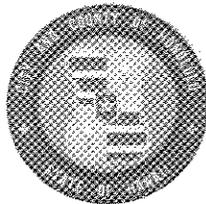


DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

GEORGE S. MORIGUCHI
DIRECTOR

LU11/77-6839 (JW)
77/EC-5

November 30, 1977

Mr. Donald Bremner, Chairman
Environmental Quality Commission
State of Hawaii
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Dear Mr. Bremner:

Revised Environmental Impact Statement for the
Koolauloa Housing Project and Sewage Treatment
Plant, Kahuku, Oahu

On behalf of the Mayor of the City and County of Honolulu, we are notifying you of our acceptance of the above as an adequate fulfillment of Chapter 343, HRS, requirements. A copy of our Acceptance Report is attached. By copy of this letter, we are also informing the proposing agencies, the Departments of Housing and Community Development and Public Works, and the Mayor of our decision.

Very truly yours,

A handwritten signature in cursive script, appearing to read "George S. Moriguchi".

GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ey
Attach.

cc: Dept. of Housing & Community Development
Dept. of Public Works

Office of Environmental Quality Control
Office of the Governor
550 Halekuanila Street
Tani Office Building, Third Floor
Honolulu, Hawaii 96813

REVISED

ENVIRONMENTAL IMPACT STATEMENT

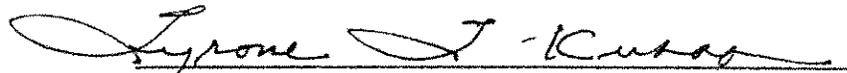
FOR THE PROPOSED

KOOLAULOA HOUSING PROJECT

AND

SEWAGE TREATMENT PLANT--KAHUKU

TAX MAP KEYS: 5-6-06: Portion of Parcel 6
5-6-02: Portion of Parcel 1



TYRONE T. KUSAO, Director
Department of Housing & Community Development
City and County of Honolulu

Approving Authority: Mayor
City & County of Honolulu

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KOOLAULOA HOUSING PROJECT

The goals and objective of the City housing program is to increase the housing inventory for the low- and moderate-income families and individuals. The Koolauloa housing project is one of the housing project in the City's housing program. The project is a planned 300-lot residential subdivision including a district park site and a sewer system located in Kahuku, Koolauloa, Oahu, Hawaii. The basic intent of the project is to relocate the families in the existing Kahuku plantation homes and to meet the low- and moderate-income housing market in the Koolauloa District.

Kahuku does not have a public water system and sewer system. The Board of Water Supply required the project to install a complete water distribution system within the project. The water system within the project will be constructed in accordance to the standards of the Board of Water Supply (BWS). The construction plans must be reviewed and approved by BWS.

The project will install a sewer system within the housing development. The project also includes the sewage treatment plant to meet the subdivision rules and regulations and the standards of the State Department of Health.

The City allocated approximately \$1.5 million of the Community Development Block Grant (CDBG) funds for acquisition and the development of the 300-lot subdivision. The City applied and obtained a \$1.6 million loan and grant from the Farmers Home Administration for the construction of a waste-water treatment and disposal facility with the necessary transmission and collection system.

The project description in the public notice of intent to file an EIS for the Kahuku Housing Project included the 300-lot residential subdivision, access road and the sewage treatment plant. Representatives from the Division of Sewers were present at the Public Hearing for the Koolauloa Housing Project to explain the details of the sewage treatment plant.

The 300-lot residential subdivision is located 600 feet mauka of Kamehameha Highway and the sewage treatment plant is

located 750 feet makai of Kamehameha Highway. The impact of the 300-lot residential subdivision and sewage treatment plant will be evaluated separately.

As the lead agency, the Department of Housing and Community Development consolidated both evaluation into a single environmental impact statement.

SUMMARY

KOOLAULOA HOUSING PROJECT AND
SEWAGE TREATMENT PLANT--KAHUKU

- () Draft Environmental Statement (x) Revised Environmental Statement

1. Name of Action

- (x) Administrative () Legislative

2. Description of Action

The Koolauloa Housing Project is one of the housing projects in the City's housing program. The Koolauloa Housing Project is a planned 300-lot residential subdivision including a sewage treatment plant and a proposed park site. The basic intent is to relocate the families in existing Kahuku plantation homes and to meet the low-income housing market in the Koolauloa District. The Kahuku Village land leases expire in 1983.

a. Housing

The City and County of Honolulu proposes to use Community Development Block Grant funds to acquire 57.3 acres of former sugar cane lands and a portion of the village land. Approximately 50 acres of the site will be subdivided for single family residential development including the access road. Seven and three-tenths acres of the site will be transferred to the Department of Parks and Recreation for development.

The City will take advantage of the provisions in Section 46-15.1, Hawaii Revised Statutes, known as Act 179 of 1974 State Legislature. The proposed project will be developed under the provisions of Section 359G-4(g) of Chapter 359G, Hawaii Revised Statutes. Section 46-15.1

permits all counties to have and exercise the same powers as those granted to Hawaii Housing Authority pursuant to Chapter 359G. Section 359G-4(g) exempts housing project from all statutes, ordinances, charter provisions, and rules and regulations of any governmental agency relating to zoning and construction standards for subdivisions, development and improvement of land and the construction and sale of homes thereon. The modifications from City standards are as follows:

- (1) Reduce lot size below 5,000 square feet.
- (2) Use of zero lot line concept where recommended.
- (3) Eliminate curbs, gutters and sidewalks on streets.
- (4) Eliminate driveway aprons.
- (5) Install overhead utilities.
- (6) Override present zoning.

The estimated sales price of these homes in fee simple will be in the \$35,000 range. This price will be possible through modifications from City standards, loans and grants from Farmers Home Administration and City and County's participation by the use of community development funds.

b. Sewage Treatment Plant

The City proposes to construct a wastewater treatment and disposal facility with the necessary transmission and collection systems. The wastewater treatment and disposal facility will be an interim action until the plan recommended in the water quality program for the North Oahu District is implemented. At that time this facility will be modified and integrated into the regional North Oahu District System.

The wastewater treatment facility is situated on approximately two acres of land located 750 feet makai of Kamehameha Highway. The proposed treatment facility

will be an activated sludge treatment plant with a first phase design capacity of 0.20 mgd. average daily flow. The treatment plant will be designed to provide for the expansion of the facility to an ultimate average daily flow of 0.80 mgd. The two seepage pits necessary for the effluent disposal until such time the water quality program for the North Oahu District is implemented, is located along the south-east boundary of the treatment plant site.

3. Project Impacts

a. Beneficial Impact

One of the primary objectives of the City's housing program is to respond to the need and increase the housing inventory of low- and moderate-income families and individuals. The estimated sales price of the homes will be approximately \$35,000.

The intent of this program is to relocate the approximately 150 of the 237 families in the existing plantation homes in Kahuku Village. The present land leases expire in 1983.

The project will include the construction of a public sewage system and drainage system. The sewage treatment plant will provide service to the 80 units in the existing Kahuku plantation village, Kahuku High and Elementary School, and the Kahuku Community Hospital. The storm water runoff to the low land below the project will be reduced by the drainage system within the project.

b. Adverse Environmental Effects

Adverse environmental effects include impact on school and recreational facilities. There will be a slight increase in the storm water runoff from the project. The runoff will be collected and discharged into the natural drainage channel, mauka of Kamehameha Highway. The percentage of the increased runoff to the drainage basin is so slight that the impact to the environment is negligible.

The discharge of the effluent from the sewage treatment plant into the seepage pits will have some impact to the environment. However, the sewage treatment plant must meet the standards of the State Department of Health and the City Department of Public Works. The final construction plans for the sewage treatment plant will be reviewed and approved by various governmental agencies, including the State Department of Health.

The project site is predominantly vacant and in agricultural use. The acreage will be taken out of agricultural land inventory.

4. Alternatives

The alternatives considered were the following:

- a. No action, leaving the site in its present vacant, agricultural and residential use.
- b. Clear the entire parcel and convert it into diversified agricultural use. This action will not make the optimum use of urban district designated lands within the parcel. Other vacant agricultural lands are readily available in the Kahuku area.
- c. The third alternative considered was to develop the project site under the planned development concept. A wide variety of dwelling units (single family, townhouses, duplexes, garden apartments) can be built. This would result in high density with greater impact on social, economic and environmental problems.

This alternative was not pursued because it did not meet the lifestyle of the Kahuku residents.

- d. The fourth alternative was a standard 300-lot subdivision with no code pre-emption. This alternative would have standard roadways, lot size conforming to zoning requirements, full underground utilities, etc. This type of subdivision is similar to other middle class suburban areas and does not reflect the lifestyle of Kahuku.

5. Agencies Consulted

a. Federal

- (1) U.S. Department of Housing and Urban Development.
- (2) Department of the Interior--Fish & Wildlife Service.

b. State

- (1) Department of Education.
- (2) Department of Health.
- (3) Department of Land and Natural Resources.
- (4) Office of Environmental Quality Control.

c. City and County of Honolulu

- (1) Department of General Planning.
- (2) Department of Land Utilization.
- (3) Department of Buildings.
- (4) Department of Transportation Services.
- (5) Department of Public Works.
- (6) Board of Water Supply.
- (7) Department of Parks and Recreation.
- (8) Police Department.
- (9) Fire Department.
- (10) City Council.

PART I--300-LOT RESIDENTIAL SUBDIVISION

I. PROJECT DESCRIPTION

A. Introduction and Purpose

This environmental impact statement covering the Koolauloa Housing Project in Kahuku, Koolauloa, Oahu, Hawaii, is submitted in compliance with the National Environmental Policy Act, Federal Register (Volume 40, Number 137, July 16, 1975), Environmental Review Procedures for HUD Community Development Block Grant Program and Chapter 343, Hawaii Revised Statutes.

Koolauloa Housing Project is being proposed to relocate the families in existing plantation homes in Kahuku and to meet the low-income housing market in the Koolauloa District. The Kahuku Village land leases expire in 1983.

The City and County of Honolulu proposes to use community development block grant funds to acquire 57.3 acres of former sugar cane lands and portion of the village land. The site will be developed into a 300-lot single family residential subdivision and a proposed park site.

The City will take advantage of the provisions of Section 46-15.1, Housing; county powers, Hawaii Revised Statutes, known as Act 179 of the 1974 State Legislature, to develop the proposed housing project. Section 46-15.1 entitled, "Housing; county powers," states:

"(a) Any law to the contrary notwithstanding, any county shall have and may exercise the same powers, subject to applicable limitations, as those granted and the Hawaii housing authority pursuant to chapter 359G, ... Such powers shall include the power, subject to applicable limitations, to:

(1) Develop and construct dwelling units, alone or in partnership with developers; ..."

The City will exercise the power pursuant to the provisions in Chapter 359G, Hawaii Housing Authority,

Hawaii Revised Statutes (Act 105 of 1970 State Legislature) to modify the City standards to reduce the cost of housing. Section 359G-4(g) states:

"(g) Except as hereinafter provided, the authority is empowered to develop, on behalf of the State or in partnership with others, housing projects which shall be exempt from all statutes, ordinances, charter provisions, and rules and regulations of any governmental agency relating to zoning and construction standards for subdivisions, development and improvement of land and the construction and sale of homes thereon; provided that:

"(1) The authority finds the project is
(i) consistent with the production of housing under this chapter, and meets minimum requirements of good design, pleasant amenities, health, safety and coordinated development, and (ii) in harmony with the general purpose and intent of this chapter.

"(2) The development of the proposed project does not contravene any safety standards or tariffs approved by the public utilities commission for public utilities.

"(3) The authority shall have first presented the plans and specifications for the project to the legislative body of the county in which the project is to be situate, and the legislative body, which shall have the right to approve or disapprove the project within forty-five days after presentment, shall have approved the project within forty-five days. On the forty sixth day after presentment, a project not disapproved shall be deemed approved by the legislative body of the county. The approval shall be based, or deemed to be based, upon a finding that the spirit of any applicable ordinance of that county in maintaining public welfare

and safety is not prejudiced by the variance of the proposed project from such ordinance.

The final plans and specifications for the project approved by the legislative body, shall constitute the zoning, building, construction and subdivision standards for that project..."

The development of these housing units will include various offsite improvements, such as a water system, a sewage system and access roadway to the project. Onsite improvements will consist of internal roadways, drainage system, overhead utility lines, street lights and construction of 300 homes. A 7.3-acre proposed park site will be transferred to the Department of Parks and Recreation to meet the requirements of Ordinance No. 4621, of the City and County of Honolulu, relating to the dedication of land for parks and playgrounds.

The projected sales price of the homes in fee simple will be approximately \$35,000. To achieve this price grants will be necessary from the Farmers Home Administration and participation by the City and County through community development funds. Permanent financing will be secured from Farmers Home Administration loans.

B. Description of Action and Objectives

I. Location, Size and Planning Information

- a. Location: Kahuku, Koolauloa, Oahu, Hawaii
- b. Tax Map Key: 5-6-06: Portion of Parcel 6
- c. Area: 57.3 acres
- d. State Land Use Map: Urban District
- e. City and County General Plan Detailed Land Use Map: Residential and Agricultural Use

- f. Zoning: R-6 Residential District and
AG-1 Restricted Agricultural District
- g. Existing Land Uses: Diversified farming,
residential and vacant uses

Exhibits 1 and 2 show the project site location in relation to the Island of Oahu and Kahuku Village.

2. Development Plan

The City and County of Honolulu proposes to acquire 57.3 acres of former sugar cane lands and a portion of the village land. A developer will be selected to clear and develop 50.0 acres of said parcel into a 300 single family housing development. The remaining 7.3 acres will be set aside for proposed park site. The Department of Parks and Recreation will relocate Adams Field adjacent to the 7.3-acre proposed park site (Exhibit 3, Proposed Subdivision, Park, and School Expansion Plan).

The project is a 300-lot subdivision. The project will be developed under the provisions of Section 359G-4(g) as empowered by Section 46-15.1, Hawaii Revised Statutes (Act 179 of 1974 State Legislature). The provisions of Section 359G-4(g) exempt the requirements from all statutes, ordinances, charter provisions, and rules and regulations of any governmental agency relating to zoning and construction standards for subdivisions, development and improvement of land and the construction and sales of homes for the development of low-income housing with some limitations.

The City standards relating to zoning and subdivision regulations will be modified. Modifications from City standards are as follows:

- a. Reduce lot size below 5,000 square feet.
- b. Use of zero lot line concept (Exhibits 4,5,6 & 7).

- c. Eliminate sidewalks, curbs and gutters.
- d. Eliminate driveway aprons.
- e. Install overhead utilities.
- f. Override present zoning.

3. Cost Estimate

All costs, inclusive of engineering, interim financing and contingency:

Land	\$ 590,000
Street Improvements	4,215,000*
Construction of Homes	8,065,000**
Administration	<u>1,255,000</u>
Total Project Cost	<u><u>\$14,125,000</u></u>

*\$1.555 million CDBG funds allocated.

**Finance with Farmers Home Administration Loan.

4. Project Objective

One of the primary objectives of the City's housing program is to respond to the housing need of the low- and moderate-income families and individuals. The intent of the project is to provide adequate low-income housing and to relocate the families in the existing plantation homes. The Kahuku Village land leases expire in 1983. The proposed subdivision will also be the start of a new Kahuku community. Koolauloa housing is one of the projects in the City's housing program and is included in the Capital Improvement Program. The proposed project will make available adequate housing facilities at moderate prices and one which would be in character with the lifestyle of the people in Kahuku.

5. Time Scheduling and Phasing

The preliminary time scheduling and phasing for the 300-lot residential subdivision, Kahuku Sewer Improvement Project and the Kahuku Water System are shown on Exhibit 11, "Preliminary Time Scheduling for the Koolauloa Housing Project."

6. Marketing and Restriction

The homes will be made available to eligible purchasers on a first come, first serve basis.

The announcement of the opening date for the acceptance of applications will be published in the local newspapers and will also conform to Federal Fair Housing Marketing Guidelines.

Regulatory measures to curtail speculation will be incorporated into buyers' purchase agreements by way of covenants running with the land granting the City buy back rights (right of first refusal).

7. History of Kahuku Area

Prior to the acquisition of land in Kahuku by James Campbell, the area was primarily in cattle ranching. In the late 1880's, Campbell purchased the Kahuku lands. He developed a water supply and distribution system and then leased the land to Kahuku Sugar Company for sugar cane cultivation. The sugar plantation was in operation for 80 years to 1971 when Kahuku Sugar Company ceased its sugar cane production.

The residents of Kahuku Village formed the Kahuku Housing Corporation and leased the existing village including the plantation water system. The lease expires in 1983. The Kahuku Housing Corporation reported that the number of units in the village decreased to 240 units (three vacant) from 254 units in 1970.

Campbell Estate envisions the development of its Kahuku lands into an agricultural community.

II. ENVIRONMENTAL SETTING WITHOUT THE PROJECT

A. Land Features

1. Existing Use and Topography

The project site for the housing development is primarily vacant, abandoned sugar cane lands. Approximately 20 acres are in corn, watermelon, and banana cultivation. The parcel is rectangular in shape, approximately 1,000 ft. x 2,600 ft. There is a wide and shallow depression running in the east-west direction between two coral outcrops. The elevation ranges from 20 ft. to 115 ft. above mean sea level. The slope is gentle to moderate.

