CITY & COUNTY OF HONOLULU | | |
| U. S. NAVY - EASTPAC | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG #1 | REV #1 | 06/06/82 |

**Wahiawa Police Station Communications Facility (12A)
Development Profile**

TMK: 7-4-007: 006
LANDOWNER: City and County of Honolulu
AREA OF SITE: 4.00 acres
EXISTING USE: Police station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Central Oahu
Land Use Designation: Public and Quasi Public
Public Facilities Designation: None
ZONING: I-2 Intensive Industrial

A. Site Location and Existing Uses

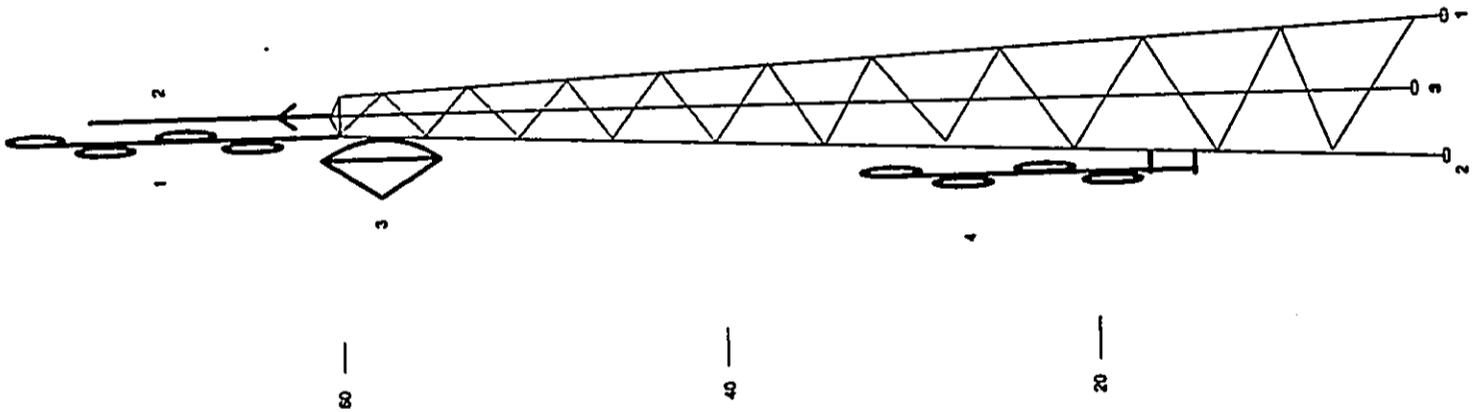
The existing communications facility is located within the Wahiawa Police Station site along Koa Street. The facility is a spur link to the U.S. Navy-EASTPAC site. In addition to the Police Department, other local government departments use the facility.

The facility consists of an equipment room adjacent to the station and a 60-ft.-tall tower located north of the building. One six-ft.-diameter microwave dish and two stacked dipole antennas are attached to the tower.

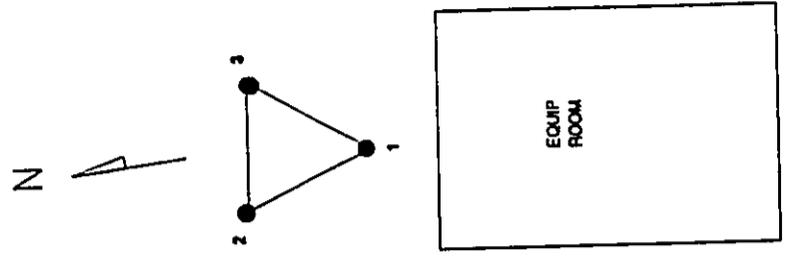
The northern portion of the site is bordered by the Wahiawa Reservoir's north fork. Other surrounding uses include industrial, multi-family residential and general agricultural activities.

B. Exempt Action

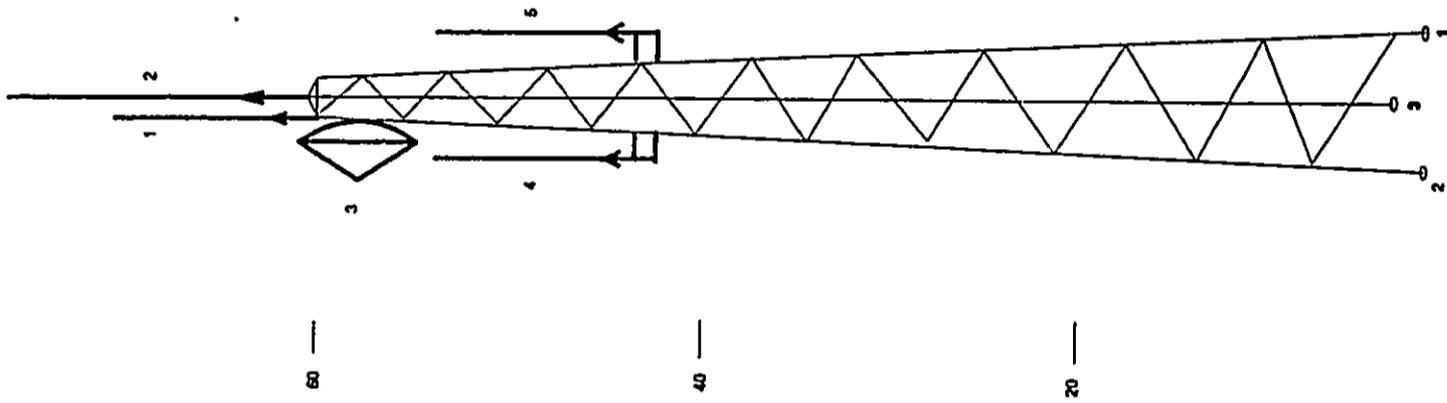
Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. These activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.



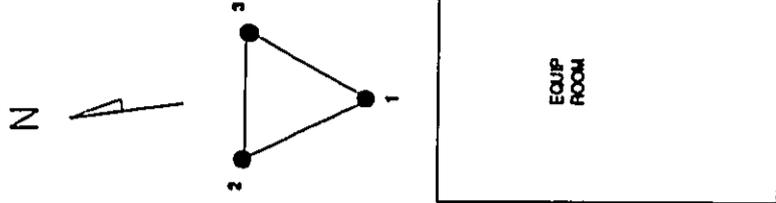
- ANTENNAS
- 1 - 18' PD VHF STACKED DIPOLE
 - 2 - CITY 15' VHF VERTICAL - PAGING
 - 3 - PD 5' MW DISH - USN COMM
 - 4 - 18' PD VHF STACKED DIPOLE



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| CITY & COUNTY OF HONOLULU | | |
| WAHIAWA POLICE STATION | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/30/92 |



- ANTENNAS
- 1 - 6' 800 MHz VERTICAL
 - 2 - CITY 15' VHF VERTICAL - PAGING
 - 3 - PD 6' M/W DISH - USN COMM
 - 4 - 6' 800 MHz VERTICAL
 - 5 - 6' 800 MHz VERTICAL



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| CITY & COUNTY OF HONOLULU | | |
| WAHIAWA POLICE STATION | | |
| NEW SYSTEM ANTENNA LOCATIONS | | |
| DWG #1 | REV #2 | 06/30/82 |

**Waianae Police Station (13B)
Development Profile**

TMK: 8-5-008: 051
AREA OF SITE: 24,811 sq.ft.
LANDOWNER: City and County of Honolulu
EXISTING USE: Police station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Waianae
Land Use Designation: Public and Quasi-Public
Public Facilities Designation: PSM (Police Station/Modify)
ZONING: R-5 Residential

A. Site Location and Existing Uses

The existing communications facility is located within the Waianae Police Station site fronting Farrington Highway in Waianae Town. The facility is a spur link to the passive Waianae 242 Reservoir site. In addition to the Police Department, the Fire Department uses the facility.

The facility consists of an equipment room within the police station and a 30-ft.-tall tower. One six-ft.-diameter microwave dish, one stacked dipole antenna and one vertical antenna are attached to the tower.