2. Soil Classification

There are several soil classifications in the project site: (1) 14.7 acres of Kawaihapai clay loam, 0 to 2 percent (KIA), (2) 18.4 acres of Kaena stoney clay, 12 to 20 percent slope (KaeD), and (3) 12.8 acres of Lahaina silty clay, 3 to 7 percent slope (LaB) and 7 to 15 percent slope (LaC). Among the three types of soil, Kaena stony clay, 12 to 20 percent slope, shows poor qualities for foundations for low buildings and road construction. This soil has high shrink-swell potential, low sheer strength and poor seepage and drainage.

3. Access

Access to the proposed housing site are over former plantation roads improved with crushed coral base or some with macadam pavement. An adequate roadway must be constructed from Kamehameha Highway, the main thoroughfare through Kahuku Village.

B. Utilities

1. Drainage System

No drainage system exists in the project site. Urbanization of the site will result in greater storm water runoff.

2. Water System

Kahuku Town is served by a private water system. This system consists of three wells and a 0.25 MG reservoir. Kahuku Plantation Company formerly owned and operated the water system. Since 1971, the Kahuku Housing Corporation has been operating and maintaining the system. The existing wells and transmission lines are inadequate to serve the Kahuku Village and the proposed development.

3. Sewer System

Public sewer system is not available in Kahuku. Sewage disposal in this area is mainly by cesspools which apparently function satisfactorily. The proposed project will require a sewage treatment plant. The City and County of Honolulu proposes to build a secondary treatment plant to handle the sewage from the 300-unit subdivision and existing Kahuku Village.

4. Electrical and Telephone Services

Electrical and telephone services are available from the Hawaiian Electric Company and Hawaiian Telephone Company, respectively. Overhead facilities are being proposed, primarily as a cost cutting measure.

5. Bus System

Two City bus routes service Kahuku area. One route is through Wahiawa and the other is via Kaneohe. Both routes originate at Ala Moana Shopping Center.

C. Public Facilities, Services, Air and Noise Quality, Etc.

Public facilities, such as schools and public recreational areas are inadequate.

1. School

Kahuku High and Elementary School is located within walking distance from this project. The enrollment is over 1,400 students from kindergarten to Grade 12 (K-12). The present facility is overcrowded.

2. Recreation

Kahuku has two public recreational facilities makai of Kamehameha Highway--Kahuku Golf Course and Adams Field (baseball and softball diamond). Adams Field is not properly equipped and is poorly located in relation to the proposed project site. Both areas are on yearly leased Campbell Estate lands. Playground facilities at the school grounds are available after school hours.

3. Public Buildings

Kahuku has two public buildings, the post office and a fire station with one pumper equipment. The closest police station is located in Kaneohe.

4. Solid Waste Collection and Disposal Services

City and County Department of Public Works Refuse Division provides twice a week collection and disposal services in Kahuku.

5. Air and Noise Quality

There are no noise or nuisances due to poor air and noise quality.

D. Biological

Originally the project site was in sugar cane cultivation over several decades. The original vegetation has been either removed or replaced by exotic weeds, grasses and shrubs.

1. Flora

Plant life within the project site includes a mixture of weeds, grasses, shrubs, and sugar cane growing wild. A section of the project site is in water-melon, corn and banana plantings. Several home sites have cultivated plants such as flowers, vegetables, fruit trees, ornamental plants, etc. The predominant vegetation on the site is Koa Haole.

2. Fauna

The area likely harbors variety of mammals normally found on the island. These include mongooses, rats, house mice, feral cats and feral pigs.

3. Avifauna

Birdlife in the project site was obtained from Atlas of Hawaii and from site observations. Avifauna likely to be found in the project area are:

Cardinal	Mynah
Barred Dove	Golden Plover
Spotted Dove	Pueo (owl)
Elepaio	Rice Bird
I'iwi	House Sparrow
Mockingbird	White Eye (Mejiro)

E. Social and Economic Setting

The dwelling units are being developed for a definite target group--the present residents of Kahuku Village whose leases expire in 1983. These households are in the low- and moderate-income range, so the cost of each unit is very critical. The estimated cost per unit is \$35,000

Socially, there is a strong sense of community unity. The people in Kahuku Village have recognized that they have common needs and need each other to achieve their housing needs and maintain their lifestyle.

F. Historical and Archaeological Sites

Historical and archaeological sites of significance as well as buildings of historic or architectural significance are nonexistent.

III. RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS,
POLICIES, AND CONTROLS FOR THE AFFECTED AREA

The entire project site is designated as Urban District in the State Land Use Map. The City and County General Plan Detailed Land Use Map shows the parcel for residential and agricultural uses. Subject property is zoned R-6 Residential and AG-1 Restricted Agricultural Districts (Exhibit 8).

The proposed housing project is not in conflict with the State Land Use Map (Exhibit 10). However, there is a conflict with the City's General Plan Detailed Land Use Map (Exhibit 9). Less than 10 percent of the project site is designated and zoned for residential use and the remaining area is designated and zoned for agricultural use. The proposed development is consistent with the Oahu General Plan and the Campbell Estate master plan. The Campbell Estate master plan includes the necessary areas for school expansion, community park and civic center (Exhibit 3). The proposed development will also be the extension of the existing urban area.

The irreversible and irretrievable commitment of resources in relation to taking out farm land from cultivation is very small. There are huge acreage of vacant and available agricultural lands.

IV. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

A. Existing Land Use

Until 1971, the land was used for growing sugar cane. Today, the project site is predominantly vacant. Approximately 20 percent of the area are in watermelon, corn and banana cultivation.

The proposed housing project will change the character of the landscape. The impact is minimal since the development is adjacent to Kahuku Village, Kahuku Hospital and Kahuku High and Elementary School. There will be no adverse effects on existing land uses by converting the land into urban use.

The irreversible and irretrievable commitments of resources in relation to taking out agricultural lands are discussed in other section of this report.

B. Topography

The existing vegetation and uneven topography will require considerable clearing, grubbing and grading activities. Some adverse effects to the environment are expected during these operations. However, these effects will be short-term impact.

C. Air and Noise Quality

Dust nuisance will be created during grading and construction operations. During the construction phase, the earth moving equipment trucks and internal combustion engines will emit gaseous fumes. Even with the use of noise control measures, it is expected there will be significant noise from the construction site during working hours. All of the impacts will be temporary and all efforts will be made to minimize such impacts.

No severe air pollution problem is expected from the traffic generated within the project (Appendix A).

D. Public Utilities, Facilities and Services

1. Sewer System

Kahuku does not have any public sanitary sewage disposal system. The project includes the construction of a secondary sewage by the Department of Public Works to handle all the sewage from the proposed housing development and the existing Kahuku Village. The environmental impact of the sewage treatment plant is discussed in Part II of this report.

2. Water Source and System

The present water system and source (wells) for the Kahuku area are inadequate. The existing water supply is provided by three existing wells and a 0.25 MG reservoir. This system presently serves Kahuku Town, the golf course, school and hospital. These wells were formally owned and operated by Kahuku Plantation Company, with the bulk of the water being used for irrigation of sugar cane. This existing system and quality of the water have been determined to be inadequate by BWS standards. Consequently, a completely new water system will be constructed according to the standards of the Board of Water Supply.

This system will include two new wells and a 0.5 MG reservoir. In addition to the proposed project, this system will also provide service to Kahuku Town, the golf course, school and hospital. The average daily demand from the proposed project is 150,000 gallons per day.

3. Drainage System

Urbanization of the project site will result in greater storm runoff due to decreased infiltration. The storm runoff for the project will be approximately 260 cubic feet per second. An overall drainage system is based on swales and a system of collector drain lines which will carry the storm water to existing drainage channels.

4. Highway and Access

The main highway to Kahuku Village is Kamehameha Highway, a 50-foot right-of-way with two traffic lanes. The traffic generated within the proposed housing project will have minor impact on the traffic flow of Kamehameha Highway (see Appendix A).

Access to the site are over narrow and unimproved roads. These roads are inadequate to serve the housing project. A 56-foot roadway must be constructed to provide adequate access to the proposed subdivision.

5. Bus System

The two bus routes serving the Kahuku area are adequate. Increase in population from the proposed development may increase bus ridership for these routes.

6. Solid Waste Collection and Disposal

The project will generate an increase in solid waste. The amount of solid waste produced from the project is approximately 2.8 tons per day. The City and County Department of Public Works Refuse Division provides twice a week collection and disposal services. No adverse impact on refuse collection services is expected.

7. Police and Fire Protection

Police and fire protection services are adequate. The Kahuku area is patrolled regularly by the Kaneohe Police Station motor patrol. The Kahuku Fire Station is within one-fourth mile from the project area.

E. Social Impact

1. Population

The population which will be generated by this project is a function of the number and size of units and the number of persons per unit. The development will provide 300 decent, safe and sanitary housing units for low- and moderate-income families and individuals. Approximately 150 families of the existing village will be relocated to the project (survey is being conducted). The remaining 150 units will be available to families in the low- and moderate-income level.

Kahuku Village is located in Census Tract No. 101. The 1970 U.S. Census reported that there were 3.58 persons per household in the census tract. The projected population in this project based on 3.58 persons per unit is 1,074 persons. The estimated population in Kahuku Village is 833. The 150 new families will increase the population by 537 persons or an increase of 64 percent. The projected population for Kahuku Village is 1,370 persons. The increase will have some adverse impact on existing school and recreational facilities.

2. Income

In 1970, the median household income for Census Tract 101 (Waimea Bay to Malaekahana) was \$8,130 as compared to the Oahu median income of \$12,035 or 32 percent lower. The low median income indicates the need for the lowest possible housing cost.

Lower income family is defined as "a family whose income does not exceed 80 percent of the median income of the area" as determined by HUD with adjustments for smaller or larger families, except that HUD may establish income limits higher or lower than 80 percent of the basis of its findings that such variations are necessary because of

the prevailing levels of construction costs, unusually high or low incomes, or other factors.*

The 80 percent of Oahu median income of \$12,035 are \$9,628 which show that the Kahuku area median income is lower by approximately \$1,500.

3. Low- and Moderate-Income Housing

The goal is to provide adequate housing for the low- and moderate-income groups at the lowest possible price. Oahu's housing shortage for this group has been documented in the report, "Housing in Hawaii," prepared by Marshall, Kaplan, Gans, Kahn and Yamamoto for the Department of Planning and Economic Development in March 1971. Due to the low median income, the deteriorating and sub-standard condition of the dwellings and the expiration of the land leases in 1983, the need for low cost housing is great in the Kahuku area.

The project will provide 300 new homes partly as replacement of the existing dilapidated plantation homes. Every effort is being made to provide housing which would be in character with the life-style of the people in Kahuku.

The beneficial impact is that it will provide dwelling units at prices which low- and moderate-income families can afford. It does not disrupt the existing Kahuku community.

4. Public School

Department of Education commented that the proposed housing will add to already "tight" classroom situation. Department of Education projected the school enrollment in this project will be 60 students in the K-6 grades and 30 students in the 7-12 grades.

*Source: Federal Register, Vol. 40, No. 73, Part II
Section 883.202, Page 16939 (April 15, 1975)

The Department of Education anticipates that continuing enrollment growth in the Kahuku area may require conversion of Kahuku High-Elementary from grades K-12 to grades 7-12 only. Grades K-6 would be relocated to a new site in the vicinity of Kahuku Town. A firm timetable has not been established; however, growth may dictate a K-6 relocation within six to ten years.

New school sites cannot be developed until the Department of Accounting and General Services has conducted a detailed site selection study. These studies normally analyze at least three alternative sites before submitting a recommendation to the Governor. DOE has not yet requested a site selection study for a new elementary school in the Kahuku area.

5. Recreational Facilities

Two public recreational areas, Kahuku Golf Course and Adams Field, are located close to the existing plantation homes. The proposed project will be located more than a mile from these facilities. The increase in population will have an adverse impact on Adams Field. However, a greater impact is that the children will have to walk over a mile and cross Kamehameha Highway, a major thoroughfare, to use these facilities.

6. Displacement of Truck Farms

Only one truck farm is located within the project site. Campbell Estate provided another suitable area for farming in the vicinity. The farmer will relocate the cultivated area after he harvest the present crop.

F. Economic Impact

The economic impact of this project is difficult to quantify. In 1971, when Kahuku Plantation ceased its

operation, the employment picture looked very bleak. The situation looked better when Kuilima Resort complex opened in 1972. The opening of Kahuku Sugar Mill Shopping Center in March 1976 made more jobs available.

The slow but steady growth of employment opportunities created concerns in the community over the lack of adequate replacement housing of existing substandard plantation homes.

1. Construction

The proposed housing project will generate jobs for construction labor force and people associated with the sale and distribution of construction materials. It will also generate revenue to the government through taxation of wages and sales of materials used.

2. Real Property Tax

A more permanent impact will be the increase in revenue to the City government from increase in real property tax.

3. Income

The projected population growth from the project will increase the disposable income in the area.

V. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The development of the site into a housing project would be an irretrievable commitment to a low density urban landscape of an area which is predominantly vacant and in agricultural use. There will be adverse short- and long-term environmental effects.

A. Short-Term Effects

During construction, there will be adverse environmental effects which cannot be avoided. However, these will be short-term effects.

1. Noise, Dust and Fumes

Nuisances from noise, dust and fumes normally attendant during construction operations will be generated.

2. Traffic

During construction, there may be temporary obstruction which will result in rerouting of vehicular and pedestrian traffic.

3. Displacement and Relocations

As the construction proceeds, the dislocation and relocation of the residents and farmers will have a disruptive effects on some families and farmers.

B. Long-Term Effects

1. Flora

Clearing, grubbing and grading will remove all of the existing florals on the site. It is fortunate that there are no rare or endangered native plants in this area.

2. Fauna and Avifauna

Endangered or rare native mammals and birds are nonexistent. The effect on the removal of plants and animals found on this site to the environment would be minimal. Areas with similar vegetation are available for nesting nearby.

3. Surface Runoff and Drainage System

Whenever any urban development occurs, there is usually an increase in surface runoff due to decreased infiltration rates. Urbanization increases the areas of impervious surfaces such as roads, driveways, roof tops, etc.

A drainage system on the site will carry storm water from the site to a natural channel and eventually to a swampy area on the makai side of Kamehameha Highway which will serve as a ponding area.

4. Sewer System

Since Kahuku does not have any sanitary sewage disposal system, the City proposes to build a complete sewage treatment plant and transmission lines. This facility will serve the proposed housing project and the present Kahuku Village. Impact of this facility is discussed in another section of this report (Appendix B).

5. Water System

The existing private water source (wells) and lines are old and inadequate. The water distribution system within the development will meet standards of Board of Water Supply. Construction plans for the subdivision will be submitted to Board of Water Supply for review and approval.

6. Impact from Population Increase

It is estimated that the 150 new families in the proposed housing project will increase the

population in the Kahuku area by about 537 persons. Existing school and recreational facilities will be impacted adversely.

a. School

Department of Education commented that the proposed housing project will further add to the already tight classroom situation.

The Department of Education anticipates that continuing enrollment growth in the Kahuku area may require conversion of Kahuku High-Elementary from grades K-12 to grades 7-12 only. Grades K-6 would be relocated to a new site in the vicinity of Kahuku Town. A firm timetable has not been established; however, growth may dictate a K-6 relocation within six to ten years.

b. Recreational Facilities

The existing public recreational facilities are inadequate and too far away from the proposed housing development. The location also requires the crossing of a major highway.

VI. MITIGATION MEASURES PROPOSED TO MINIMIZE IMPACT

A. Noise, Dust and Fumes

There will be noise, dust and fume pollution during construction. These nuisances will be controlled and temporary in nature. The grading work will conform to Chapter 23, Revised Ordinances of Honolulu, 1969, as amended. Dust nuisance will be controlled by periodic sprinkling of water. There will be some unavoidable gas odor and fumes from construction equipment; however, no severe air pollution problem is expected. Even with the use of noise control devices, it is expected that there will be significant noise from the construction site during working hours.

B. Traffic

In order to alleviate the inconveniences which may require rerouting of vehicles and pedestrians during the construction of the main access to the proposed subdivision, control of traffic shall conform to the "Rules and Regulations Governing the Use of Traffic Control Devices at Work Sites in or Adjacent to Public Streets and Highways," as adopted by the Highway Safety Coordinator.

C. Displacement and Relocation

A relocation plan will be prepared so that displacement and relocation will be orderly with minimum disruptive effect on families and farmers.

D. Recreational Facilities

The project will set aside 7.3 acres of land for recreational purposes (see Exhibit 3). Department of Parks and Recreation will negotiate with Campbell Estate to relocate Adams Field adjacent to the proposed park site (see Exhibit 3).

The Department of Parks and Recreation will consolidate the relocated Adams Field, the proposed park site and other lands to develop a district park.

General Plan Detailed Land Use Map (Kahuku section) designates an 18-hole golf course (present course is nine holes) and several beach parks are proposed in the City's General Plan. The General Plan adequately provides for future recreational need in the Kahuku area.

E. School Facilities

Kahuku High and Elementary School is the only school serving the Kahuku area. Department of Education (DOE) by letter dated January 23, 1976 (included in Appendix) commented that "Kahuku High-Elementary is using all available capacity including nine portable classrooms. The proposed housing project will add to an already 'tight' classroom situation." We requested Campbell Estate to give favorable consideration in designating an elementary school site in the overall development for Kahuku. The minimum requirement would be approximately six acres or four acres if the acreage is situated adjacent to a future park.

VII. ALTERNATIVE TO THE PROPOSED ACTION

Other possible alternatives for the development of the subject parcel which is designated for urban use in the State Land Use Map were investigated.

A. Retain in Present Use (No Development)

The site can be left in its present use, a mixture of residential, diversified agricultural and vacant land. This alternative would mean that the existing Kahuku Village would continue to deteriorate and there is the definite expiration of the lease in 1983. The existing water source and system are old and inadequate. There are no sewage treatment plant.

Should the proposed housing project be abandoned, the Campbell Estate may not renew the lease and the people would be faced with eviction. In the long run, the "No Development" alternative would mean another eviction confrontation.

B. Agricultural Use

Under this alternative the entire parcel is cleared and converted to diversified agriculture. Since this land is zoned as Urban District, agricultural use will not be the optimum use. Better, vacant agricultural zoned lands are available in Kahuku.

C. Planned Development or Townhouse

The third alternative is to develop the project site under the planned development concept. This concept permits increased density and a more flexible design. A wide variety of dwelling units (single family, townhouses, and garden apartments) can be built. The higher density can result in more adverse social, economic and environmental problems.

This alternative was not pursued because it did not meet with the lifestyle of the Kahuku residents.

D. Standard Subdivision With No Code Pre-emptions

The fourth alternative is to develop the subject parcel into a 300-lot standard subdivision with no code pre-emptions. This alternative would entail standard roadways, lot sizes conforming to zoning requirements and full underground utilities. This type of subdivision is similar to other suburban areas on Oahu and do not reflect the lifestyle of Kahuku.

In addition, this type of development would be expensive for the people of Kahuku.

VIII. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The housing development will intensify the use of these lands that are predominantly vacant or in agricultural use. The economic return from vacant land is nil when compared to returns from residential use.

The immediate benefit of the project will be to provide the needed low- and moderate-income housing for the residents of Kahuku without disruption or alteration of lifestyle. The need for low cost housing is not expected to decrease.

The long-term productivity for agricultural use is foreclosed by this project. However, the effect is minimal since there are thousands of acres of better agricultural lands in Kahuku.

The construction of a new sewage treatment plant and water system will have a positive effect on the long-term productivity of the urban lands in the Kahuku Village area.

With regard to short-term gains and long-term productivity, we can say the project has a positive effect.

IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The propose subdivision will irreversibly and irretrievably commit vacant and some agricultural lands into a low density urban landscape. Because there is no significant value attached to this site in its present state, the commitment of resources from the land is negligible. The Campbell Estate will make available thousands of acres of more productive agricultural lands in the Kahuku area.

Some vegetation will be irretrievably lost, but no economically important or endangered flora and fauna will be affected and the overall effect on the ecology will be negligible.

Land, labor, construction materials, energy and water required for the project which cannot be reused will be irretrievable.

X. AN INDICATION OF WHAT OTHER INTERESTS AND CONSIDERATIONS OF GOVERNMENTAL POLICIES ARE THOUGHT TO OFFSET THE ADVERSE ENVIRONMENTAL EFFECT OF THE PROPOSED ACTION

The City's housing program policy is aimed at providing low and moderate income housing on urban lands or other than prime agricultural lands with minimum impact on the environment.

For this project, the proposed housing is intended for a specific group with a distinct lifestyle and a common relocation problem.

In Kahuku, the people organized the Kahuku Housing Corporation and the Kahuku Community Association. The members have concentrated on the replacement of existing plantation dwellings since their land leases expire in 1983. In addition, they are concerned about the orderly redevelopment of a new community.

XI. ORGANIZATIONS AND PERSONS CONSULTED

A. Federal

1. Housing and Community Development
2. Farmers Home Administration (USDA)
3. Department of Interior, Fish & Wildlife Service

B. State

1. Department of Education
2. Department of Health
3. Office of Environmental Quality Control
4. Department of Land and Natural Resources

C. City and County

1. Department of General Planning
2. Department of Land Utilization
3. Department of Buildings
4. Department of Transportation Services
5. Department of Public Works
6. Board of Water Supply
7. Department of Parks and Recreation
8. Police Department
9. Fire Department
10. City Council
11. Office of Council Services
12. Office of Human Resources

D. Private Agencies, Firms and Individuals

1. Park Engineering
2. Hawaiian Electric Company
3. Hawaiian Telephone Company
4. Campbell Estate
5. Kahuku Housing Corporation
6. Kahuku Community Association
7. Punaluu Community Association
8. Kaaawa Community Association
9. Koolauloa Neighborhood Board 28

XII. COORDINATION AND COMMENTS

Summaries of the Oral and Written Testimonies
Received at the Public Meeting

DHCD held a public hearing on Thursday, October 7, 1976, at Kahuku High School cafetorium. The purpose of the hearing was to obtain input on the preparation of the EIS and to determine what kind of housing development the Kahuku people want.

The following persons from the City were present:

- A. Toraki Matsumoto, Councilman.
- B. James Miyagi, DHCD.
- C. H. H. Chee, DHCD.
- D. R. Nagasawa, DHCD.
- E. S. Izutsu, DHCD.
- F. G. Richardson, Division of Sewers.
- G. C. Takamoto, Division of Sewers.

Oswald Stender and staff planner of Campbell Estate were also present.

The following persons testified at the hearing:

- A. Mr. Creighton Mattoon
Punaluu Community Association
P. O. Box 239, Hauula, Hawaii 96717
Telephone: 293-5612 or 293-8811 ext. 398
Written testimony submitted.
- B. Mr. Tom Pickard
Kahuku Community Association
Kahuku Housing Corporation
P. O. Box 278, Kahuku, Hawaii 96731
Telephone: 293-9430; 247-2166
Written testimony submitted.

- C. Ms. Dorothy Letts
Kaaawa Community Association
P. O. Box 574, Kaaawa, Hawaii 96730
Telephone: 237-8430
Written testimony submitted.
- D. Ms. Dorothy Zoller
Koolauloa Neighborhood Board 28
Punaluu Community Association
Telephone: 237-8325
Written testimony submitted.
- E. Mr. Logan - Laie
Neighborhood Board 28
No written testimony; only oral testimony.

Attached are the four written testimonies. Brief summary of the testimonies:

A. Mr. Mattoon

Requested City abandon the project. Suggested restoration of Kahuku Village. The 300-unit development will have major impact on the entire Koolauloa area. Concerned about increase in population and the impact on schools, playgrounds, highways, hospital, police and fire services.

The Koolauloa area is participating in planning programs. Mr. Mattoon urged for controlled growth. At the end of the meeting he said that the Punaluu Community Association is behind the people of Kahuku for whatever type of housing is needed in Kahuku. He also suggested the restoration of Kahuku Village to preserve its character and satisfying the needs of the residents without adverse effect on neighboring communities.

B. Mr. Tom Pickard

Kahuku Community Association and Kahuku Housing Corporation request that the project must:

1. Guarantee first preference for residents in Kahuku.
2. Absorb all costs of relocating the five homes and farms within the project boundary.
3. Develop a park within the project.
4. Limit the number of units to meet the need of relocating families from the existing plantation homes.

Three hundred units are too many. It will bring in people from the other neighboring communities.

5. Provide minimum lot area of 5,000 square feet.
6. Sell at \$35,000.

C. Ms. Dorothy Letts

States there are enough R-6 zoned lands available and questions the use of Act 108 to override existing zoning and general plan.

Suggests 100 units be built and restore and rehabilitate the existing homes in Kahuku Village.

She questions the proposed sewage treatment plant. It will commit Kahuku to more urbanization. Suggests use of cesspools on 5,000 square foot lots.

An alternative was suggested. City develop the land and sell the lots and allow the people to build their own housing.

D. Ms. Dorothy Zoller

Suggests less than 100 houses and not a 300-lot subdivision. As an alternative, she suggests the restoration of Kahuku town to preserve lifestyle. She is concerned about the population growth in the Koolauloa area. She commented that there are adequate area zoned for residential use. There is

no need to use agricultural lands for residential development under Act 108.

E. Mr. Logan

He is from Laie and is in favor of the housing project. However, he suggests a smaller development in Kahuku. He mentioned the need for housing in Laie and requested DHCD to look into the matter.

A question and answer period was held after the testimonies. Questions on sewage treatment plant, school expansion, location of community park were raised. Mr. Nakayama of Kahuku Housing Corporation questioned the need for a 300-lot subdivision to provide replacement housing for the Kahuku families. Several Kahuku people were concerned that the proposed 300-lot development will bring in people from other communities.

A demographic study of the people of Kahuku Village will be conducted jointly by the Kahuku Community Association and Kahuku Housing Corporation. This study will show the vital statistics of the existing population, density and distribution. The study will include income which will show how many can qualify to purchase a home.

Mr. George Richardson of Division of Sewers explained and answered questions on the proposed sewage treatment plant.

As the result of the public meeting on the Koolauloa Housing Project held at Kahuku High School cafetorium on October 7, 1976, the general members of the Kahuku Community Association and Kahuku Housing Corporation approved the housing project with the following conditions:

- A. An integrated community.
- B. A recreational park.
- C. Moving of the five homes in the project area.
- D. Various plot size.
- E. Build the 300 homes in three increments.

XIII. LIST OF NECESSARY APPROVALS

Status of
Approval

A. Federal Agency

Department of Housing and
Community Development

Pending

B. State Agencies

1. Department of Land and Natural
Resources, State Land
Use Commission

Completed

2. Department of Health

Pending

3. Fire Marshal

Pending

C. City and County Agencies

1. City Council

Pending

2. Mayor (on adequacy of EIS)

3. Department of Land Utilization

4. Department of Buildings

5. Department of Public Works

6. Board of Water Supply

7. Fire Department

8. Department of Parks & Recreation

APPENDIX A

TRAFFIC PROJECTION AND AIR QUALITY

Rev. 8/31/77

APPENDIX A

KAHUKU SUPPORT HOUSING PROJECT IMPACT TO THE EXISTING HIGHWAY AND THE AIR QUALITY FROM THE TRAFFIC AND POLLUTION GENERATED FROM THE 300-UNIT DEVELOPMENT

The Kahuku Support Housing Project is a 300-unit development located on the foothill on the windward side and northern portion of Koolau Range. The site is located approximately 600 feet mauka of Kamehameha Highway opposite Kahuku Mill. The project includes a 56-foot access road.

The site is practically vacant except for a few residences on the highland. A section of the site is presently used for truck farming and grazing. Major portion of the land is overgrown with shrubs, trees and other vegetations. The site is surrounded by vacant agricultural land and urban land. The urban land consists of Kahuku Community Hospital and a plantation camp.

The 300-unit development will have some impact on the present highway traffic and air quality of the surrounding area. We used the 1970 Census data and other factors on trip generations to project the traffic volume. We used the screening procedure established in the Guideline for Air Quality Maintenance Planning and Analysis, Vol. 9, prepared by the U.S. Environmental Protection Agency to determine the impact of the CO concentration.

Existing Kamehameha Highway (Kam Hwy)

Kam Hwy is a two-lane, two-way highway circling the eastern half of the island. The average pavement width of the lane ranges from 10-11 feet. The operating speed of Kam Hwy through Kahuku Town is 25 mph and the speed beyond the town ranges from 35 to 45 mph.

1. Capacity

According to the Highway Capacity Manual 1965, Kam Hwy is classified at level of service E. Under ideal condition, the volume in both directions will be 2,000 passenger cars per hour. The State Highways

Planning Division, Department of Transportation, computed the capacity for this portion of Kam Hwy at our request on August 26, 1977. Mr. Kenneth Lee, Highways Planning Division, informed this office that the capacity of Kam Hwy will be 1,500 vph for both directions.

2. Existing Traffic

Traffic Summary Report 1973, prepared by State Highways Planning Division, D.O.T., reported that the average daily traffic (ADT) for Kam Hwy between Malaekahana and Airport Road (Kahuku) is 4,795 vpd. The peak hour traffic volume in the afternoon represents 8.3 percent of the ADT or 398 vph.

The 24-hour accumulation traffic count taken on Kam Hwy during February 9-10, 1976, north of Kahuku Village, revealed that the ratio of the directional split of the traffic volume as 51:49. Approximately 299 vehicles are southbound (Kaneohe) and 287 vehicles are northbound (Kuilima).

3. Traffic Projection. The traffic projections for this portion of Kam Hwy were obtained from the State Highways Planning Division. The State Highways Planning Division projected the traffic volume based on traffic data up to 1976. The projected ADT of Kam Hwy at Kahuku Town for 1980, 1990, and 2000 are 6,300, 8,800 and 11,300 vpd, respectively.

The K-factor (peak hour volume) calculated for the year 2000 is 11.5 percent. The peak hour volume for the year 2000 will be 1,300 vph.

The peak hour traffic volume generated from the project is computed by using the median on the number of workers per unit and the percentage of drivers in the table "Means of Transportation." The 300-lot subdivision will generate 555 workers of which 361 drive to work. The duration of the peak hour traffic is estimated at two hours. Therefore, the peak hour traffic will be 180 vph. The combined peak hour volume will be 1,480 vph. The adjusted peak hour traffic volume

for 2000 will be near the capacity of the existing highway. The Oahu General Plan calls for the widening of Kam Hwy through Kahuku Town.

5. Air Quality

The amount of carbon monoxide (CO) concentration produced from the traffic will not have a significant impact to the air quality on the environment. The State does not have regular monitoring of the air pollution on the island. In the absence of such data, we used the screenline procedure established in the report "EPA-450/4-75-001, Guidelines for Air Quality Maintenance Planning and Analysis, Vol. 9: Evaluating Indirect Sources," to determine the CO concentration.

The Kahuku Housing Project will be completed by 1980. The air quality for 1980 will be based on the traffic projection prepared by the State Highways Planning Division plus the traffic generated by the project. The air pollution is computed at a receptor station, 10 feet mauka of the nearest traffic lane (southbound).

We have adjusted the K-factor proportionately from 1973 to 2000 for the peak hour traffic volume. The K-factor increases approximately 0.1 percent per year or 9.3 percent for 1980. The peak hour traffic projected for 1980 will be 586 vph. The peak hour traffic volume of the project should equals one half of the number of workers who drives or 180 vehicles. The total peak hour traffic volume for 1980 including the traffic from the project area will be 766 vph.

The traffic movement indicated on the survey conducted by the State Highways Planning Division at Station 26-B (Kam Hwy at Kahuku Airport Road) on February 9-10, 1976 and the place of employment were used to determine the ratio of the directional split for each lane. The ratio of the directional split for both the traffic survey and the place of employment were same or 51:49 in favor of the southbound traffic. Applying the ratio to the 1980 projected peak hour traffic, the southbound traffic will be 391 vph and the northbound traffic will be 375 vph.

The volume demand-capacity ratio (v/c) for the southbound traffic will be 0.52 and for the northbound traffic will be 0.50. The readings of the impact on one-hour CO concentration from the chart (Exhibit A) are 1.97 ppm for the southbound lane and 1.90 ppm for the northbound lane.

The value of the relative concentration of CO vs. the perpendicular distance from the traffic lane from the chart (Exhibit B) reads 1.18 for the southbound lane (10 feet) and 1.02 for the northbound lane (21 feet). The CO concentration at the receptor station will be 2.32 ppm for the southbound lane and 1.94 ppm for the northbound lane. The total CO concentration is 4.26 ppm or 4.90 mg/m³. The Clean Air Act imposed an interim Federal CO emission standards to the auto industry. The 1980 correction factors in Table 2 on page 42 of the EPA publication 450/4-75-001 reflecting emission control program for CO concentration is 0.4. The adjusted CO concentration for 1980 is 1.70 ppm or 1.96 mg/m³. The State one-hour standard for CO is 10 mg/m³. The one-hour CO concentration on the projected 1980 traffic volume including the traffic generated from the project at the receptor station is below the State standard.

TABLE

1970 CENSUS--C.T. NO. 101

A. Population

Male	1,906 persons
Female	<u>1,591 persons</u>
	3,497 persons

B. Housing Units

1. Tenure

Owner Occupied	251 units
Renter Occupied	693 units
Vacant	<u>171 units</u>
	1,115 units

2. Size of Unit (Median)

4.3 rooms per unit

3. No. of Persons Per Unit

3.1 (median)

4. Type of Structures

Single Family	1,034
Duplex	41
3 to 4 Units/Building	4
5 to 49 Units/Building	<u>8</u>
Total Structures	1,087

5. No. of Cars

1 Car/Unit	390 units	390 cars
2 Cars/Unit	380 units	760 cars
3 or More/Unit	<u>68 units</u>	<u>204 cars</u>
	838 units	1,354 cars
None	<u>95 units</u>	-
	933 units	1,354 cars

Median: 1.5 cars per unit.