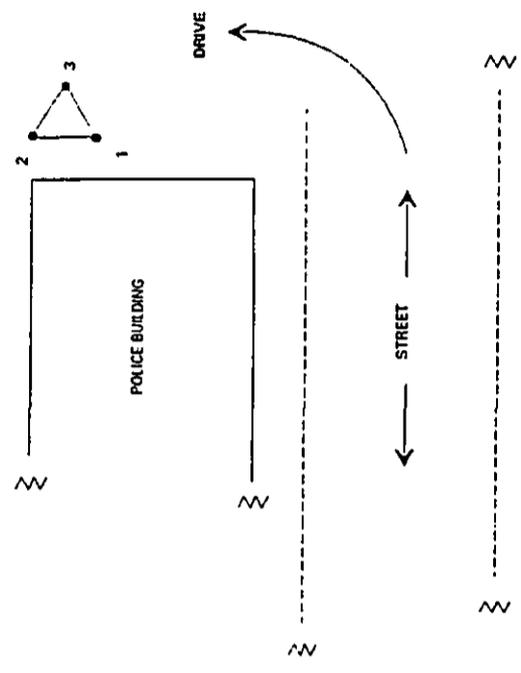
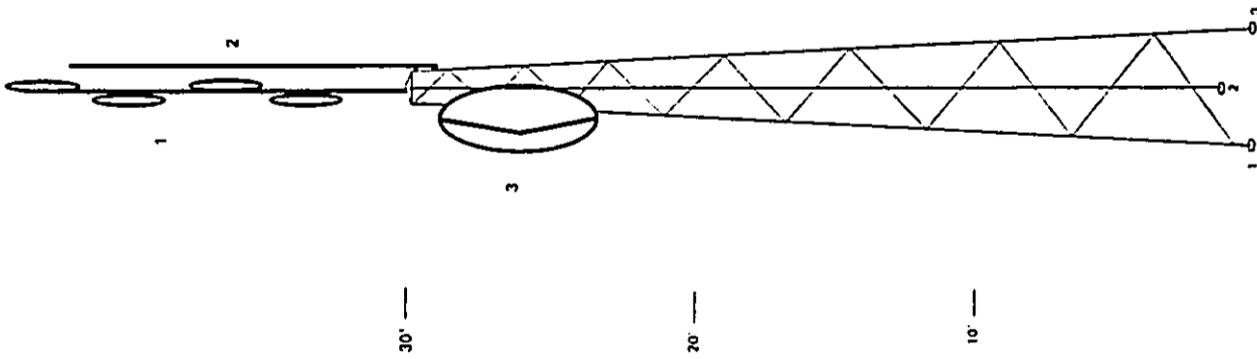
Surrounding uses in the area include community businesses and private residences.

B. Exempt Action

Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. The proposed activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

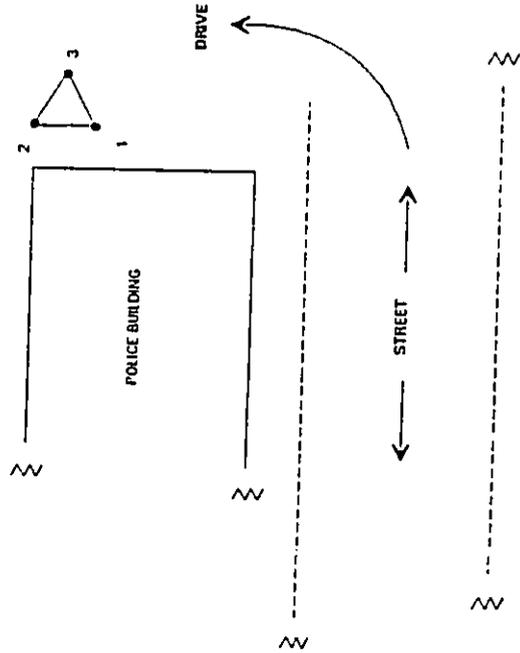
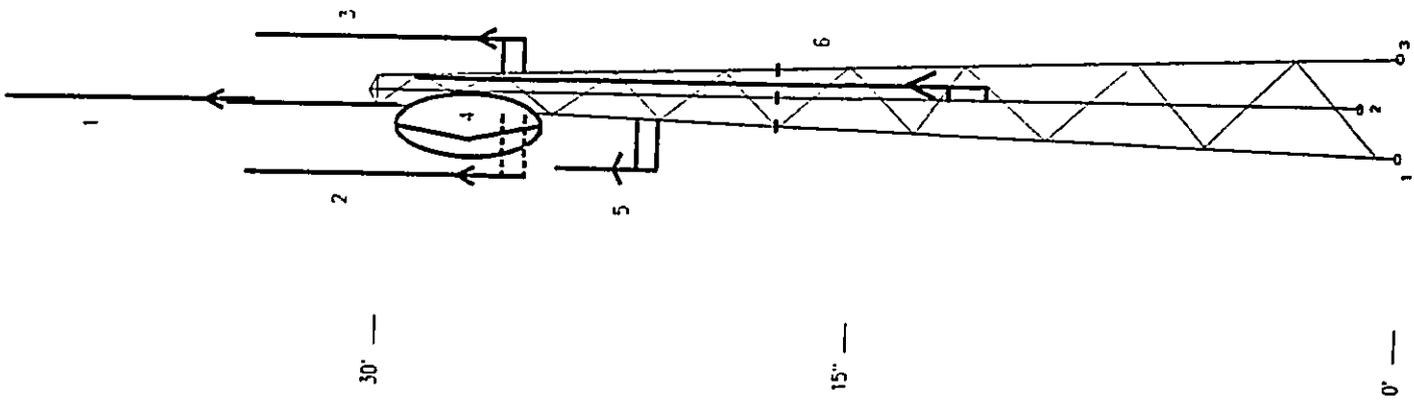
ANTENNAS

- 1 - 18' PD VHF STACKED DIPOLE
- 2 - 20' PD VHF VERTICAL
- 3 - PD 6' M/W DSH - POU PAIHEHEE PASSIVE



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|----------------------------------|--------|----------|
| CITY & COUNTY OF HONOLULU | | |
| WAIANAЕ POLICE STATION | | |
| EXISTING TOWER/ANTENNA LOCATIONS | | |
| DWG #1 | REV #1 | 06/06/92 |

- ANTENNAS**
- 1 - 10' 800 MHZ VERTICAL
 - 2 - 10' 800 MHZ VERTICAL
 - 3 - 10' 8 MHZ VERTICAL
 - 4 - PD 6' MW DISH - PUU PAHEEHEE
 - 5 - 3' 800 MHZ VERTICAL
 - 6 - 20' FIRE VHF VERTICAL



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| CITY & COUNTY OF HONOLULU | |
| WAIANAЕ POLICE STATION | |
| NEW SYSTEM TOWER/ANTENNA LOCATIONS | |
| DWG #1 | REV #2 |
| | 10/21/92 |

**Pearl City Police Station Communications Facility (13D)
Development Profile**

TMK: 9-7-094: 022
LANDOWNER: City and County of Honolulu
AREA OF SITE: 1.88 acres
EXISTING USE: Police station
Communications facility
PROPOSED USE: Upgrade communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Public and Quasi Public
Public Facilities Designation: None
ZONING: R-5 Residential

A. Site Location and Existing Uses

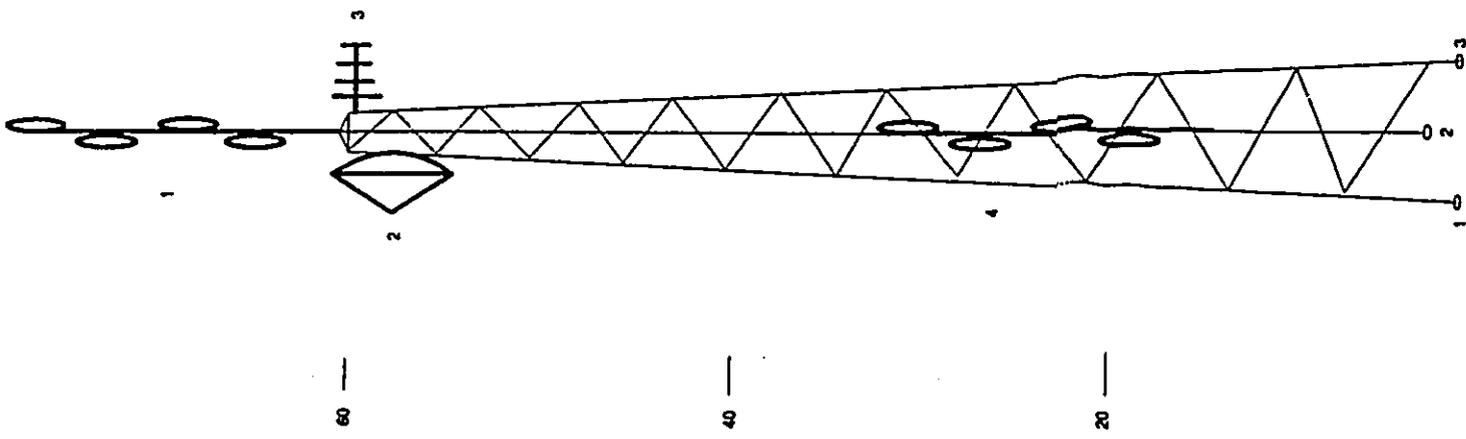
The existing communications facility is located within the Pearl City Police Station site along Waimano Home Road. The facility is a spur link to the Puu Manawahua site. In addition to the Police Department, other local government departments use the facility.