C. Employment

1. Means of Transportation

Driver	875 persons	64.9 percent
Passenger	91 persons	6.7 percent
Bus	5 persons	0.4 percent
Walk	325 persons	24.1 percent
Home	33 persons	2.4 percent
Other	<u>20 persons</u>	<u>1.5 percent</u>
	1,349 persons	100.0 percent

Average No. of Workers Per Unit: 1.85 persons per unit

2. Place of Work

Honolulu	226 persons		
Koolaupoko	17 persons		
Ewa	107 persons		
Waianae	<u>15 persons</u>	365 persons	51 percent
Waialua	182 persons		
Wahiawa	<u>174 persons</u>	<u>356 persons</u>	<u>49 percent</u>
Subtotal		721 persons	100 percent
Koolauloa		<u>415 persons</u>	
Total		1,136 persons	
Northbound	49 percent		
Southbound	51 percent		

EXHIBIT A
**VOLUME DEMAND - CAPACITY RATIO IN A LANE ON A MAJOR STREET VERSUS CO
 CONCENTRATION IMPACT AT A PERPENDICULAR DISTANCE OF 10 METERS**

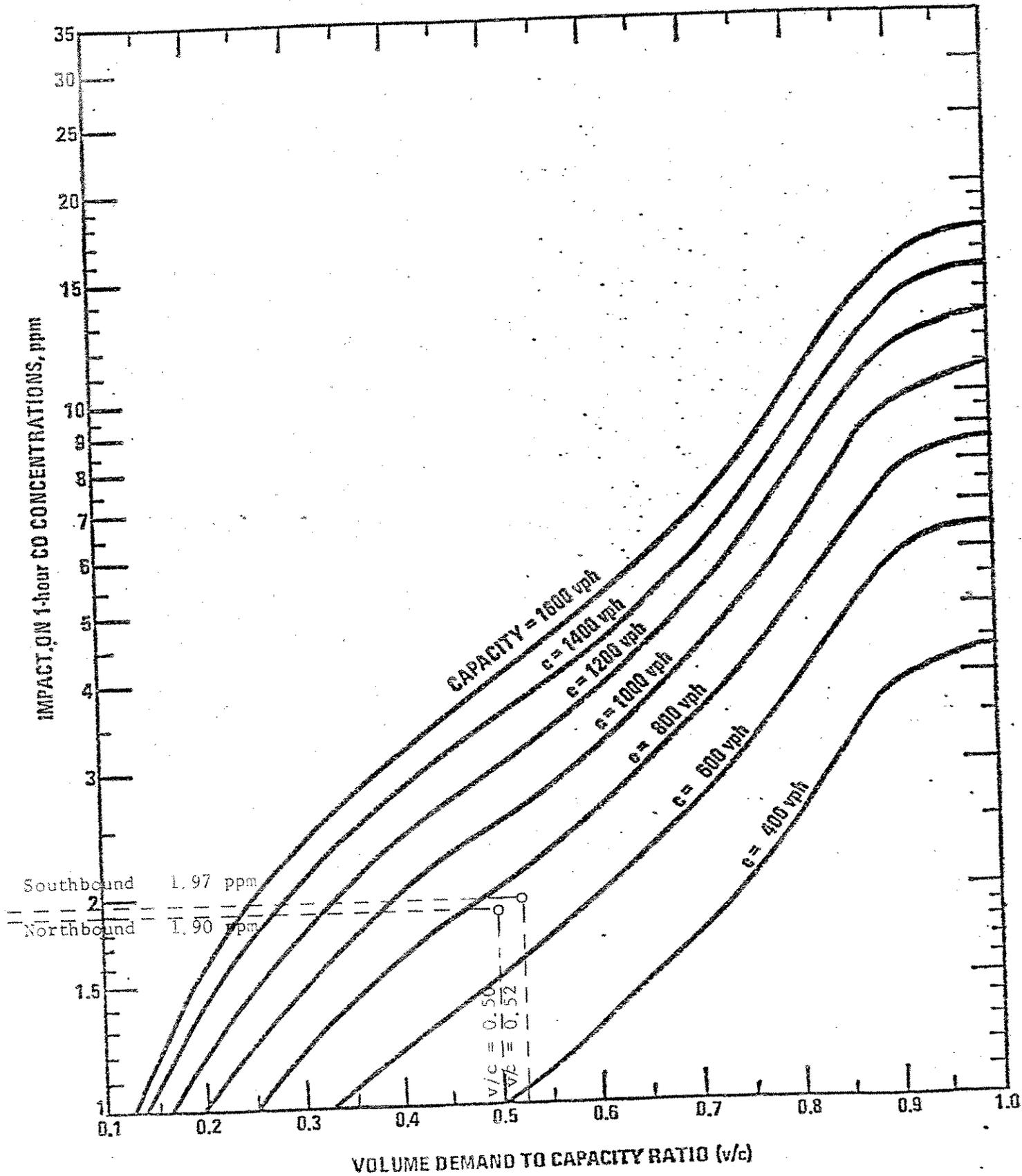
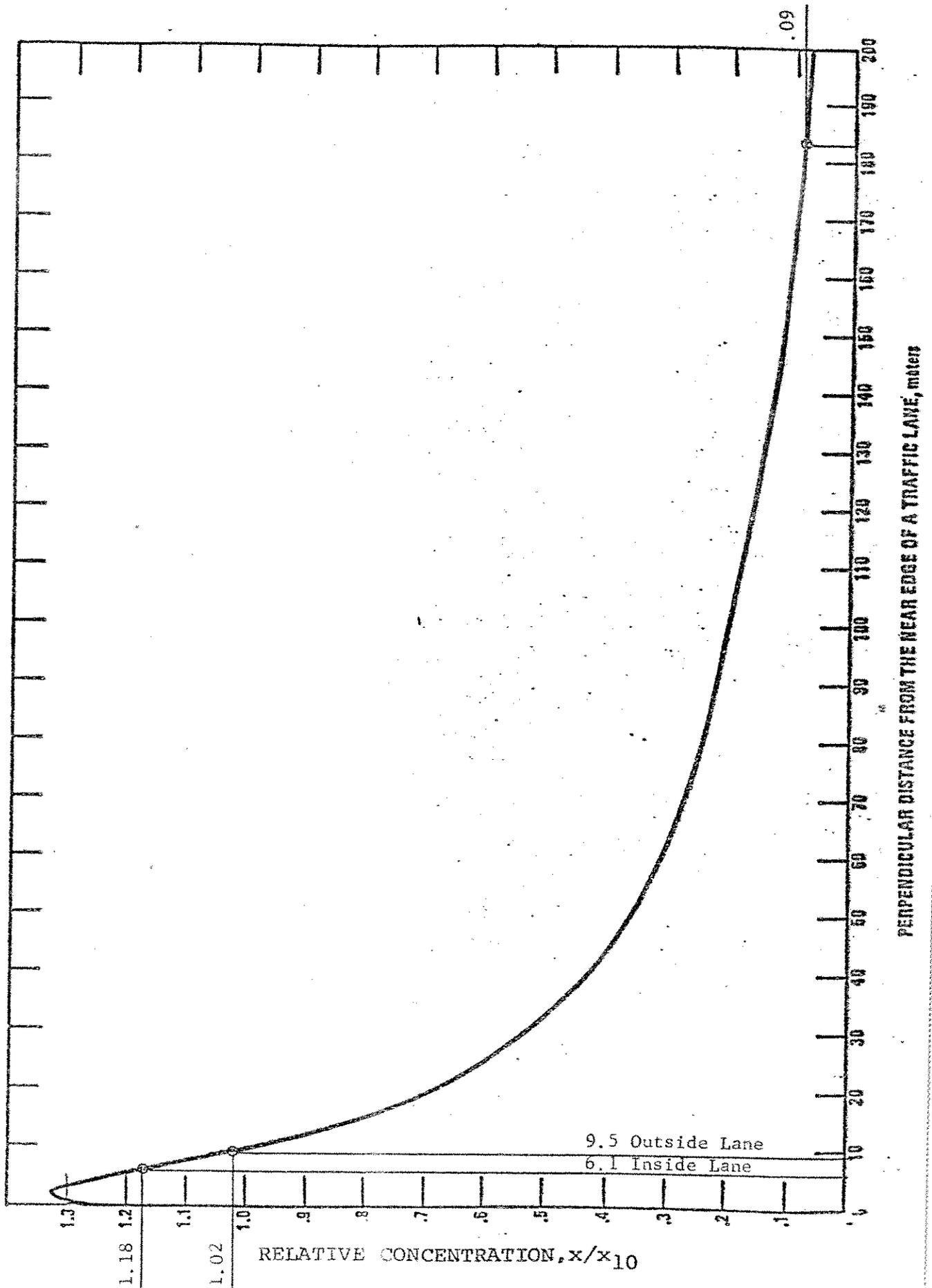
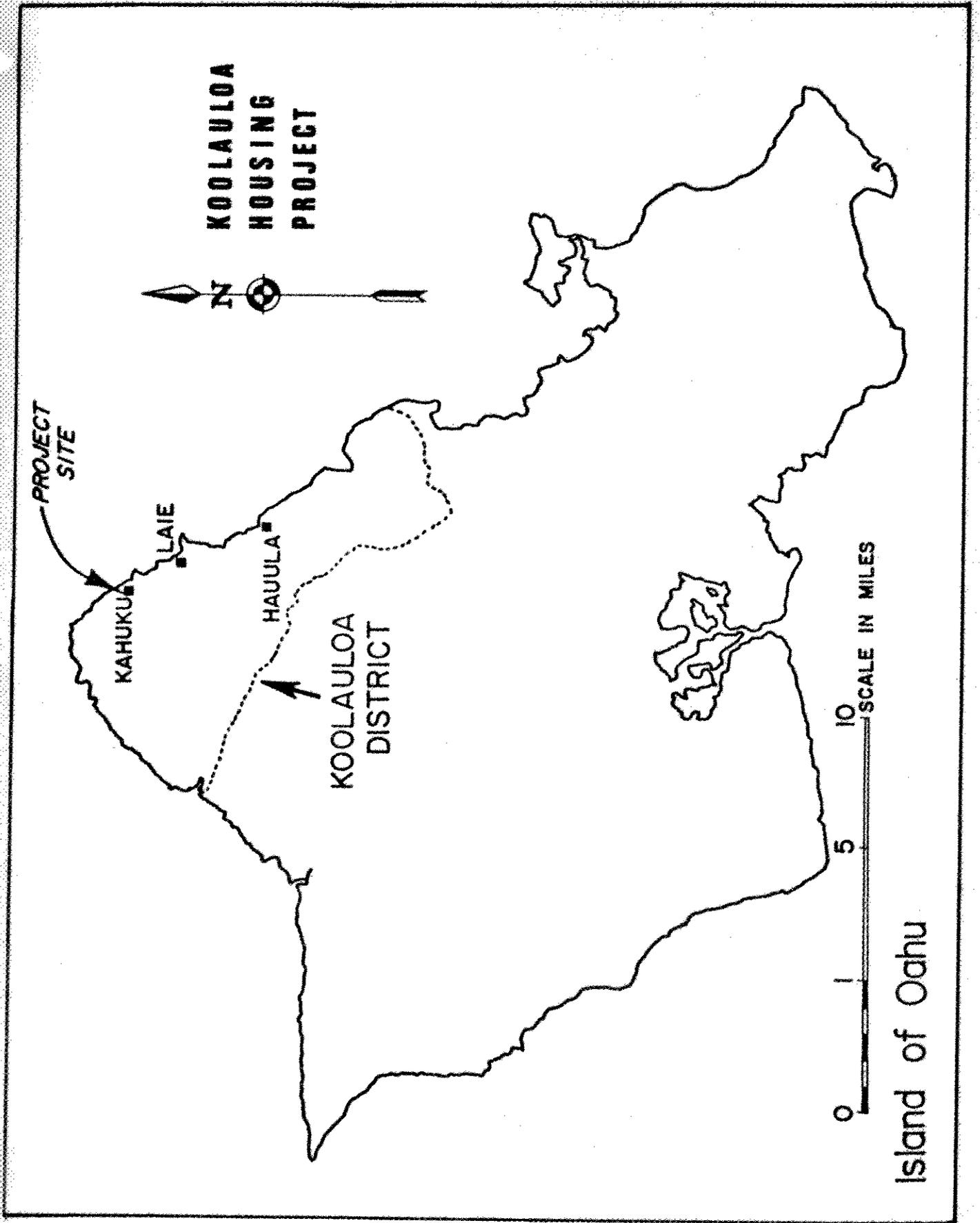


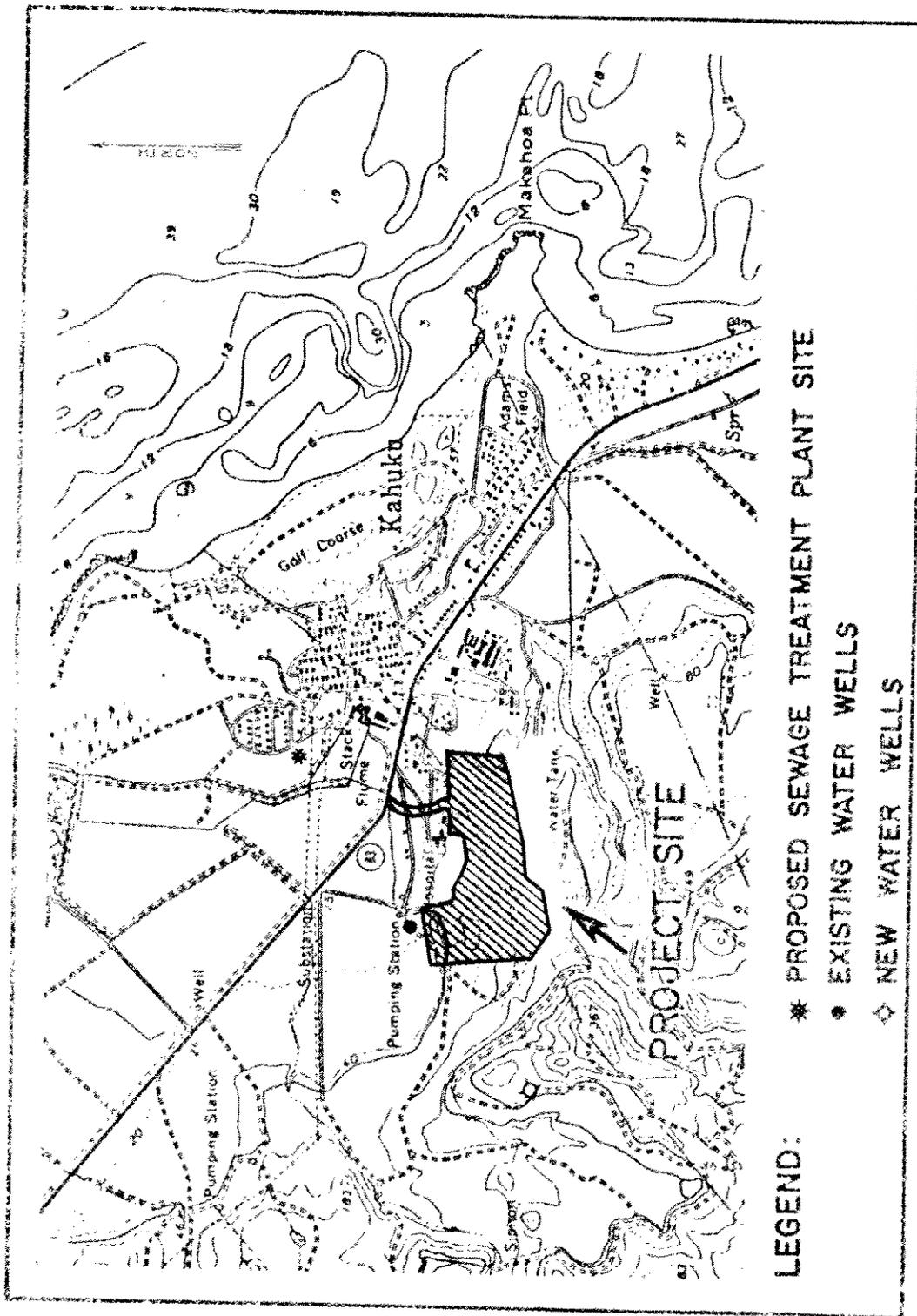
EXHIBIT B

FIGURE 5. RELATIVE CONCENTRATION OF CO VS. PERPENDICULAR DISTANCE FROM A TRAFFIC LANE WITH FREELY FLOWING TRAFFIC



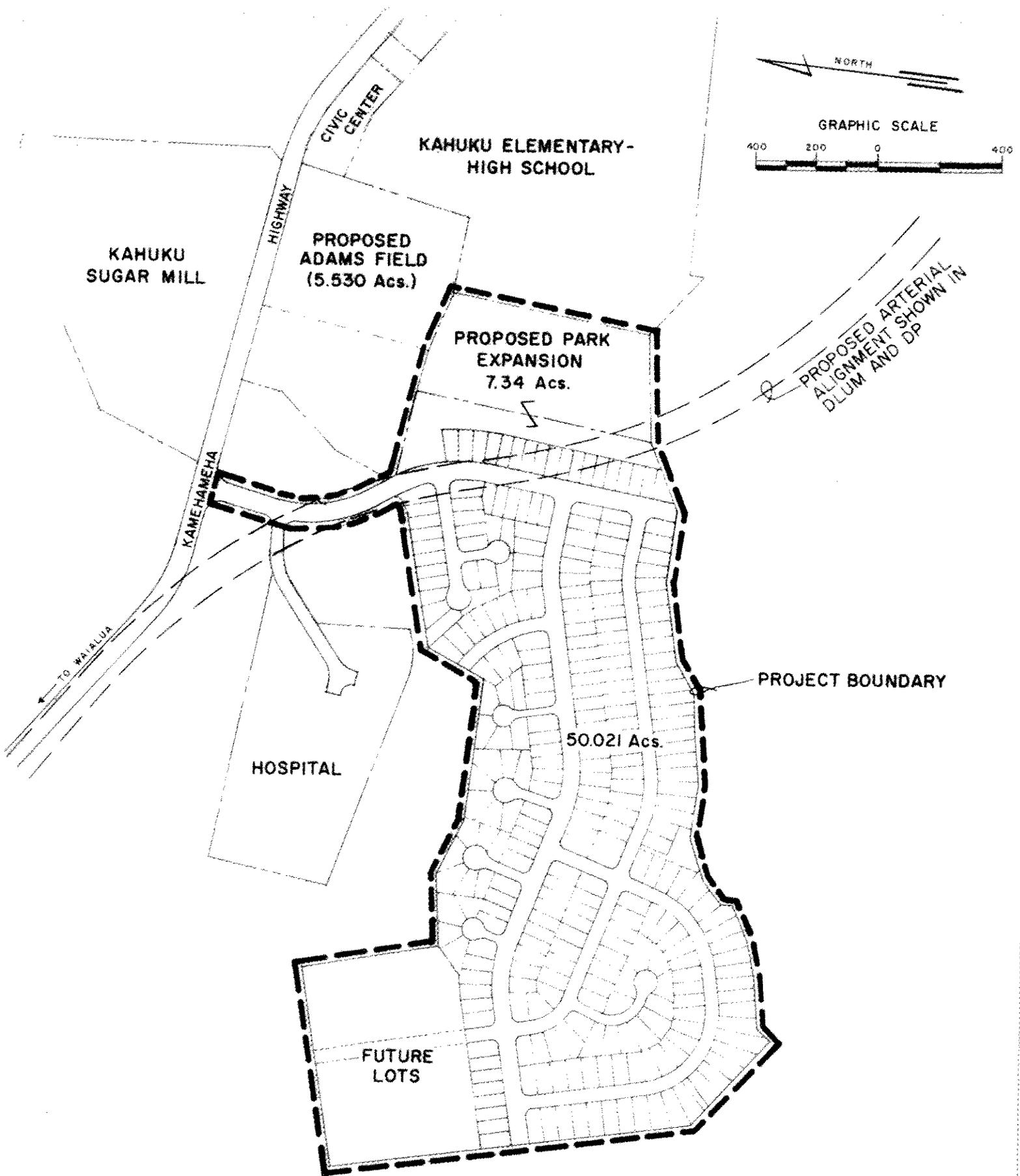


LOCATION MAP - Koolaupua HOUSING PROJECT, Koolaupua DISTRICT, OAHU

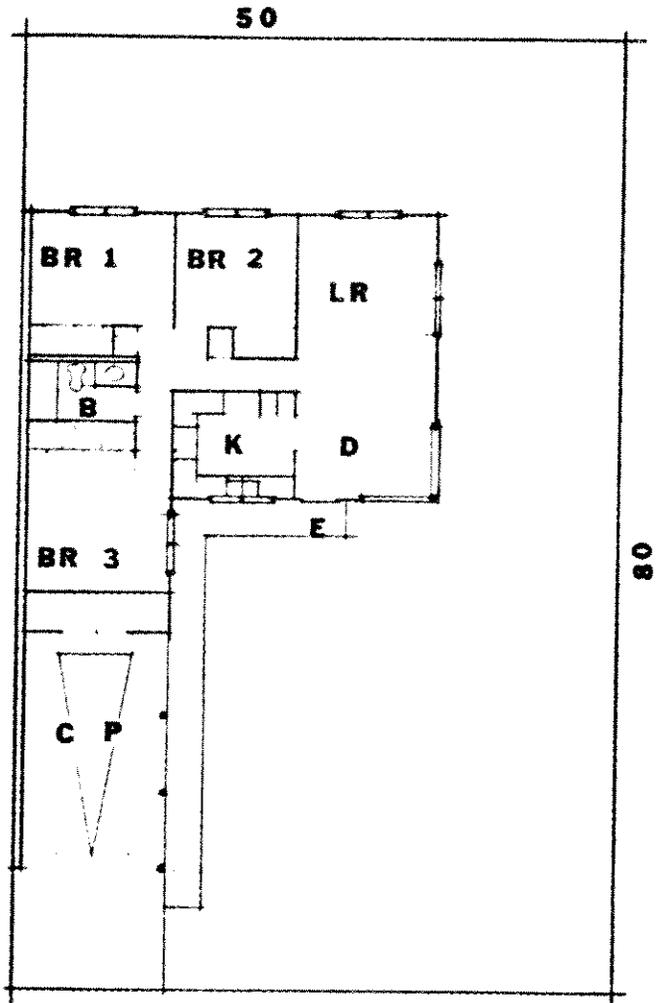


- LEGEND:**
- * PROPOSED SEWAGE TREATMENT PLANT SITE
 - EXISTING WATER WELLS
 - ◇ NEW WATER WELLS

PROJECT SITE MAP - KOOLAULOA HOUSING PROJECT



PROPOSED SUBDIVISION LAYOUT
AND PARK SITE

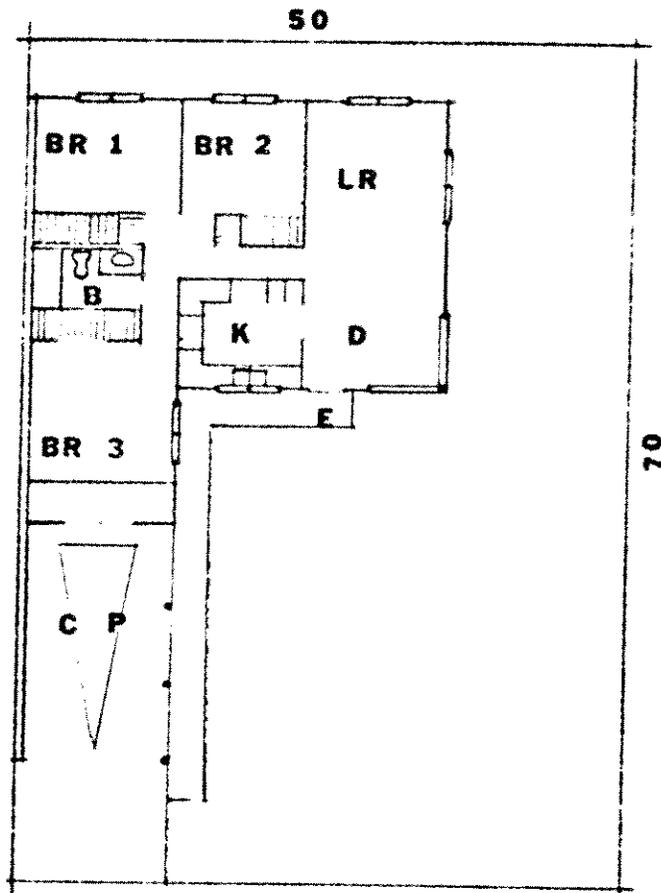


HOUSE 912 sq ft
 CP & STO. 235 sq ft
 LAND AREA 4,000sq ft

R O A D

Plot Plan & Floor Plan

KOOLAULOA HOUSING PROJECT



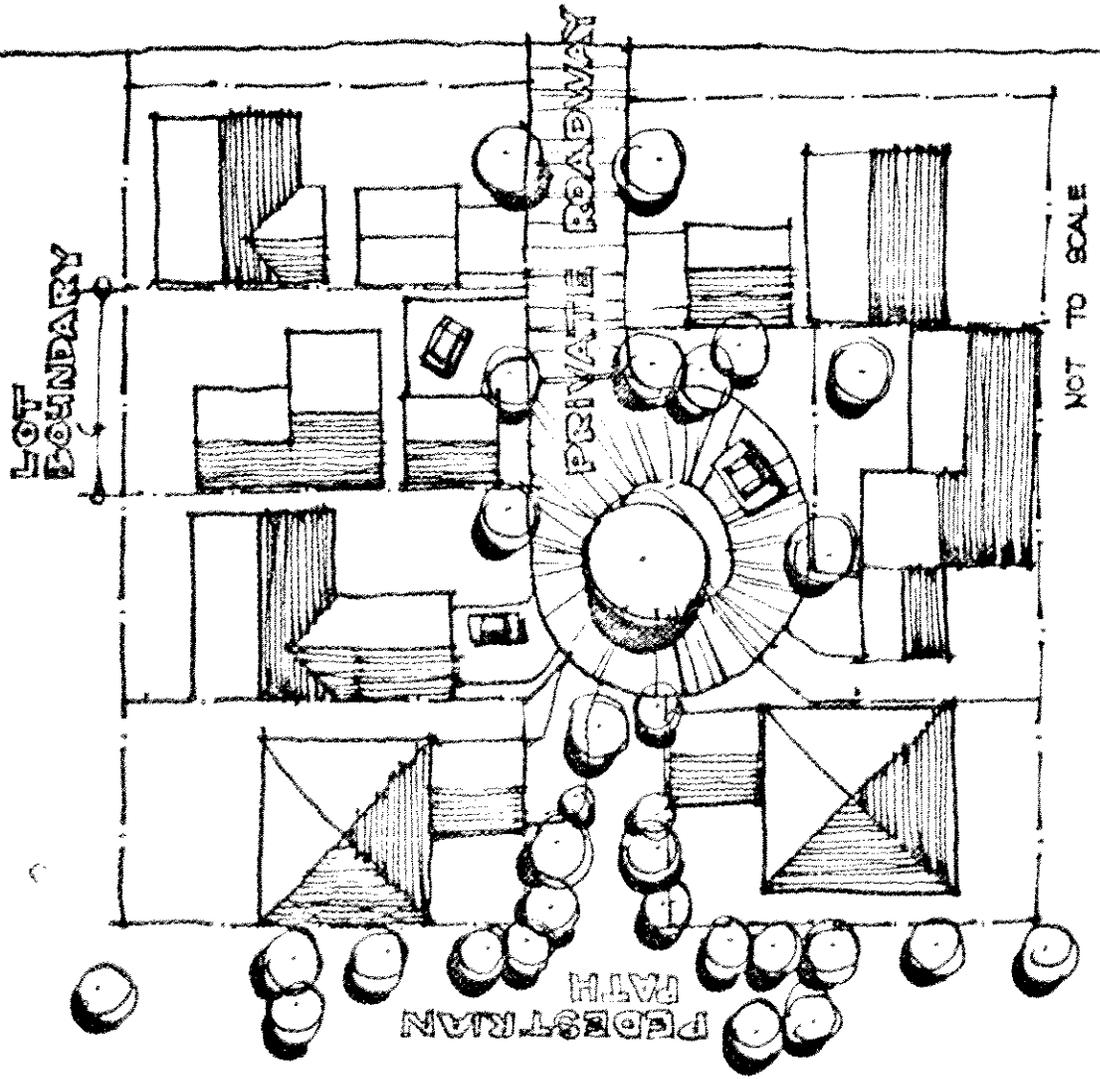
HOUSE 912 sq ft
 CP & STO. 235 sq ft
 LAND AREA 3,500sq ft

R O A D

Plot Plan & Floor Plan

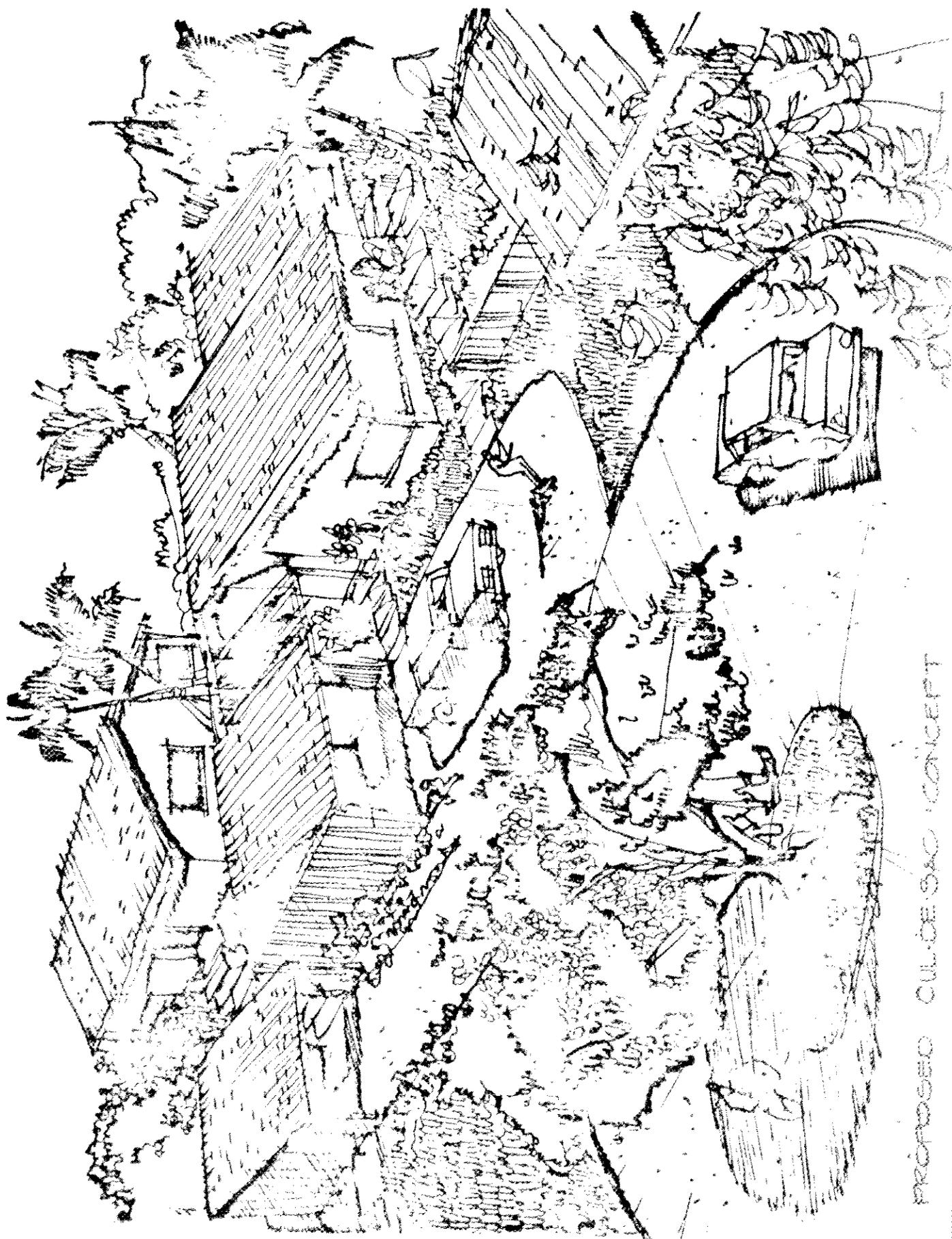
KOOLAULOA HOUSING PROJECT

COLLECTOR ROAD



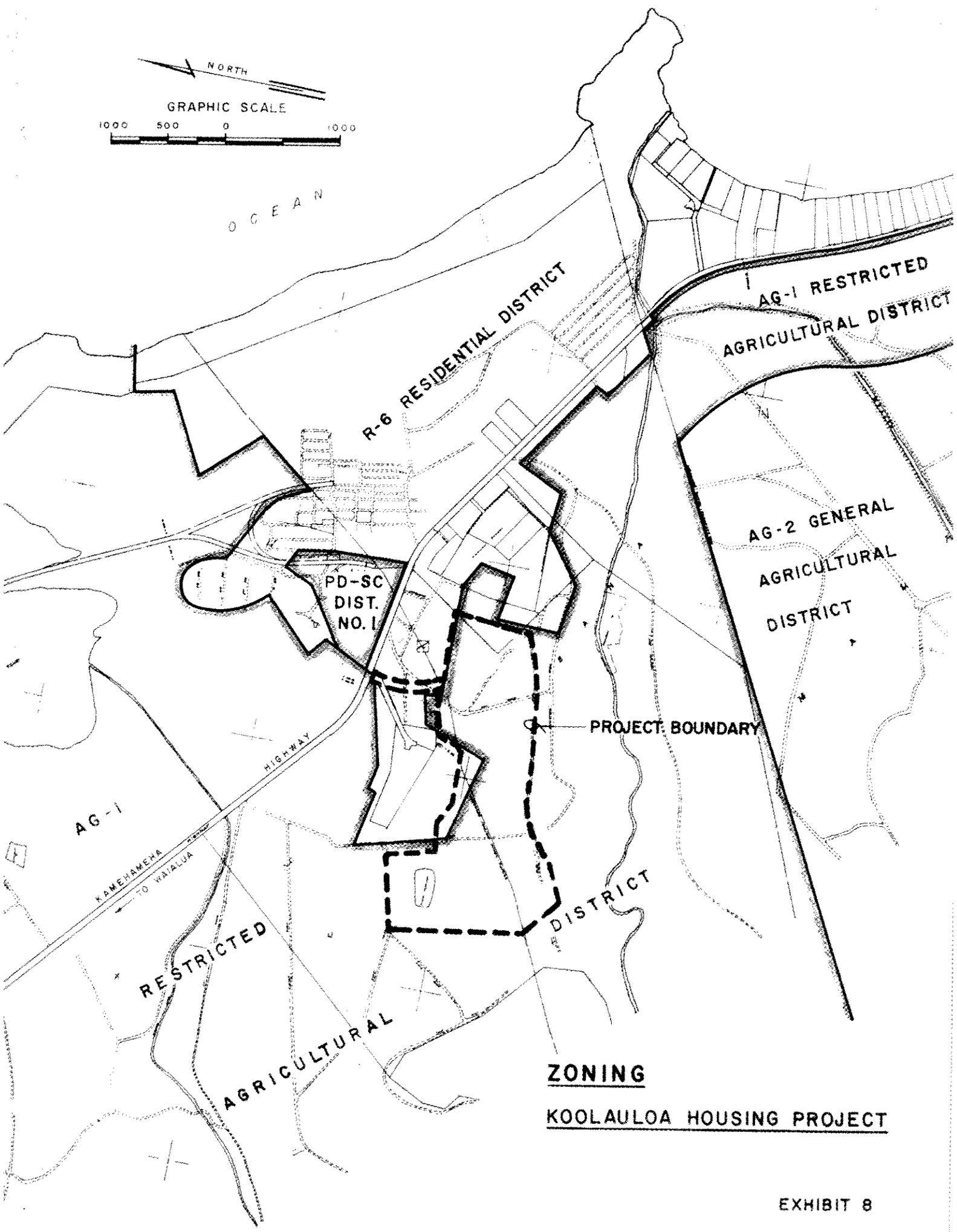
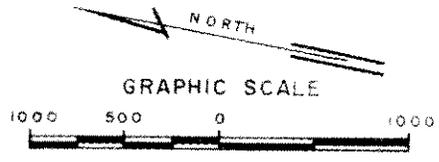
PROPOSED CONCEPT
**A CUL-DE-SAC
GROUPING**