The facility consists of an equipment room within the police station and a 60-ft.-tall tower located northwest of the station. One six-ft.-diameter microwave dish and two stacked dipole antennas are attached to the tower.

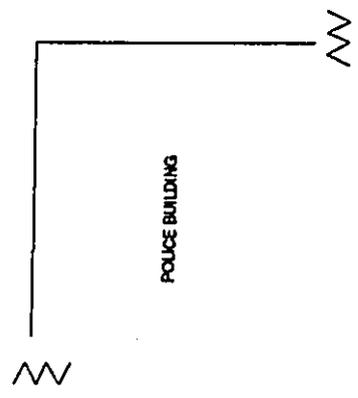
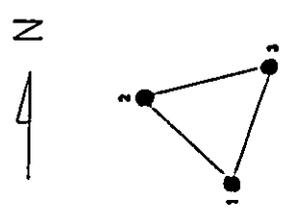
Surrounding uses include the Pearl City Library and private residences.

B. Exempt Action

Improvements proposed for the communications facility are limited to minor antenna modifications and interior alterations, which will have minimal or no significant effect on the environment. These activities are included on the Building Department's approved list of actions exempt from the environmental assessment requirements, as authorized under §11-200-8, Hawaii Administrative Rules.

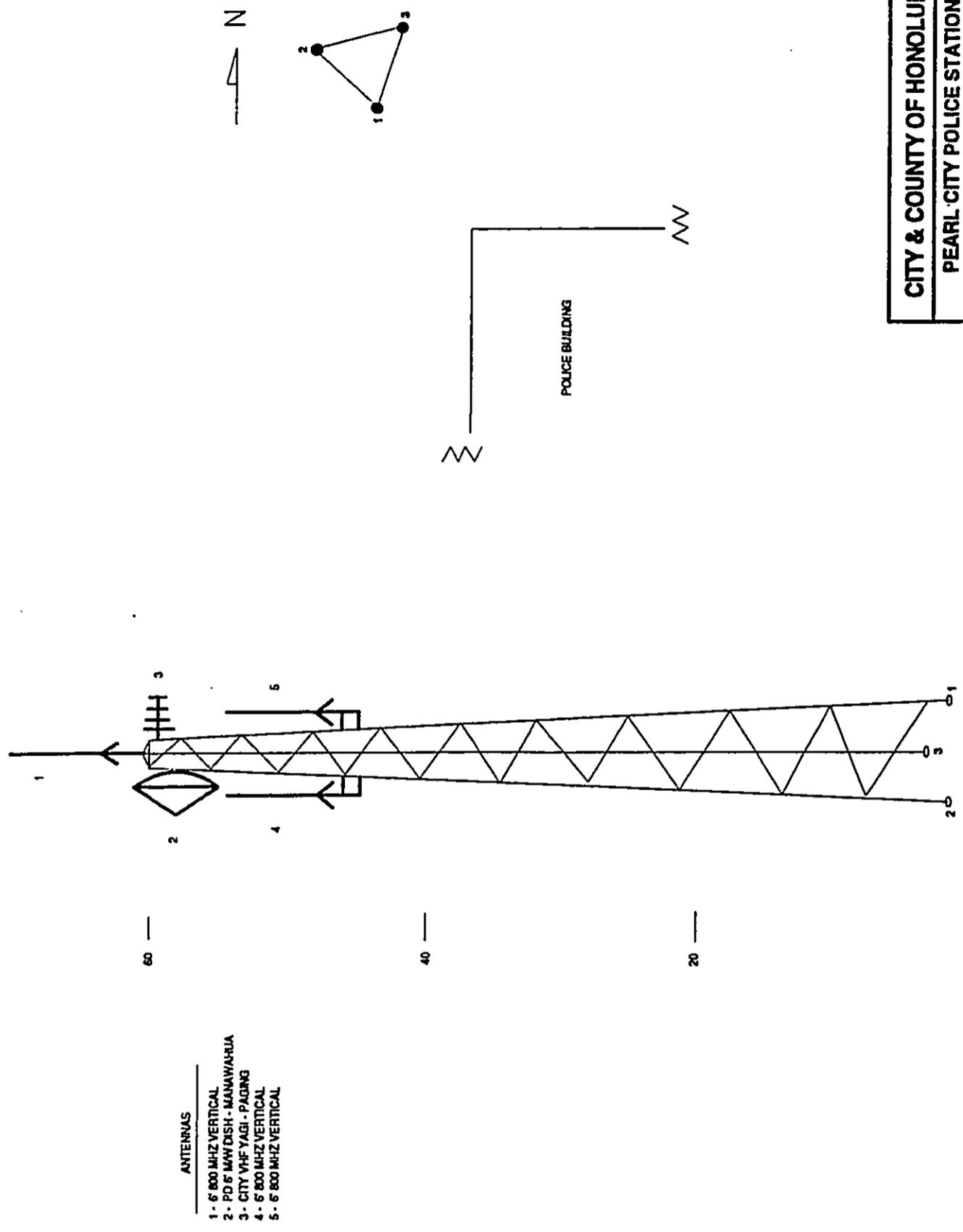


- ANTENNAS**
- 1 - 18' PD VHF STACKED DIPOLE
 - 2 - PD 6' MM/DISH - MANAWARUA
 - 3 - CITY VHF YAGI - PAGING
 - 4 - 18' PD VHF STACKED DIPOLE



| | |
|----------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| PEARL CITY POLICE STATION | |
| EXISTING TOWER/ANTENNA LOCATIONS | |
| DWG #1 | REV #2 |
| | 06/30/92 |

PEARL CITY POLICE STATION NEW SYSTEM ANTENNA LOCATIONS



HONOLULU POLICE DEPARTMENT 173 COMMUNICATIONS FACILITIES UPGRADE

| | |
|------------------------------|----------|
| CITY & COUNTY OF HONOLULU | |
| PEARL CITY POLICE STATION | |
| NEW SYSTEM ANTENNA LOCATIONS | |
| DWG #1 | REV #2 |
| | 06/30/92 |

**HPD Telecom Service Section Communications Facility (14A)
Development Profile**

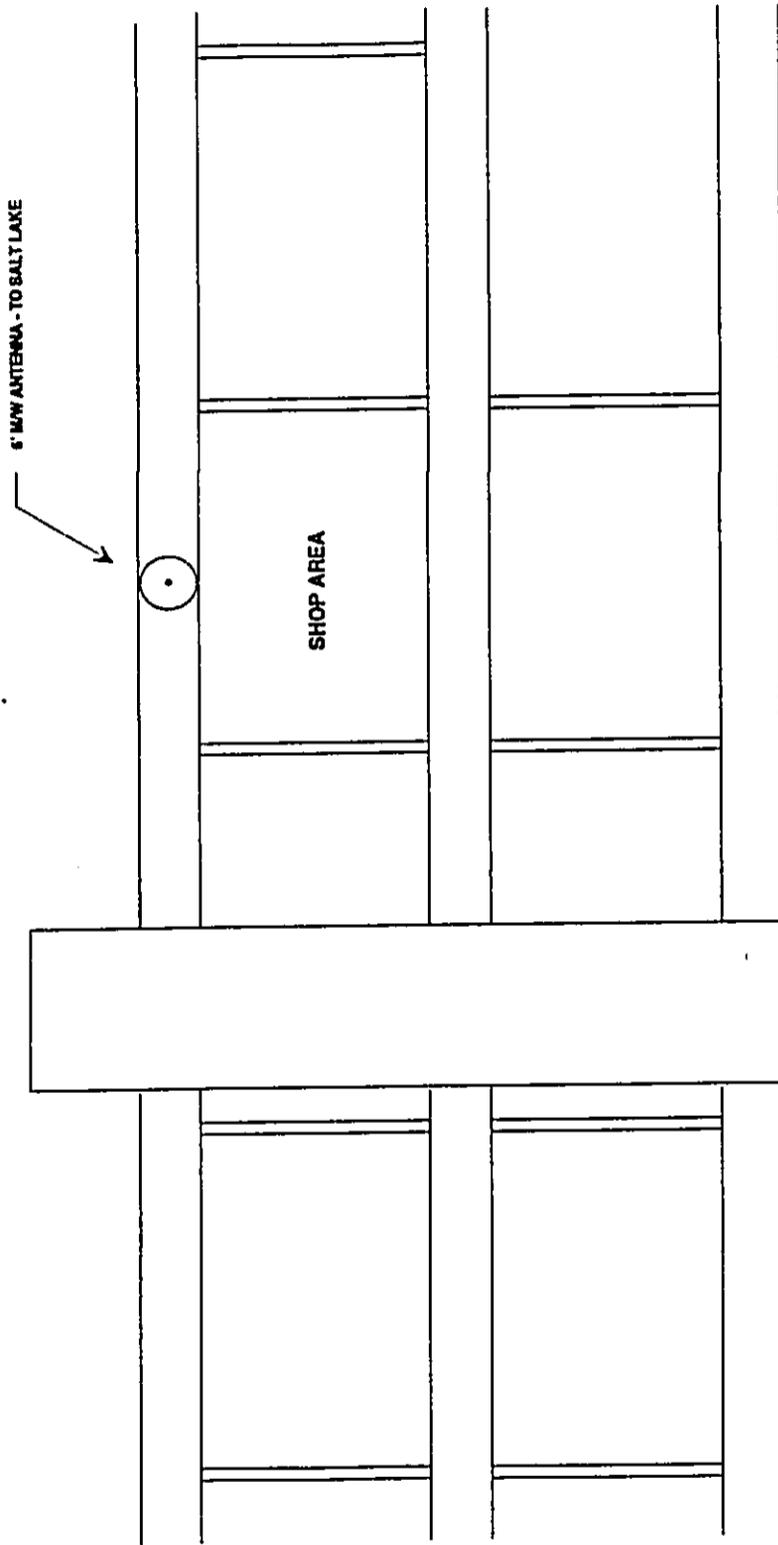
TMK: 1-1-015: 013
AREA OF SITE: 546,210 sq.ft.
LANDOWNER: Airport Industrial Park Associates, Phase II
EXISTING USE: Warehouse and offices
PROPOSED USE: New communications facility
STATE LAND USE DISTRICT: Urban
COUNTY DEVELOPMENT PLAN AREA: Primary Urban Center
Land Use Designation: Industrial
Public Facilities Designation: None
ZONING: I-2 Intensive Industrial

A. Site Location and Existing Uses

The existing Airport Center building is a new, four-story structure of CMU construction housing warehouse and office uses. The City and County is constructing new administrative offices within 27,000 square feet of the building and will use a portion of this space to house communications equipment. In addition, a six-ft.-diameter microwave dish will be mounted on the roof parapet. The facility will be a spur link to the Aliamanu 385 Reservoir site. Use of the office space by the City and County is authorized under a lease with the Airport Industrial Park Associates.

B. Exempt Action

Although part of the HPD Communications System, this new facility was previously approved and funded under a separate project. No additional improvements are proposed.



| | | |
|---|-------|----------|
| CITY & COUNTY OF HONOLULU | | |
| HPD TELECOMMUNICATIONS SERVICE SECTION REPAIR FACILITY MW ANTENNA | | |
| DWG #1 | REV # | 06/06/92 |

HONOLULU POLICE DEPARTMENT 176 COMMUNICATIONS FACILITIES UPGRADE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Section VI. Determination

Section VII. Findings

**Section VIII. Consulted Parties in the
Preparation of the Environmental Assessment**

VI. DETERMINATION

The proposed HPD Communications Upgrade System project is not anticipated to cause significant negative impacts to the environment. It has therefore, been determined that a negative declaration will be issued.

VII. FINDINGS AND REASONS SUPPORTING DETERMINATION

The following findings are based on the information provided above:

- a. *The proposed project will not involve an irrevocable commitment to loss or destruction to any natural or cultural resources;*
- b. *The proposed project will not curtail the range of beneficial uses of the environment;*
- c. *The proposed project will not conflict with the State's long-term environmental policies;*
- d. *The proposed project will not substantially affect the economic or social welfare of the community or State;*
- e. *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities;*
- f. *The proposed project will not involve a substantial degradation of environmental quality;*
- g. *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat. No endangered species of flora or fauna are known to exist in any of the facility sites;*
- h. *The proposed project will not detrimentally affect air or water quality or ambient noise levels; and*
- i. *The various elements of the proposed project will not be located in any environmentally sensitive area, such as flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, freshwater or coastal waters.*

For the reasons above, the proposed project will not have any significant effect in the context of Chapter 343, Hawaii Revised Statutes and §11-200-12, Hawaii Administrative Rules.

VIII. CONSULTED PARTIES IN THE PREPARATION OF THE ENVIRONMENTAL ASSESSMENT

The notice of availability of the Draft EA was published in the *OEQC Bulletin* by the Office of Environmental Quality Control on September 8, 1992 and September 23, 1992. In addition, representatives from the Building Department consulted with a number of public agencies and community organizations. The parties that were requested to review and comment on the Draft EA are listed below. Those who responded in writing are identified with an asterisk (*) next to their names, with copies of the correspondence presented in the following pages.

Federal Agencies

U.S. Department of Interior - Fish and Wildlife Service*
U.S. Department of Transportation - Federal Aviation Administration*

State Agencies

Department of Accounting and General Services*
Department of Defense
Department of Hawaiian Home Lands*
Department of Health - Environmental Health Administration*
Department of Land & Natural Resources (10 copies)*
Department of Land & Natural Resources - State Historic Preservation Division
Department of Transportation*
University of Hawaii - Environmental Center
State Main Library (10 copies)
Aiea Library
Hawaii Kai Library
Kailua Library
Kaimuki Regional Library
Kaneohe Regional Library
Waianae Library

City & County of Honolulu Agencies

Board of Water Supply*
Department of General Planning*
Department of Land Utilization*
Department of Parks & Recreation*
Department of Public Works*
Department of Transportation Services*
Fire Department*
Oahu Civil Defense Agency*
Police Department*

Community Organizations

Outdoor Circle*

Aliamanu/Salt Lake/Foster Village Neighborhood Board No. 18

Diamond Head/Kapahulu/Saint Louis Neighborhood Board No. 5*

Hawaii Kai Neighborhood Board No. 1

Kailua Neighborhood Board No. 31

Koolauloa Neighborhood Board No. 28

Waialae/Kahala Neighborhood Board No. 3

Waianae Coast Neighborhood Board No. 24



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Office
P.O. Box 50167
Honolulu, Hawaii 96850



Western-Pacific Region
P. O. Box 50109
Honolulu, Hawaii 96850-4983

S

Robin Foster
Lacayo Plannings, Inc.
737 Bishop Street
Suite 1550
Honolulu, Hawaii 96813

Dear Mr. or Ms. Foster:

This responds to your September 1, 1992 request for our review of the Draft Environmental Assessment for the Honolulu Police Department Communications Facilities Upgrade.

We have reviewed the document and have concluded that the proposed upgrades and related work will not have any effect on plant or animal resources within the U. S. Fish and Wildlife Service's jurisdiction.