WITH ZERO LOT
LINE HOMES



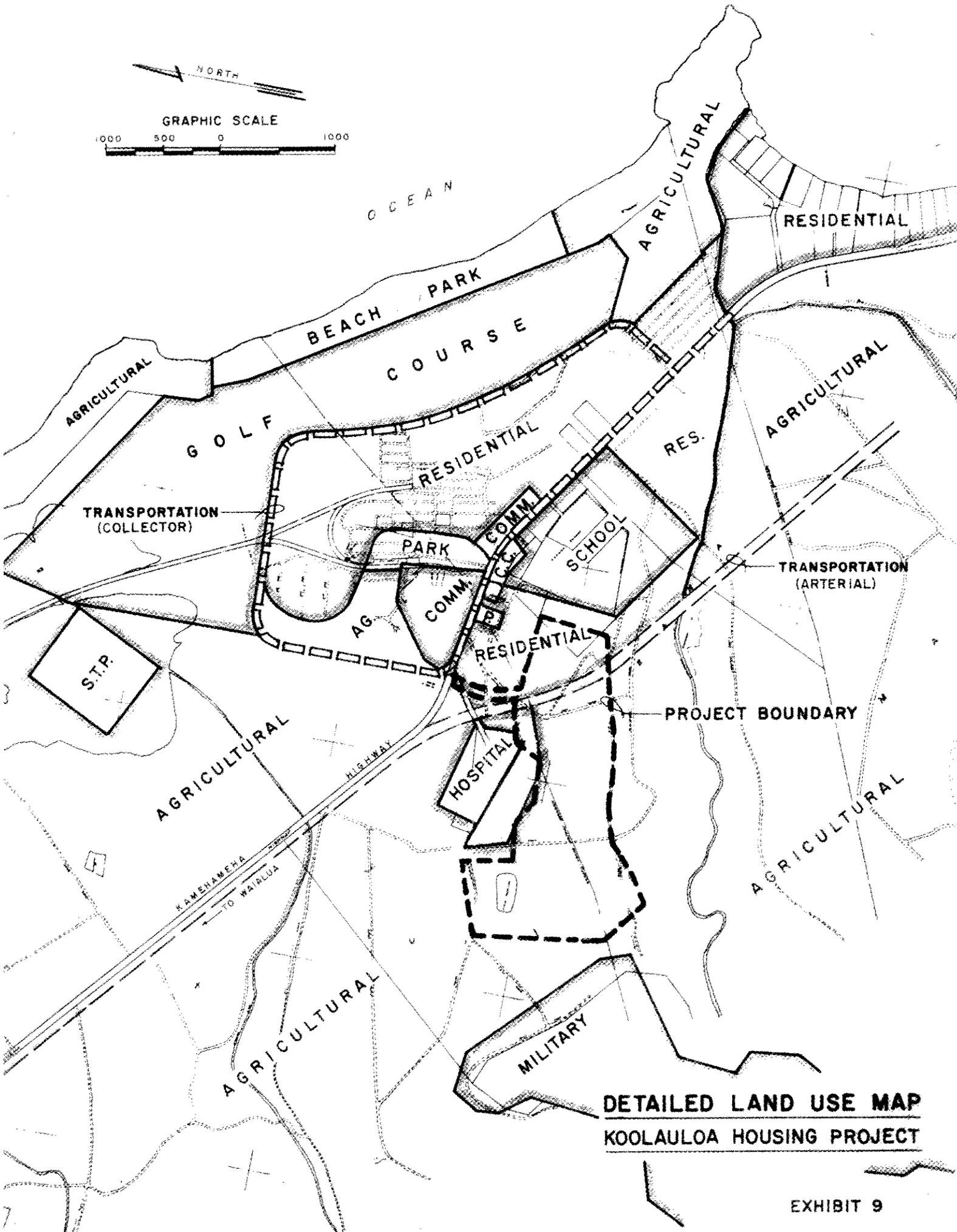
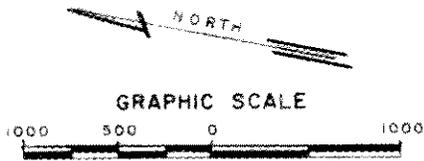
PROPOSEO CUL-DE-SAC CONCEPT

EXHIBIT 7



ZONING

KOOLAULOA HOUSING PROJECT



DETAILED LAND USE MAP
KOOLAULOA HOUSING PROJECT



GRAPHIC SCALE



CONSERVATION
DISTRICT

OCEAN

URBAN
DISTRICT

AGRICULTURAL
DISTRICT

AGRICULTURAL
DISTRICT

HIGHWAY

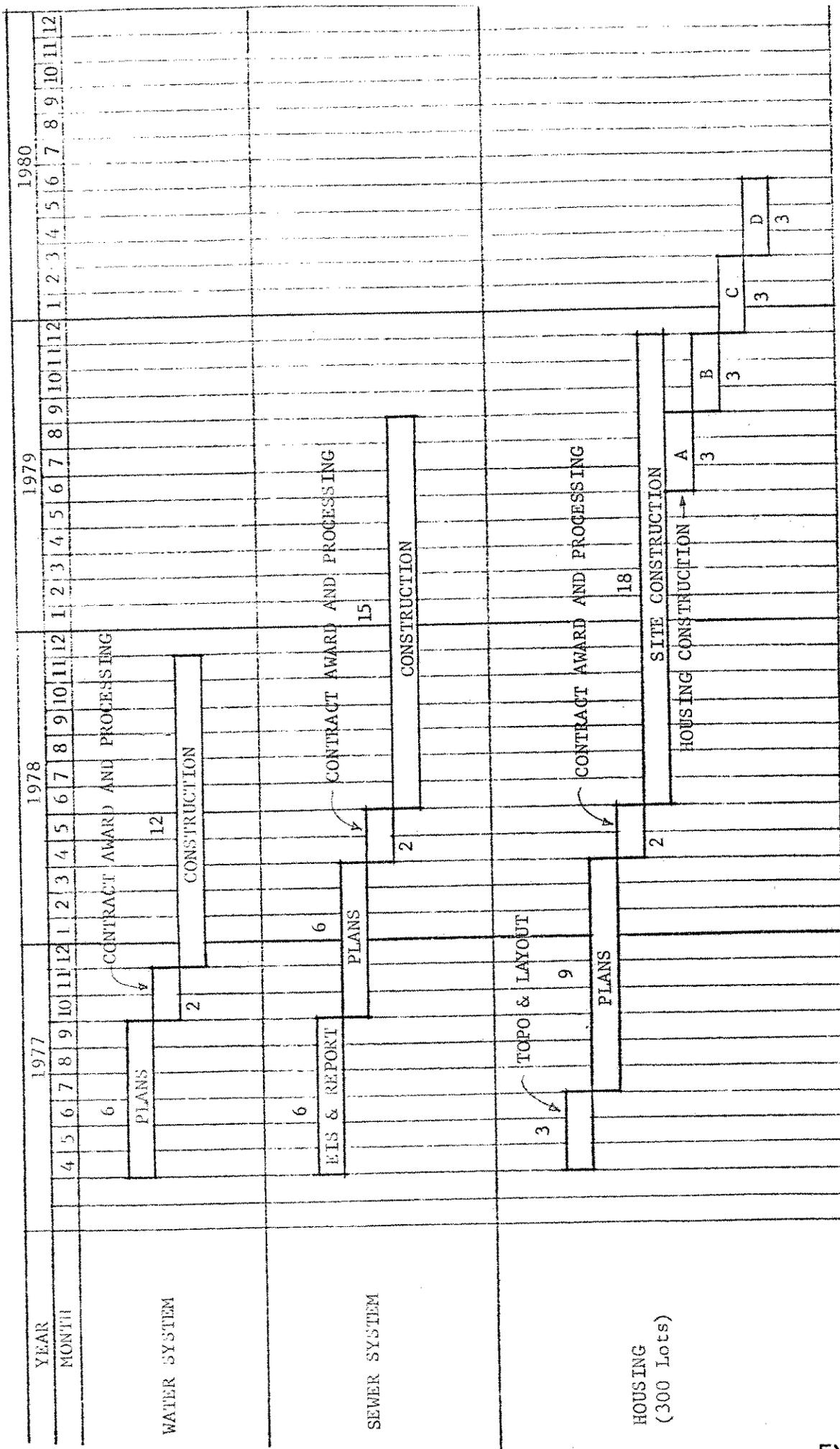
PROJECT BOUNDARY

KAMEHANEHA
TO WATALUA

DISTRICT

STATE LAND USE MAP

KOOLAULOA HOUSING PROJECT



PART II

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

ENVIRONMENTAL IMPACT STATEMENT
FOR
KAHUKU SEWER IMPROVEMENT PROJECT
KOOLAULOA, OAHU, HAWAII

TAX MAP KEY: 5-6-02:01

PREPARED BY: Park Engineering, Inc.
190 South King Street
Suite 2085
Honolulu, Hawaii 96813

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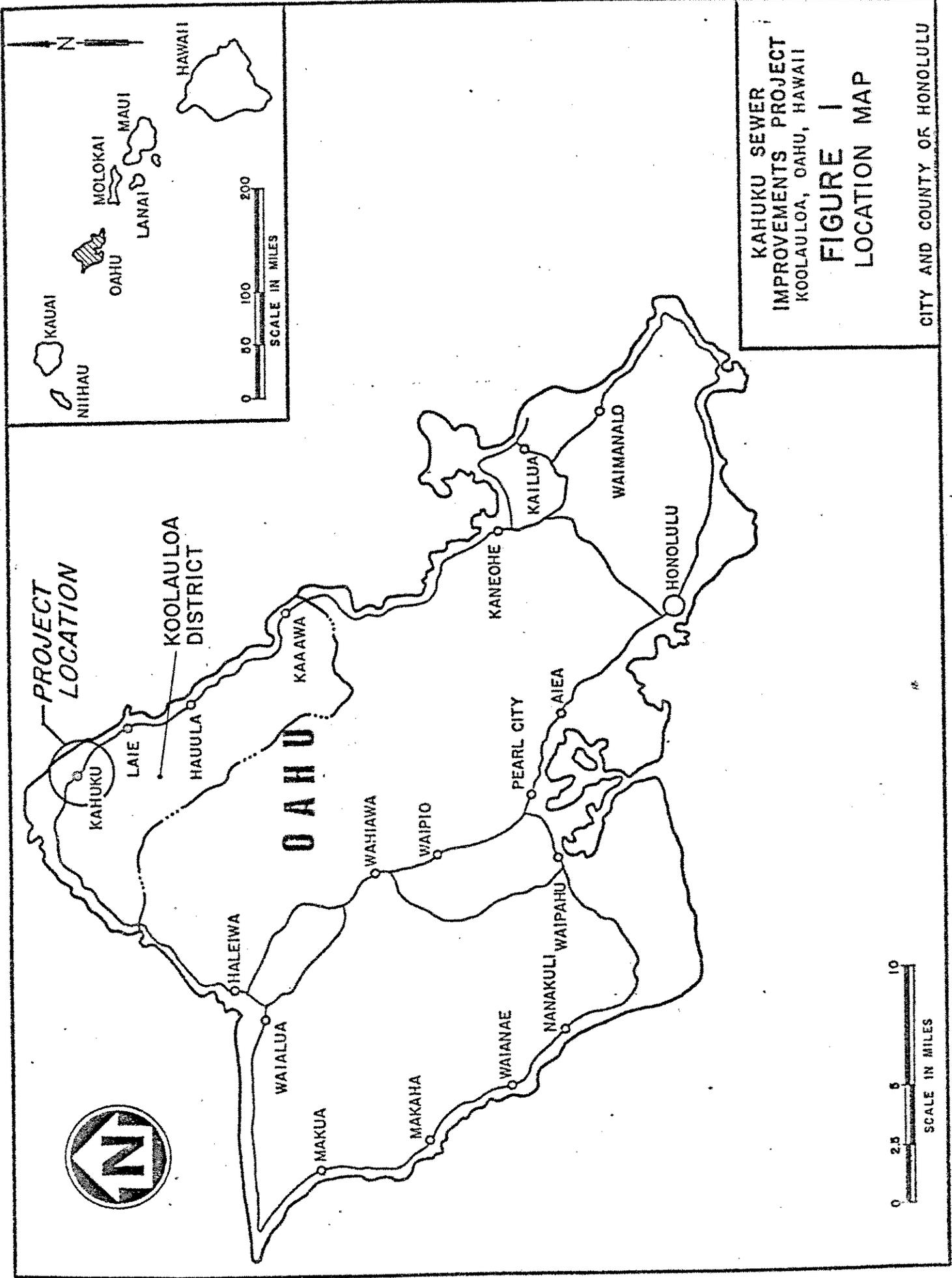
I. PROJECT DESCRIPTION

Project Location. The Kahuku Sewer Improvement project site is located in the town of Kahuku which is situated near the northern tip of Oahu, Hawaii as shown in Figure 1. More specifically, the proposed wastewater treatment facility will be located on a two-acre parcel of abandoned sugarcane land in the northwest section of Kahuku Town, seaward of Kamehameha Highway, as shown in Figure 2. The site is part of a large parcel, identified by Tax Map Key: 5-6-02:01. The location of the wastewater collection and transmission system is shown in Figure 5.

General Background and Statement of Objectives. Presently, there are no municipal wastewater collection and treatment facilities in this area. Sewage treatment and disposal is handled by individual units, mainly cesspools. The Water Quality Program for Oahu (WQPO, February, 1972) recommends that a wastewater treatment and disposal facility be provided in the Kahuku area to serve the North Oahu Sewerage District. However, the City and County does not have any plans to implement the program for the area at this time.

Koolauloa Housing project, a 300-lot residential subdivision in Kahuku, is being proposed by the Department of Housing and Community Development, City and County of Honolulu. This housing project is in response to the housing need of the low and moderate income families in the Koolauloa District.

The prime objective of the Kahuku Sewer Improvement project is to service the Koolauloa Housing project since there are no existing facilities to treat its wastewater. Another objective is to provide wastewater facilities for approximately 80 users, the school complex and the hospital in Kahuku Town.