Thank you for the opportunity to review the document.

Sincerely,

Robert P. Smith

Robert P. Smith
Field Supervisor
Pacific Islands Office

OK

September 14, 1992

October 7, 1992

Mr. Robin Foster, AICP
Senior Planner
Lacayo Planning, Inc.
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Dear Mr Foster:

Your letter of September 1, 1992, requested review and comment on the Draft Environmental Assessment (EA) for the City and County of Honolulu, Honolulu Police Department Communications Facilities Upgrade

The Federal Aviation Administration (FAA) has requested that the City and County of Honolulu submit the "Notice of Proposed Construction or Alteration" (FAA Form 7460-1) so that an airspace and frequency evaluation may be conducted for both the Koko Head and Waimanalo (Kamehame) Ridge sites. It does not appear that the proposed upgrade at the other 24 sites will impact existing FAA facilities.

We appreciate this opportunity to comment on the subject project. Please contact me at 541-1236, if there are any questions.

Sincerely,

Darice B. Young

Darice B. Young
Realty Contracting Officer, AHNL-56

CITY AND COUNTY OF HONOLULU

BUILDING DEPARTMENT
HONOLULU MUNICIPAL BUILDING
430 SOUTH KING STREET
HONOLULU, HAWAII 96813



FORM 6 7/84

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 171, HONOLULU, HAWAII 96818

November 17, 1992

PB 92-1134

Ms. Darice B. N. Young
Realty Contracting Officer, AHNL-56
U. S. Department of Transportation
Western-Pacific Region
Federal Aviation Administration
P. O. Box 50109
Honolulu, Hawaii 96850-4983

Dear Ms. Young:

Subject: Draft Environmental Assessment (EA)
for the Honolulu Police Department
Communications Facilities Upgrade

Thank you for the comments in your October 27, 1992 letter concerning airspace and frequency requirements of the proposed project.

The Building Department and the project's communications consultant have been in contact with your regional office in Los Angeles and have submitted the "Notice of Proposed Construction or Alteration" (FAA Form 7460-1). We will comply with all FAA requirements in the construction of the communication facilities.

If there should be any questions, please contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).

Very truly yours,

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schema Systems, Inc.



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 171, HONOLULU, HAWAII 96818

SEP 29 1992

Lacayo Planning, Inc.
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Attention: Robin Foster
Gentlemen:

Subject: Honolulu Police Department
Communications Facilities Upgrade
Environmental Assessment

Thank you for the opportunity to review the subject document. We have no comments to offer.

If there are any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,

Gordon Matsuoaka
GORDON MATSUOKA
State Public Works Engineer

RY:jk

ds

APR 1982
OFFICE OF THE ATTORNEY GENERAL



REF: OCEA:SKK
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 171
HONOLULU HAWAII 96813

OCT 9 1992

FILE NO.: 93-153
DOC. NO.: 1542

Mr. Robin Foster
Senior Planner
Lacayo Planning, Inc.
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Dear Mr. Foster:

The draft environmental assessment for the Honolulu Police Department Communications Facilities Upgrade has been reviewed by our Departmental Divisions. They offer the following comments on the proposed project.

Division of Aquatic Resources

The improvements planned for existing sites are relatively minor, i.e., no major excavation or grading work is planned for the sites. None of the sites are near the seashore and construction is unlikely to cause any adverse effect to nearshore resources or fauna. Erosion may cause some siltation of nearby streams if rain falls at the construction sites, but should not be a problem given the lack of excavation or grading work planned. Significant adverse effects on surface or nearshore waters should not occur as a result of this project, as long as reasonable mitigation efforts are undertaken.

Division of Land Management

Certain sites are State lands. DLM would like to see the Department and the City consider antenna farm sites for all users including City and County and State/private users. This would preclude proliferation of our ridges. Please address this in the EA.

Please contact Don Ibruchi of our Office of Conservation and Environmental Affairs at 587-0381 if there are any questions on the matter.

Very truly yours,

John P. Keppeler
JOHN P. KEPPER
WILLIAM H. PATY

WILDLIFE
CITY AND COUNTY OF HONOLULU
DIVISION OF LAND AND NATURAL RESOURCES
P.O. BOX 171
HONOLULU HAWAII 96813
PLANNING
CONSERVATION
CIVIL ENGINEERING
DESIGN
ARCHITECTURE
LAND MANAGEMENT
WATER AND SOIL CONSERVATION
STATE PLANNING
STATE PARKS
STATE HISTORICAL PRESERVATION
STATE ARCHIVES
STATE LIBRARY
STATE MUSEUM
STATE OFFICE OF THE ATTORNEY GENERAL
STATE OFFICE OF THE COMPTROLLER
STATE OFFICE OF THE CLERK OF THE SUPREME COURT
STATE OFFICE OF THE CLERK OF THE DISTRICT COURTS
STATE OFFICE OF THE CLERK OF THE COUNTY COURTS
STATE OFFICE OF THE CLERK OF THE PROBATE COURTS
STATE OFFICE OF THE CLERK OF THE JUDICIAL BRANCH
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STATE OFFICE OF THE CLERK OF THE EXECUTIVE BRANCH

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
150 SOUTH KING STREET
HONOLULU HAWAII 96813



November 17, 1992

PB 92-1133

Mr. William W. Paty, Chairman
Board of Land and Natural Resources
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Paty:

Subject: Draft Environmental Assessment (EA)
for the Honolulu Police Department
Communications Facilities Upgrade

Thank you for the comments in your October 9, 1992 letter concerning the proposed project.

The proposed island wide 800 KHz trunked system will provide maximum flexibility for multiple users, operational applications and expansion capability. While the Honolulu Police Department has a large number of radios, the island wide trunked system will be capable of supporting a significantly larger number of field units. The initial capacity of the system will be sufficient to accommodate other government users who operate throughout the island. These users would purchase their own mobile, portable and control radio units, and become "subscribers" on the island wide trunked backbone system. Adding new users will not require additional remote site equipment, such as new repeaters and antennas until the new system reaches a very high threshold of new utilization.

The Building Department currently shares its communication facilities with various State and Federal agencies and plans to maintain these arrangements, as feasible. We have been in contact with the Division of Land Management and the Information and Communication Services Division and will be consulting with them during the project to facilitate expanded joint use of the facilities.

Mr. William W. Paty
Page 2
November 17, 1992

If there should be any questions, please have your staff
contact Clifford Morikawa (tel. 527-6350) or Richard Inamoto
(tel. 527-6373).

Very truly yours,

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schema Systems, Inc.

OK

JOHN WARD
COUNCILOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
885 PULUHOE STREET
HONOLULU, HAWAII 96813

SEP 18 1992

22
RE: D. JOHNSON
DIRECTOR
SUSAN BRIDGES
JOHN F. BROWN
ALAN HARRIS
JEANNE A. SCHULTZ
CALVIN TISDA
IN REPLY REFER TO

HNY-PS
2-3772

Mr. Robin Foster, AICP
Lacayo Planning, Inc.
737 Bishop Street
Suite 1250
Honolulu, Hawaii 96813

Dear Mr. Foster:

Draft Environmental Assessment (EA) for the Honolulu
Police Department Communications Facilities Upgrade

Thank you for your letter of September 1, 1992, requesting our
comments on the draft EA.

The proposed project to upgrade the existing public safety
telecommunications system will not affect our highway
facilities or programs.

Sincerely,

R. Johnson
Rex D. Johnson
Director of Transportation

OK



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
 220 SOUTH KING STREET
 FOURTH FLOOR
 HONOLULU, HAWAII 96813
 TELEPHONE: 808-534-4116

Brian J. Choy
 Director

September 2, 1992

Mr. Herbert K. Muraoka
 Director and Building Superintendent
 Building Department
 City and County of Honolulu
 650 South King Street
 Honolulu, Hawaii 96813

Dear Mr. Muraoka:

Subject: Draft Environmental Assessment for the Honolulu Police Department Communications Facilities Upgrade Project

Thank you for the opportunity to review the subject document. We have the following comment:

1. Please consult with the City and County of Honolulu, Department of Land Utilization regarding the proposed actions that are located within the Special Management Area.

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

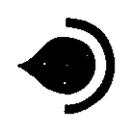
Sincerely,

Brian J. Choy
 Brian J. J. Choy
 Director

✓cc: Lacayo Planning

OK

BOARD OF WATER SUPPLY
 CITY AND COUNTY OF HONOLULU
 630 SOUTH BERETANI STREET
 HONOLULU HAWAII 96813



October 14, 1992

Mr. Robin Foster, AICP
 Lacayo Planning, Inc.
 737 Bishop Street, Suite 1550
 Honolulu, Hawaii 96813

Dear Mr. Foster:

Subject: Your Letter of September 1, 1992 Regarding the Draft Environmental Assessment for the Honolulu Police Department Communications Facilities Upgrade, TMK: 1-1-63-10-4-2-17-16; 8-6-01: 48

Thank you for the opportunity to review and comment on the proposed Honolulu Police Department Communications Facilities Upgrade project. We have the following comments regarding project segments affecting existing Board of Water Supply (BWS) facilities:

1. In order to eliminate confusion, designations of facilities should be consistent with BWS descriptions (i.e. Aliamau 385 Reservoir rather than Salt Lake Reservoir, Kapaa 272 Reservoir rather than Kapaa Reservoir and the Waianae 242 Reservoir at the Puu Pahehehe site).
2. The City Building Department shall be responsible for the management of any hazardous materials or waste in connection with the proposed facilities.
3. The City Building Department shall enter into a joint use agreement with the BWS for all communication facilities within BWS property.
4. The construction drawings should be submitted for our review and approval.

If you have any questions, please contact Bert Kuiuoka at 527-5235.

Very truly yours,

Kazu Hayashida
 KAZU HAYASHIDA
 Manager and Chief Engineer

OK

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

640 SOUTH KING STREET
HONOLULU, HAWAII 96813



HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

ET 09/92-2689

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 92-1135

FRANK F. FASI
DIRECTOR

November 17, 1992

MEMO TO: KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)
FOR THE HONOLULU POLICE DEPARTMENT
COMMUNICATIONS FACILITIES UPGRADE

Thank you for the comments in your October 14, 1992 letter concerning the proposed project. The Building Department will comply with all four items specified in the letter.

If there should be any questions, please have your staff contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schema Systems, Inc.

October 5, 1992

Mr. Robin Foster, Senior Planner
Lacayo Planning, Inc.
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Dear Mr. Foster:

Draft Environmental Assessment (DEA) for the
Honolulu Police Department (HPO)
Communications Facilities Upgrade

We have reviewed the subject DEA for the Honolulu Police Department Communications Facilities Upgrade submitted to us on September 1, 1992 and have the following comments:

- The Final Environmental Assessment should include photo overlays to illustrate visual impacts of proposed improvements at Diamond Head, Koko Head, Aliamanu Crater, and the Waianae Police Station, and describe proposed actions to mitigate any adverse visual impacts.

- In view of recent Hurricane Iniki, the Building Department should consider designing the proposed communications facilities to withstand hurricane forces.

Thank you for the opportunity to comment. Should you have any questions, please contact Eugene Takahashi of our staff at 527-6022.

Sincerely,

Benjamin B. Lee
BENJAMIN B. LEE
Chief Planning Officer

BBL:js

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
850 SOUTH KING STREET
HONOLULU, HAWAII 96813



HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 92-1140

November 17, 1992

MEMO TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)
FOR THE HONOLULU POLICE DEPARTMENT
COMMUNICATIONS FACILITIES UPGRADE.

Thank you for the comments in your October 5, 1992 letter concerning the proposed project.

Our consultant will be preparing photographic exhibits to illustrate visual impacts for those sites subject to a State Conservation District Use Application and/or City and County Special Management Area Use Permit and where there are significant public views and a substantial exterior improvement is proposed. Those sites include:

4. Koko Head
5. Waimanalo Ridge
- 6A. Kapaa Reservoir
10. Kawela
11. Hokuleia
13. Puu Manawahua
- 13C. Keau Beach Park
14. Salt Lake Reservoir

If you wish, we will be happy to provide your department with copies of the photograph exhibits for the Koko Head and Salt Lake sites.

With respect to the Diamond Head site, following consultation with the Diamond Head Neighborhood Board and the Department of Land and Natural Resources, the Building Department has decided to explore alternative sites in the Diamond Head - Kaimuki area. We will be submitting a supplemental EA for the Diamond Head - Kaimuki facility once the site analysis and design studies have been completed. All required land use permit applications and visual analysis will be prepared in conjunction with the final site selection.

Benjamin B. Lee
Page 2
November 17, 1992

Regarding the Waianae facility, the Building Department has decided not to extend the existing tower. Changes proposed for the facility will consist of minor antenna alterations and interior improvements, and no significant visual or other environmental impacts are anticipated.

The recent Hurricane Iniki has prompted the Building Department to investigate upgrading planned new facilities to withstand Category 5-hurricane conditions. Possible design changes to the towers include increasing the size of steel structural members, increasing the depth of concrete tower footings, and slightly increasing the width of lower tower segments. These modifications will not substantially change the appearances of the towers.

If there should be any questions, please have your staff contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schena Systems, Inc.

OK?

CITY AND COUNTY OF HONOLULU

DEPARTMENT OF LAND UTILIZATION
100 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK FARR
DIRECTOR

October 9, 1992

Mr. Robin Foster, AICP
Lacayo Planning, Inc.
737 Bishop Street
Suite 1550
Honolulu, Hawaii 96813

Draft Environmental Assessment (DEA) For The
Honolulu Police Department
Communications Facilities Upgrade
Various Tax Map Keys (TMK)

We have reviewed the DEA for the above projects and will require a major Special Management Area Use Permit (SMP) for the following facilities:

1. Diamond Head Communications Facility, TMK: 3-1-42: 14
Removal of the existing wood pole antennas and installation of two 30-foot-tall tower segments bridged by a horizontal segment, and interior alterations. Cost: \$400,000.
2. Koko Head Communications Facility, TMK: 3-9-12: 4
Replacement of four pole antennas with a new 50-foot-tall tower and attachment of one microwave dish and nine vertical antennas to the new tower and construction of a five-foot-wide perimeter concrete walkway. Cost: \$400,000.
3. Kapaa Reservoir Communications Facility, TMK: 4-2-17: 16
Construction of a new 360-square foot concrete masonry unit (CMU) equipment room, replacement of the existing 30-foot tall tower with a new 50-foot tall tower and attachment of four vertical antennas to the new tower, installation of a new emergency generator and fuel tank, and a new 1,250-square-foot paved area. Cost: \$575,000.

Mr. Robin Foster
Page 2

DONALD A. CLEGG
DIRECTOR
LORETTA K. COLE
DEPUTY DIRECTOR
92-03051(DT)

4. Keaau Beach Park Communications Facility, TMK: 8-3-1: 1

Construction of a new CMU 80-square-foot equipment building and installation of a 25-foot-tall pole with two vertical antennas attached to it. Cost: \$575,000.

Proposals for the following facilities qualify for a minor SMP:

1. Kaaawa Fire Station Communications Facility, 5-1-11: 51. THK: 5-9-5: 70.
2. Sunset Beach Neighborhood Park Communications Facility, Sand Island Sewerage Treatment Plant Communications Facility, TMK: 1-5-41: 5.

The facilities listed below are in the Diamond Head, Hawaii Capital, and Waikiki Special Districts, respectively, and require approval from our Design Division:

1. Diamond Head Communications Facility.
2. Honolulu Municipal Building Communications Facility, TMK: 2-1-33: 10.
3. Waikiki Communications Facilities, THKs: 2-6-12: 47, 2-6-19: 21, and 2-6-25: 24.

Thank you for the opportunity to comment. If you have any questions concerning the SMP, please call Dana Teramoto of our staff at 523-4648. You may call Louis Fulton of our staff at 527-5389 regarding the Special Districts.

Very truly yours,
Donald Clegg
DONALD A. CLEGG
Director of Land Utilization

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BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
830 SOUTH KING STREET
HONOLULU, HAWAII 96813



HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 92-1136

November 17, 1992

MEMO TO: DONALD A. CLEGG, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)
FOR THE HONOLULU POLICE DEPARTMENT
COMMUNICATIONS FACILITIES UPGRADE

Thank you for the comments in your October 9, 1992 letter concerning the proposed project. The Building Department will be submitting permit applications for the sites specified in your letter.