KAHUKU SEWER IMPROVEMENTS PROJECT
KOOLAULOA, OAHU, HAWAII

FIGURE 1
LOCATION MAP

CITY AND COUNTY OF HONOLULU

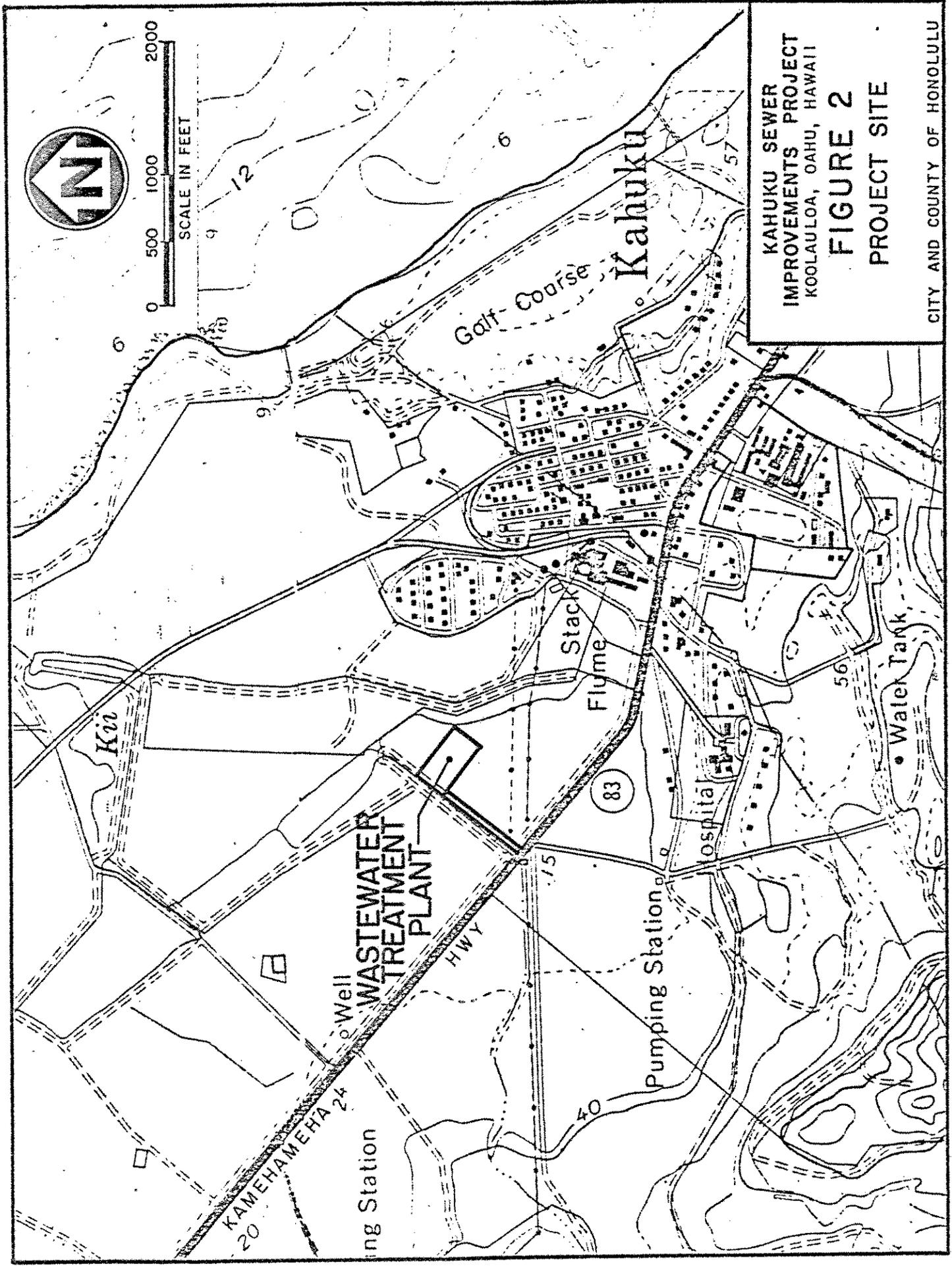


**KAHUKU SEWER
IMPROVEMENTS PROJECT**
KOOLAULOAA, OAHU, HAWAII

FIGURE 2

PROJECT SITE

CITY AND COUNTY OF HONOLULU



Description of the Proposed Action. The Kahuku Sewer Improvement project proposes to construct a wastewater treatment and disposal facility with necessary transmission and collection systems. The wastewater treatment and disposal facility will be an interim action until the plan recommended in the WQPO for the North Oahu District is implemented. At that time, this facility will be phased out and the Kahuku Sewer System will be integrated into the regional North Oahu District System.

The proposed wastewater treatment facility will be located seaward of Kamehameha Highway, as shown in Figure 2, and is situated on a flat parcel of land on the coastal plain which is owned by Campbell Estate. Approximately 2.0 acres of land will be required for the facility to handle the design average daily flow of 0.20 million gallons per day (mgd). An additional 1.7 acres will be reserved for expanding the plant to 0.80 mgd.

The design average daily flow is 0.20 mgd, which is the projected flow from the Koolauloa Housing project, the school complex, hospital and approximately 80 users in Kahuku Town. The projected ultimate design wastewater flow, based on existing zoning, is 0.80 mgd. The proposed wastewater collection and transmission system will be designed for this ultimate flow.

In determining the projected wastewater flows, the following parameters were used:

1. Average Daily Flow:
 - a. Residential (4 persons/unit) 100 gcd
 - b. School 25 gcd
 - c. Hospital 200 gpd/bed

(gcd - gallons per capita per day)
(gpd/bed - gallons per day per bed)
2. Maximum Flow Factor (Babbitt) = $5/p^{0.2}$
3. Wet Weather Infiltration/Inflow
 - a. Above groundwater table 1,250 gad
 - b. Below groundwater table 2,750 gad

(gad - gallons per acre per day)

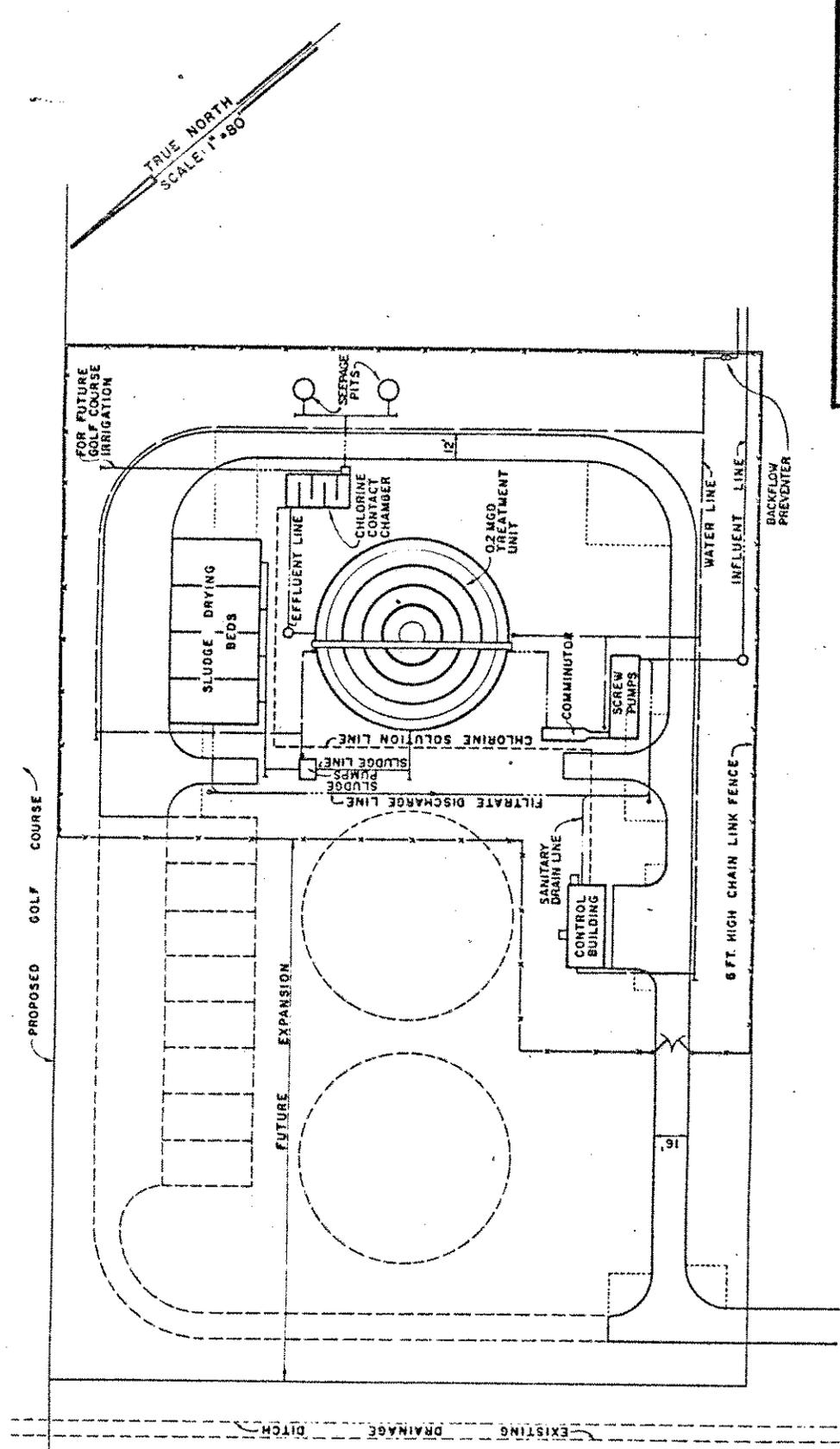
The proposed treatment facility will be an activated sludge treatment plant with a first phase design capacity of 0.20 mgd, average daily flow. However, provisions for expanding the plant to an ultimate average daily flow of 0.80 mgd will be included in the design. The general site plan layout of the treatment plant is shown in Figure 3 and the flow through the plant is diagrammed in Figure 4.

Interim effluent disposal will be by seepage pits, however, when the proposed expansion of Kahuku Golf Course is completed, the effluent will then be used for irrigation of the proposed expansion to the golf course (Refer to Figure 15). The seepage pits will be retained and used as a back-up disposal system.

Seepage pits are allowed in this area seaward of Kamehameha Highway by the Board of Water Supply, which has implemented an island-wide program to protect the ground water from contamination. Also, the coastal water fronting this area is designated by the State of Hawaii as Class "A", which does not preclude the use of adjacent land for subterranean effluent disposal as does Class "AA", coastal waters.

The required number and depth of the seepage pits, including stand-by seepage pits for emergency situations, will be determined based on soil material encountered and results of percolation test at the site. Additional area will be reserved for future requirements and expansion. The design of the subsurface disposal system will conform to the Department of Health (DOH) regulations.

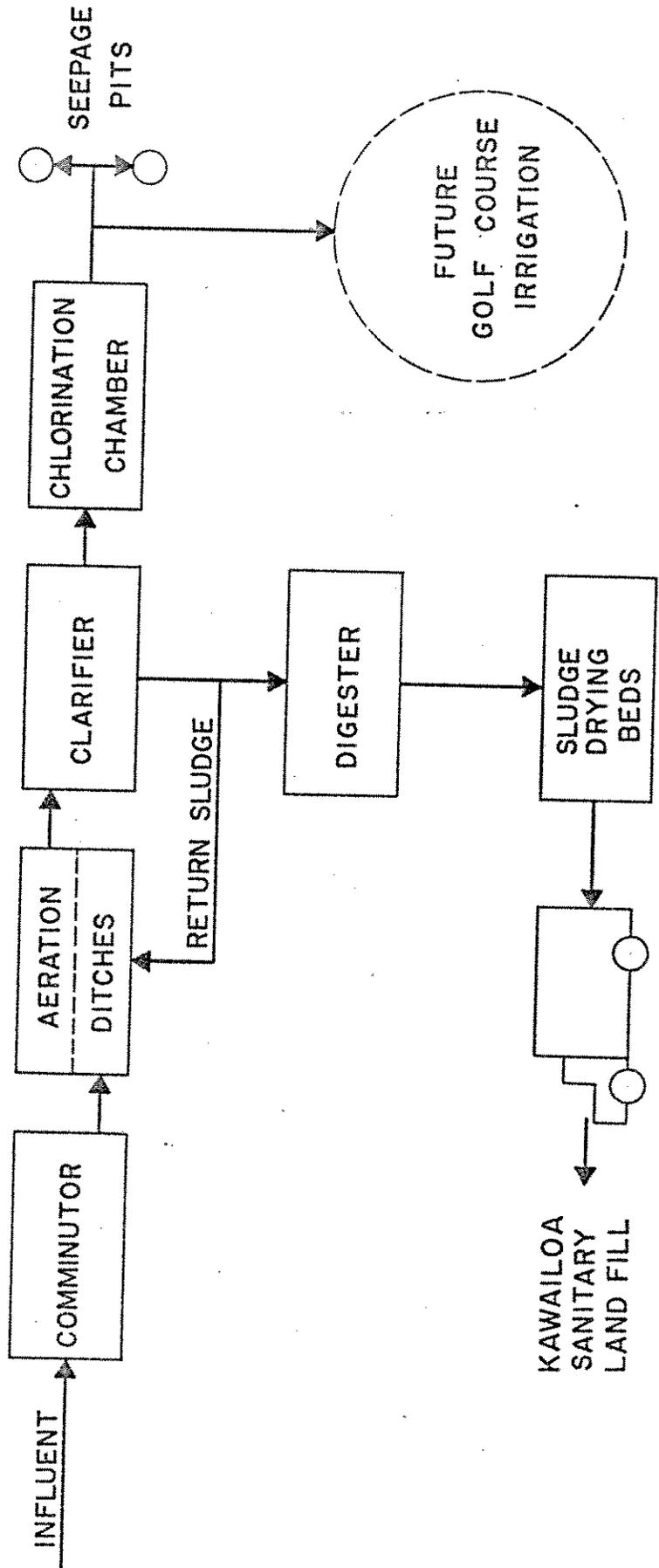
The waste sludge that will be generated from the treatment process will be stabilized in a digestion chamber, dried, and then transported to a landfill in Kawaihoa, approximately 11 miles away. However, the capacity of this landfill will be reached within the next 3 to 5 years. The Division of Refuse Collection and Disposal indicated that the future disposal area may be located at Kailua or Makakilo.



**KAHUKU SEWER
IMPROVEMENTS PROJECT**
KOOILAULOAA, OAHU, HAWAII

FIGURE 3
WWTP SITE PLAN

CITY AND COUNTY OF HONOLULU



KAHUKU SEWER
 IMPROVEMENTS PROJECT
 KOOLAULOAA, OAHU, HAWAII
FIGURE 4
 SCHEMATIC
 FLOW DIAGRAM
 CITY AND COUNTY OF HONOLULU

The Kahuku Town Collection System will consist of gravity sewers designed to carry the ultimate peak flow without surcharging. As shown in Figure 5, wastewater from the housing project, hospital, school and about 80 users in Kahuku Town will be conveyed to the treatment plant.

Utilities for the normal operation of the WWTP are or will be available. Electrical and telephone services are available from Hawaiian Electric Company and Hawaiian Telephone Company, respectively. Water service will become available from the Board of Water Supply.

The total estimated cost of the Kahuku Sewer Improvement project is \$1,600,000.00. The construction costs are based on the 1977 cost index and therefore may require adjustments to reflect the 1978 construction schedule.

The proposed WWTP and sewer system will be operated and maintained by the Department of Public Works (DPW), City and County of Honolulu. The DPW's Division of Sewers has indicated that this will require the hiring and/or training of personnel to operate the facility.

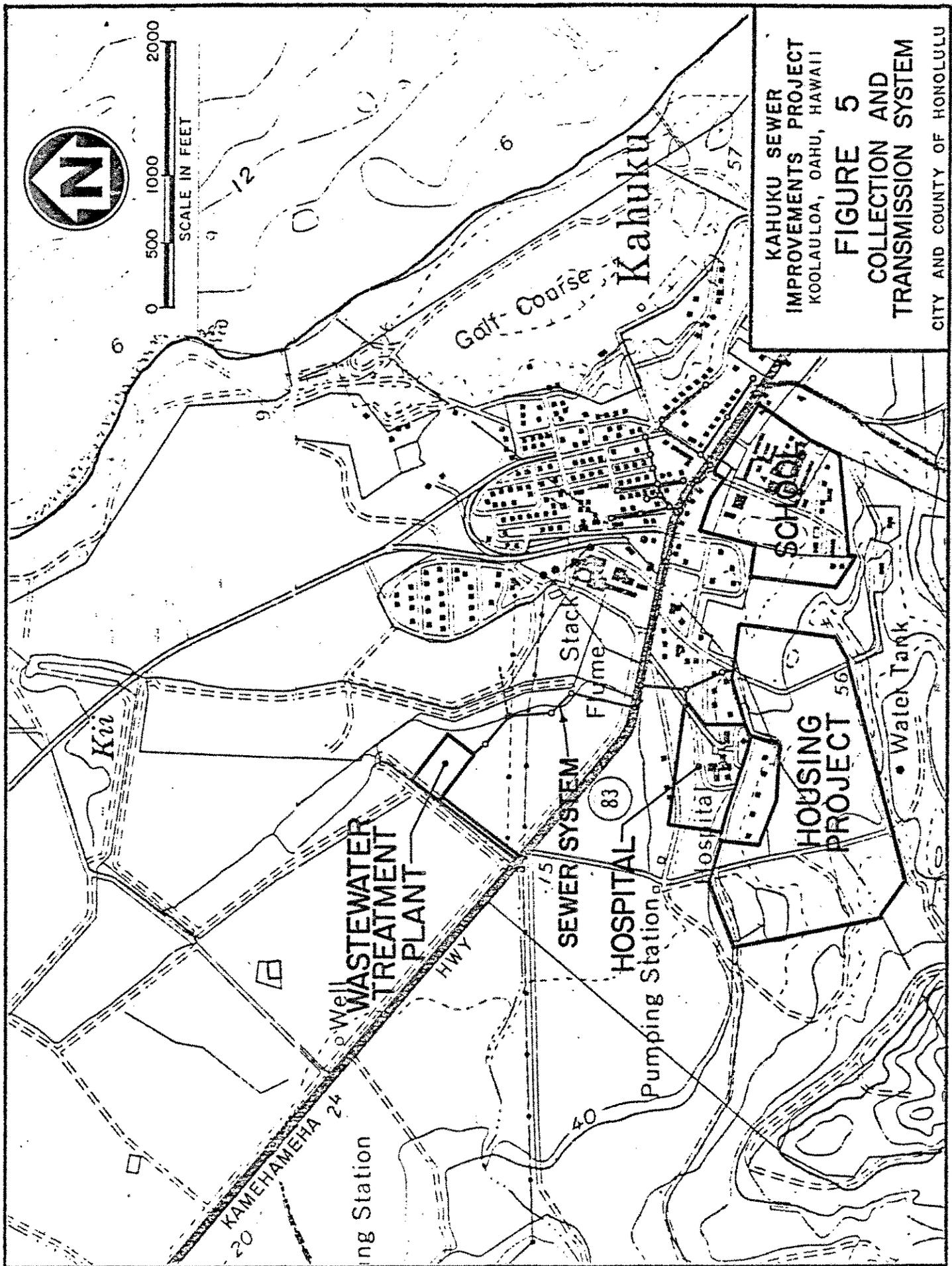
Phasing and Timing. The design phase of the sewer improvement project is scheduled to be completed by April, 1978. The construction phase is scheduled to begin in June, 1978 and the duration of construction is estimated, barring unforeseen problems and delays, to be approximately one year.