If there should be any questions, please have your staff contact Clifford Horikawa (tel. 527-6350) or Richard Inamoto (tel. 527-6373).

(Signature)
HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schema Systems, Inc.

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
830 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
DIRECTOR

October 8, 1992

Mr. Robin Foster, AICP
Lacey Planning, Inc.
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Dear Mr. Foster:

Subject: Draft Environmental Assessment (DEA) for the
Honolulu Police Department Communications
Facilities Upgrade

Thank you for providing us with the opportunity to comment on your DEA for the Honolulu Police Department communications facilities upgrade.

We note that you have already discussed the possibility of siting your facilities at Keanu Beach Park with this department and received our approval for the project.

We have also very recently concluded our discussion with your agent about acceptable designs for the Sunset Beach Neighborhood Park. The site plan included at page 123 of your DEA does not accurately reflect the final design that we agreed upon. That final design calls for the extension of the entire comfort station and the placement of the Radio Equipment Secure Room within the interior of the comfort station.

Your DEA also discussed improvements to the existing Police communications facility at Koko Head. Although we have not yet formally discussed this project with you, we do not anticipate any problems.

Mr. Robin Foster
Page 2
October 8, 1992

We have reviewed your project and found that the proposed communications facilities modifications at our three parks will not have any significant environmental impacts upon our recreational facilities or activities.

We have no other comments to make at this time.

Sincerely,



For WALTER H. OZAWA, Director

WHO:ei

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
550 KALANOAUE STREET
HONOLULU, HAWAII 96813



FORM OF FAX
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HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 92-1138

November 17, 1992

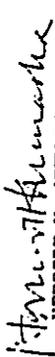
MEMO TO: WALTER OZAWA, DIRECTOR
DEPARTMENT OF PARKS AND RECREATION

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)
FOR THE HONOLULU POLICE DEPARTMENT
COMMUNICATIONS FACILITIES UPGRADE

Thank you for the comments in your October 8, 1992 letter concerning the proposed project. The Final EA will reflect the final design that was agreed upon for the Sunset Beach comfort station.

If there should be any questions, please have your staff contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).


HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schema Systems, Inc.

OKb

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1433 SOUTH BERTANINI STREET, ROOM 303
HONOLULU, HAWAII 96813



FRANK P. FISH
MAYOR

LIONEL E. CAMARA
FIRE CHIEF
DONALD M. CHANG
DEPUTY FIRE CHIEF

October 5, 1992

Mr. Robin Foster, AICP
Senior Planner
Lacayo Planning Inc.
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Dear Mr. Foster:

**SUBJECT: Draft Environmental Assessment (EA) for the
Honolulu Police Department Communications
Facilities Upgrade**

We have reviewed the application for the above subject request and
have no objections to the proposal.

Should you have any questions, please contact Assistant Chief
Attilio Leonard of our Administrative Services Bureau at 943-3838.

Sincerely,

Lionel E. Camara
LIONEL E. CAMARA
Fire Chief

AKL:ny

OK's

CIVIL DEFENSE AGENCY
CITY AND COUNTY OF HONOLULU
610 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 533-4131



Malcolm A. Sussel
Administrator

October 26, 1992

Mr. Robin Foster, AICP
Senior Planner
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Dear Mr. Foster:

We have reviewed the Draft Environmental Assessment (EA) for the
Honolulu Police Department Communications Upgrade Project. You
and your associates are to be complimented for the hard work
which has obviously gone into this effort.

In reviewing the document, we did not come across any reference
to "hardening" of the microwave system, as it would need to
survive, if/when subjected to hurricane-force winds. Our recent
experience with Hurricane Iniki reminds us once again that future
projects, as well as existing ones, must consider the forces of
nature and the environment.

In addition, we also note that two of the existing sites and one
proposed site are located in the tsunami inundation zone; Kaaava,
Keahu Beach Park and Waianae, respectively. The Keahu site would
also be affected by hurricane storm surge (flooding). Past
experience also shows us that the Waianae site experiences flash
flooding on occasion.

We therefore recommend that the communications facilities
upgrade project consider these factors in developing the final
environmental assessment proposals.

Thank you for the opportunity to review and comment on the Draft
EA. We look forward to future consultations in areas of mutual
concern.

Sincerely,

Malcolm A. Sussel

Malcolm A. Sussel
Administrator

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**BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU**
HONOLULU MUNICIPAL BUILDING
430 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

PB 92-1137

November 17, 1992

MEMO TO: MALCOLM A. SUSSEL, ADMINISTRATOR
OAHU CIVIL DEFENSE AGENCY

VIA: GEORGE L. KEKUNA, EXECUTIVE ASSISTANT

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)
FOR THE HONOLULU POLICE DEPARTMENT
COMMUNICATIONS FACILITIES UPGRADE

Thank you for the comments in your October 14, 1992 letter concerning the proposed project.

The recent Hurricane Iniki has prompted the Building Department to investigate upgrading planned new facilities to withstand category 5-hurricane conditions. Possible design changes to the towers include increasing the size of steel structural members, increasing the depth of concrete tower footings, and slightly increasing the width of lower tower segments. These modifications will not substantially change the appearances of the towers.

If there should be any questions, please have your staff contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schema Systems, Inc.

**POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU**
431 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE 808 531-3111



FRANK F. FASI
MAYOR

OUR REFERENCE OK-CA

September 18, 1992

Mr. Robin Foster, AICP
Senior Planner
Lacayo Planning, Inc.
737 Bishop Street, Suite 1150
Honolulu, Hawaii 96813

Dear Mr. Foster:

In response to your letter of September 1, 1992, we have reviewed the Draft Environmental Assessment (EA) for the Honolulu Police Department's Communications Facilities Upgrade.

In reference to the Diamond Head site, you have proposed that we temporarily use the vacant room for our equipment while improvements are being made. We were informed by Ms. Judy Binns of the Hawaii National Guard on September 15, 1992, that this space will not be available. The architectural firm, Leach Hounce, should be advised that space is not available at Diamond Head.

Should you have any questions or require additional information, please call Mr. Osama Kobayashi, Radio Engineer, at 943-3375.

MICHAEL S. IMAKAWA
Chief of Police

Chester E. Hughes
BY
CHESTER E. HUGHES
Assistant Chief

HONOLULU POLICE DEPARTMENT 195 COMMUNICATIONS FACILITIES UPGRADE

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
 HONOLULU MUNICIPAL BUILDING
 500 BERKELEY STREET
 HONOLULU HAWAII 96813



HERBERT K. MURAOKA
 DIRECTOR AND BUILDING SUPERINTENDENT

PB 92-1139

November 17, 1992

MEMO TO: MICHAEL NAKAMURA, POLICE CHIEF
 HONOLULU POLICE DEPARTMENT

FROM: HERBERT K. MURAOKA
 DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA)
 FOR THE HONOLULU POLICE DEPARTMENT
COMMUNICATIONS FACILITIES UPGRADE

Thank you for the comments in your September 18, 1992 letter concerning the Diamond Head Communications Facility.

Following consultation with the Diamond Head Neighborhood Board and the Department of Land and Natural Resources, the Building Department has decided to explore alternative sites in the Diamond Head - Kaimuki area. We will be submitting a supplemental EA for the replacement facility once the site analysis and design studies have been completed.

If there should be any questions, please have your staff contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).

Herbert K. Muraoka
 HERBERT K. MURAOKA
 Director and Building Superintendent *OK*

cc: Schema Systems, Inc.



THE OUTDOOR CIRCLE

1110 University Ave., #205 - Honolulu, HI 96826
 Phone: 808-943-9658 FAX: 808-953-7262

October 21, 1992

Established 1912
 A Non-Profit Organization

BRANCHES

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Kauai

Maui

West Hawaii

East Hawaii

South Hawaii

North Hawaii

Big Island

Midway

French Frigate Shoals

Necker

Niihau

Kauai

Maui

West Hawaii

East Hawaii

South Hawaii

North Hawaii

Big Island

Midway

French Frigate Shoals

Robin Foster, AICP
 LACAYO Planning, Inc.
 737 Bishop Street, Suite 1550
 Honolulu, Hawaii 96813

SUBJECT: Draft Environmental Assessment (DEA) for the
 Honolulu Police Department Communications
 Facilities Upgrade - Diamond Head Crater

Dear Mr. Foster:

It has come to our attention, and, though late, we would like to be on record opposing the proposal by the Honolulu Police Department to install a 30' tall antenna structure on the southeast ridge of Diamond Head Crater.

With the enactment of Act 313/92, the Diamond Head State Monument Plan adopted by the Board of Land and Natural Resources in 1979 became "the official document setting forth the future direction of the Diamond Head State Monument."

Section 5. states:

Notwithstanding any other law, including county ordinances, to the contrary, no expansion of buildings and other structures and no construction activity shall take place within the boundaries of the Diamond Head State Monument;

We believe the proposed antenna structure within the Monument boundaries is directly contrary to Act 313/92. This most important piece of legislation culminates many years of consistent work on the part of the Circle to preserve Diamond Head - our State Monument and National Natural Landmark.

We believe an alternate site should be sought, with plans to phase out the existing facilities.

We appreciate this opportunity to express our views.

Sincerely,

Luci Pfaltzgraff

Luci Pfaltzgraff, Ch.
 Diamond Head Committee

Susan Bright Spangler

Susan Bright Spangler
 President

DIAMOND HEAD NEIGHBORHOOD BOARD 5
NEIGHBORHOOD COMMISSION
CITY HALL ROOM 400
HONOLULU, HAWAII 96813



October 15, 1992

Robin Foster, AICP
LACAYO Planning, Inc.
737 Bishop Street, Suite 1550
Honolulu, Hawaii 96813

Dear Mr. Foster:

Thank you for forwarding the "Draft Environmental Assessment (DEA) for the Honolulu Police Department Communications Facilities Upgrade" to the Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board for review and comment. We have reviewed the structure proposed for Diamond Head Crater and welcome the opportunity to submit the following comments.

According to the DEA dated August, 1992, a metal (presumably steel) antenna support structure comprised of two 30-ft.-tall tower segments bridged by a horizontal segment with an overall width of ten feet is planned to be built on the southeast ridge of Diamond Head Crater. Attached to this support structure will be nine vertical antennas, the uppermost of which will add a maximum of 13 feet for an overall height of 43 feet. The structure is planned to be anchored to two cylindrical footings, approximately four feet in diameter by 12 feet deep, which is planned to be dug into the crater ridge.

Although the "new metal structure will be painted gray to blend with the sky," this structure will be visible from Diamond Head Road, from the shoreline, from the air traffic corridor above the Crater, from the Crater floor, and from various hiking trails and view points within the Crater and along the ridge.

The DEA recognizes Diamond Head as a registered National Natural Landmark and State Monument. Effective July 1, 1992, Section 6E-32, Hawaii Revised Statutes, respecting Diamond Head State Monument, was amended by Act 313 to expand the boundaries of the Monument to include the entire crater and its interior slopes in addition to all state lands along the exterior slopes extending

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
430 SOUTH KING STREET
HONOLULU, HAWAII 96813



November 17, 1992

Ms. Luci Pfaltzgraff
Ms. Susan Bright Spangler
The Outdoor Circle
1110 University Avenue, #205
Honolulu, Hawaii 96826

Dear Ms. Pfaltzgraff and Ms. Spangler:

Subject: Draft Environmental Assessment (EA)
for the Honolulu Police Department
Communications Facilities Upgrade

Thank you for the comments in your letter dated October 21, 1992, concerning the proposal to upgrade the existing Diamond Head communications site. We received a similar comment from Michelle Matson, Chairperson of Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board #5.

Because your concerns are so similar, I am forwarding to you a copy of our response to Ms. Matson. While this is primarily an issue which must be worked out with the neighborhood boards in the Kaimuki-Diamond Head area, we would welcome any contribution you may have towards identifying the most appropriate site.

If there should be any questions, please contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).

Very truly yours,

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

Attach.
cc: Schema Systems, Inc. w/ attach.

FORM 7 (REV. 11/80)

HONOLULU POLICE DEPARTMENT 197 COMMUNICATIONS FACILITIES UPGRADE

OK

Robin Foster, AICP
October 15, 1992
Page 2

to Diamond Head Road. The official document directing the future plan of the Monument is the Diamond Head State Monument Plan of 1979. The Plan calls for reforestation of the crater slopes and an expanded trail system. In addition, the Plan calls for phasing out of all facilities not related to park use.

Moreover, Section 5 of Act 313 specifically provides that "no expansion of buildings and other structures and no construction activity shall take place within the boundaries of Diamond Head State Monument" unless consistent with park use according to the plan.

We recognize that the proposed transmission tower is a facility required for essential public services. However, the proposed structure will considerably impact the view planes of the Monument, both within the Crater and along the ridgeline. Furthermore, the DEA does not address alternate locations for this facility. The City's abandoned reservoir behind the Kaimuki fire station on Koko Head Avenue would appear to be one such alternative location.

We are concerned that the Department of Land and Natural Resources (DLNR), State Historic Preservation Division, "did not have any objections to the proposed improvements." It is very strange that the DLNR - the agency by which the Diamond Head State Monument Plan is to be implemented, the agency that presented testimony for Act 313 at the State Legislature this year, and the agency which is named in Act 313 - has not informed you of the provisions and restrictions in the amended Monument statute. We would like to know who was contacted at the DLNR with respect to this proposal, and request that you provide us with this information.

In conclusion, we urge you to discontinue all plans for construction of the proposed transmission tower at the Diamond Head site, and we request that you consider more prudent and feasible location alternatives for this facility.

Sincerely,



Michelle Spalding Matson, Chairperson
Diamond Head/Kapahulu/St. Louis Heights
Neighborhood Board #5

cc: William W. Paty, Chairperson
Board of Land and Natural Resources

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
130 SOUTH KING STREET
HONOLULU, HAWAII 96813



RECEIVED
CITY AND COUNTY OF HONOLULU
BUILDING DEPARTMENT

PB 92-1131

November 17, 1992

Ms. Michelle Spalding Matson, Chairperson
Diamond Head/Kapahulu/St. Louis Heights
Neighborhood Board #5
c/o Waikiki/Kapahulu Library
400 Kapahulu Avenue
Honolulu, Hawaii 96815

Dear Ms. Matson:

Subject: Draft Environmental Assessment (EA)
for the Honolulu Police Department
Communications Facilities Upgrade

Thank you for the comments in your letter dated October 15, 1992, concerning the proposal to upgrade the existing Diamond Head communications site. We support the legislation and plans for the Diamond Head State Monument. At the same time, however, the City bears a fundamental responsibility to provide for public safety and to have an adequate police and emergency communications system.

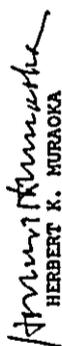
To have adequate police communications in this region, we need (1) a microwave repeater station to link the Makiki/Roundtop site and the Koko Head site, and (2) transmitting and receiving antennas to provide mobile radio communications in Palolo, Waialae Hui and other East Honolulu valleys. At this point, we are suspending our plans to improve the existing Diamond Head site and have started to investigate alternative sites, including the Puu O Kaimuki Mini Park site suggested in your letter. If an alternative site proves feasible, then we will abandon the Diamond Head site. Determining feasibility entails (1) finding a land owner that will accept the facilities, and (2) a site which has adequate communications characteristics, (3) an acceptable alternative considering the various concerns of the Kaimuki-Diamond Head community. We hope that Neighborhood Board #5 will assist in this effort.

Ms. Michelle Spalding Matsen
Page 2
November 17, 1992

The Final Environmental Assessment will reflect the decision to suspend plans to upgrade the existing Diamond Head communications facility and the new effort to identify alternative sites in the Diamond Head-Kaimuki area. A separate Environmental Assessment will be prepared for the selected Diamond Head-Kaimuki site.

If there should be any questions, please contact Clifford Morikawa (tel. 527-6350) or Richard Imamoto (tel. 527-6373).

Very truly yours,



HERBERT K. MURAOKA
Director and Building Superintendent

cc: Schema Systems, Inc.

OK!