Use of Public Funds. The project will be financed by a grant and loan from Farmer's Home Administration (FmHA), U. S. Department of Agriculture. The grant will be for \$800,000.00 and the loan for \$800,000.00 at the prevailing interest rate at the time the loan is approved. The sewer service charge will finance the operation and maintenance of the proposed project.

**KAHUKU SEWER
IMPROVEMENTS PROJECT
KOO LAULOA, OAHU, HAWAII**

**FIGURE 5
COLLECTION AND
TRANSMISSION SYSTEM**

CITY AND COUNTY OF HONOLULU



II. DESCRIPTION OF ENVIRONMENTAL SETTING

The environment affected by the proposed project includes a major portion of Kahuku Town, a small rural community located in the Koolauloa District on the Island of Oahu, approximately 34 miles north of downtown Honolulu, as shown in Figure 1. This Hawaiian Community evolved from a small, predominantly plantation settlement, to a more modern, but still rural-oriented community encompassing residential, commercial and agricultural land use practices.

The Kahuku area, prior to its acquisition by James Campbell, was primarily used for cattle ranching. In the late 1880's when Campbell purchased the land, he began development of a water supply and distribution system. He then leased the land to Kahuku Sugar Company for sugarcane cultivation and a sugar processing mill. The sugar plantation remained in operation for 80 years. However, in 1971, Kahuku Sugar Company ceased its sugarcane production.

With the closing of the sugar plantation and mill, emphasis was extended to diversified agriculture and tourism. Diversified agriculture consists of feed corn, watermelon, banana, guava and papaya cultivation. The Kahuku Sugar Mill is becoming a major tourist destination since its conversion to a museum resort complex.

In 1970, the population of Kahuku Town was 917, which represented a decrease of 25.9 percent since the 1960 census. At the time of the 1970 census, the total housing units numbered 257 (of which 3 were owner-occupied units), the median rent ranged from \$0 - \$40, and employment was centered in the civilian labor force (DPED, 1972).

The City and County of Honolulu General Plan, Statement of Objectives and Policies, adopted in February, 1977, designates the Kahuku-Kahaluu area as rural. In an effort to maintain the Island's rural population, a distribution of approximately 1.9 percent of Oahu's residential population is sought for the Kahuku-Kahaluu area in the year 2000.

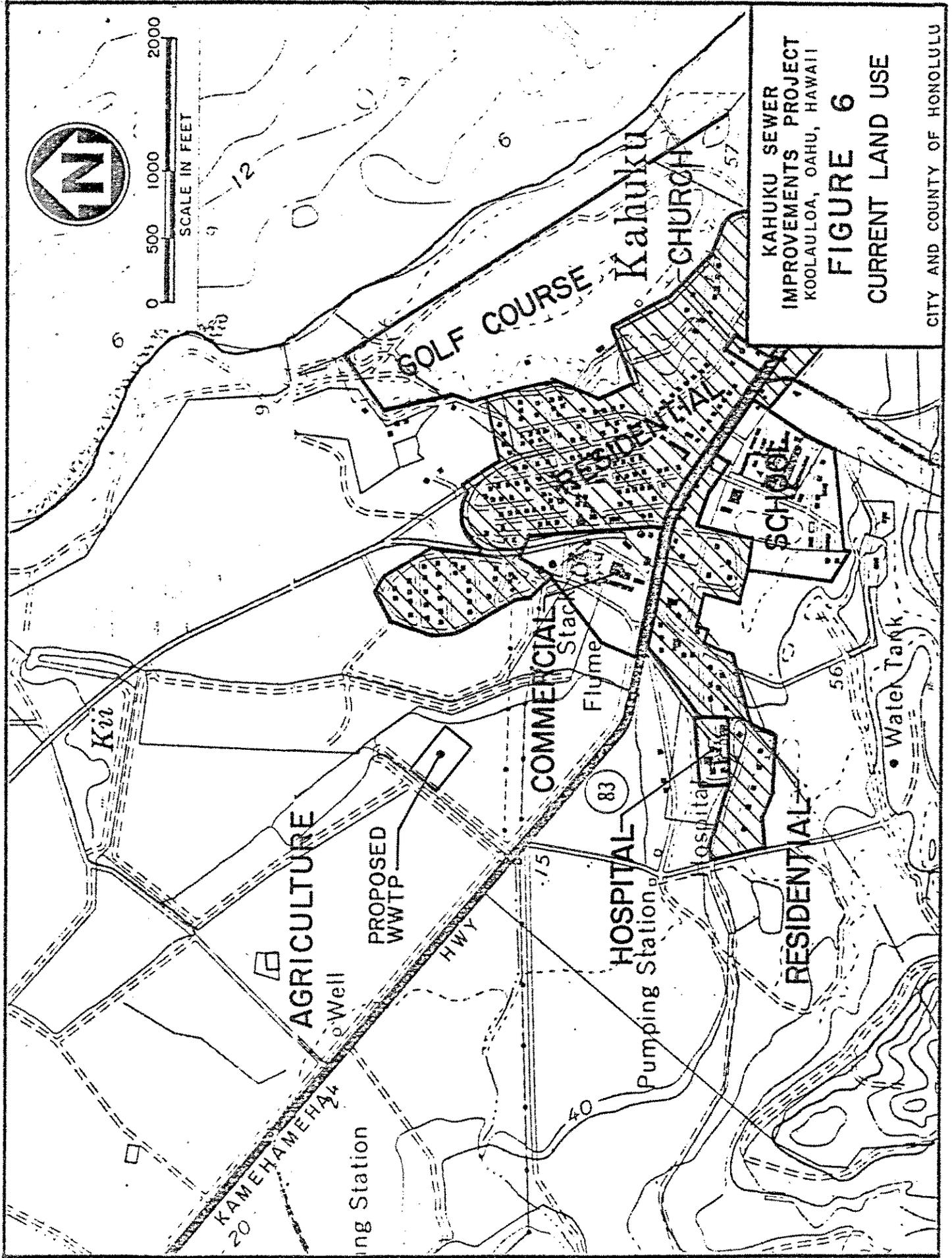
The current land use is shown in Figure 6, while Figure 7 shows the current City and County zoning map. The Detailed Land Use Map of the Oahu General Plan (OGP, 1964) is shown in Figure 8 and Figure 9 shows the land use designations of the State Land Use Commission (SLUC, 1974).

Mean annual rainfall in the area, as shown in Figure 10 is less than 40 inches, and a majority of this rainfall occurs between October and April. The average annual temperature is approximately 75° F., with an annual relative humidity of about 70 percent. The cooling northeast tradewinds, varying from 0 - 14 miles per hour are usually present, thus creating a comfortable climate.

The major soil types found within Kahuku Town area include Jaucas sand (JaC), Kaloko clay (Kfa), Kawaihapai clay loam (KIA), Lahaina silty clay (LaB & LaC), Mokuleia clay loam (Mt), Pearl Harbor clay (Ph), and Waialua silty clay (WkA), with minor occurrences of beach sand (BS), coral outcrops (CR) and fill lands (Fd), as shown in Figure 11, (USDA, 1972). All soils are similar with respect to runoff (slow), erosion hazard (slight), permeability (moderate), corrosivity (low to moderate), mean annual soil temperature (73° F. - 74° F.), and usage (pasture and truck crops).

The geologic formations underlying the Kahuku Town area, as shown in Figure 12, are characterized by caprock made up of sedimentary deposits (Takasaki and Valenciano, 1969). Although the caprock is somewhat permeable, it does tend to inhibit the seaward flow of fresh water into the ocean.

The Kahuku coastal plain is susceptible to flooding in its lowlying and swampy areas. The U. S. Geological Survey has delineated Flood Prone areas and these are shown in Figure 13. The proposed wastewater treatment facility site is not within the Flood Prone area, however, positive drainage for the site will be provided as an added measure of flood protection.



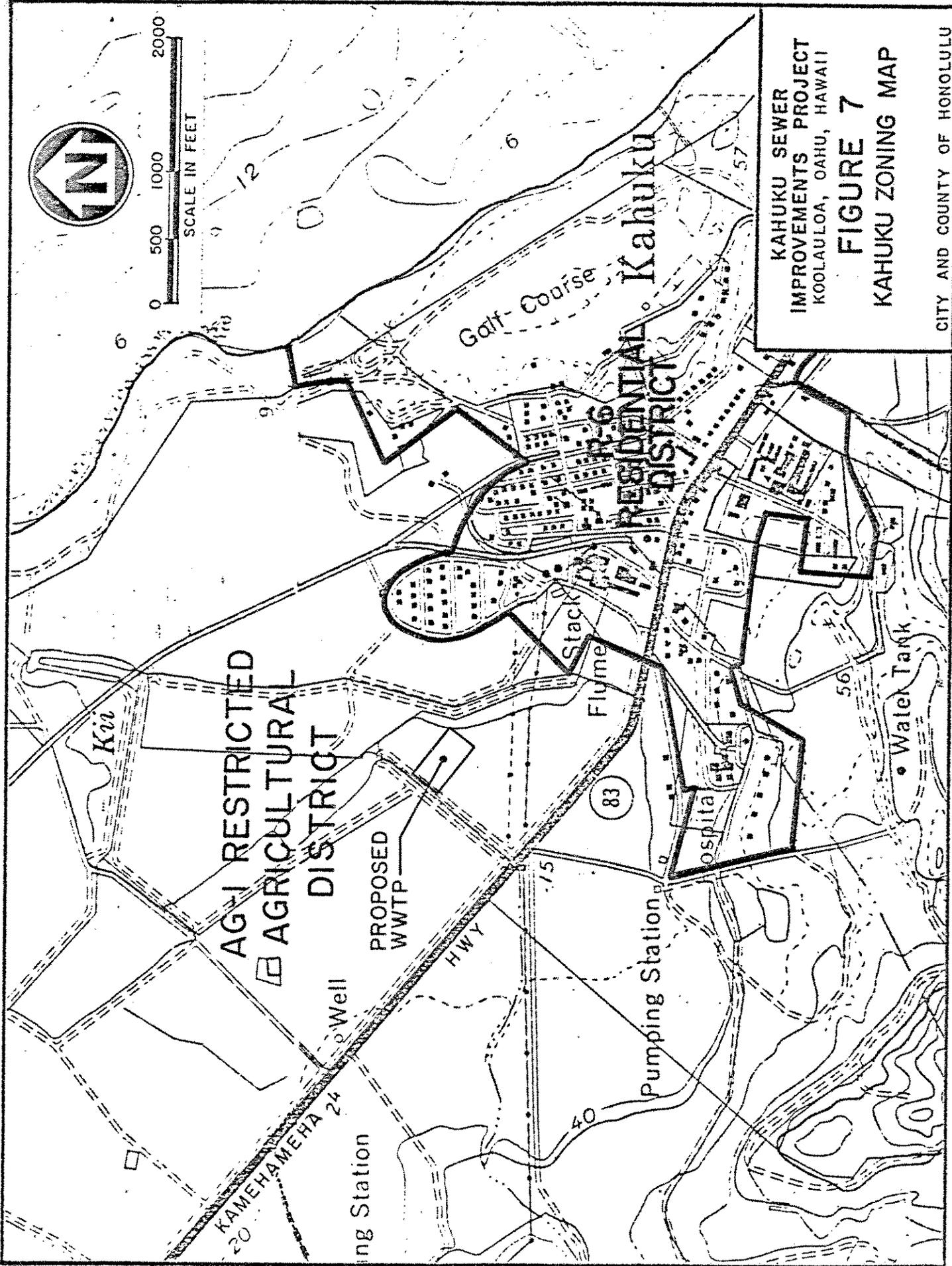


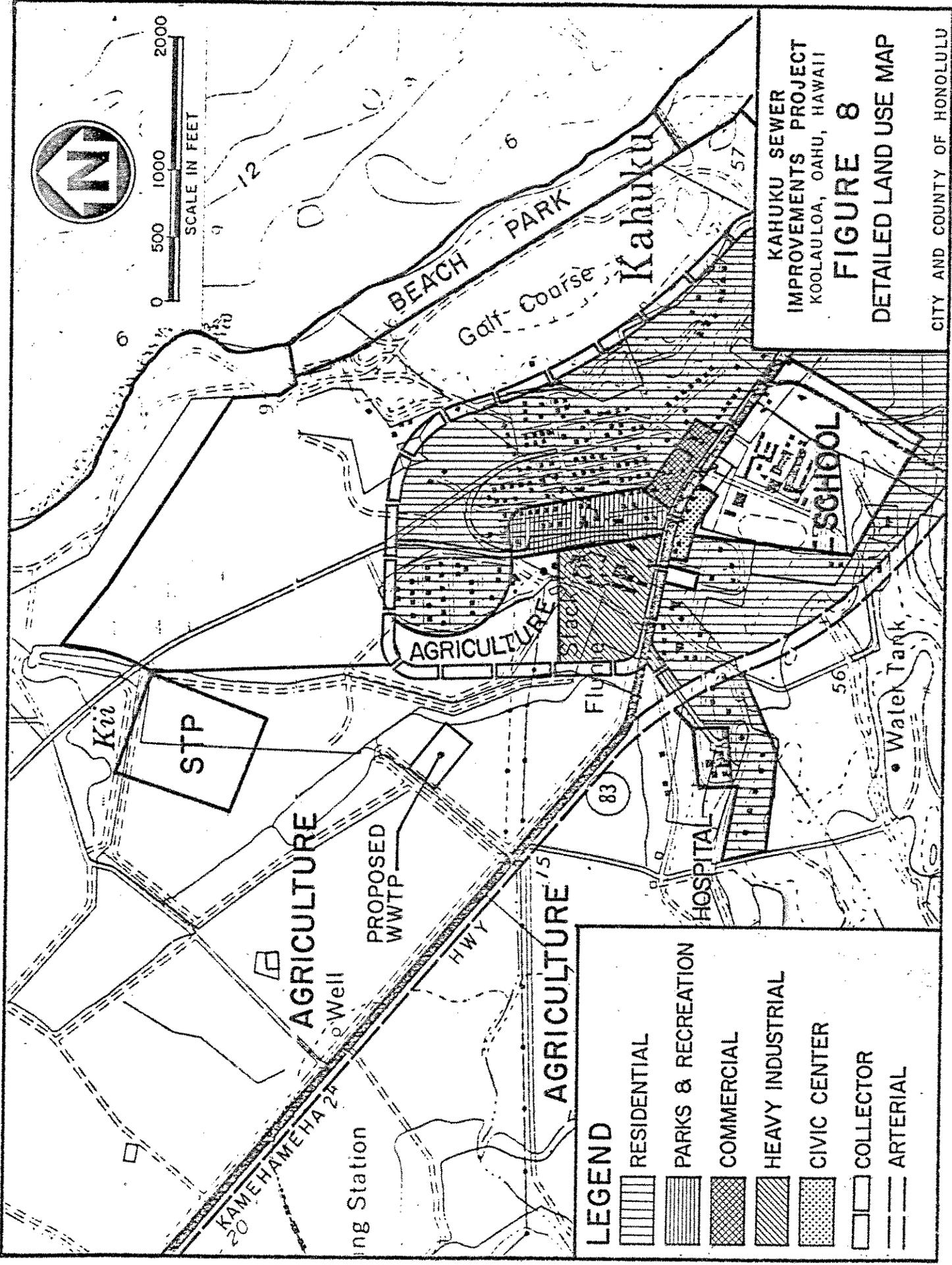
**KAHUKU SEWER
IMPROVEMENTS PROJECT**
KOO LAU LOA, OAHU, HAWAII

FIGURE 7

KAHUKU ZONING MAP

CITY AND COUNTY OF HONOLULU





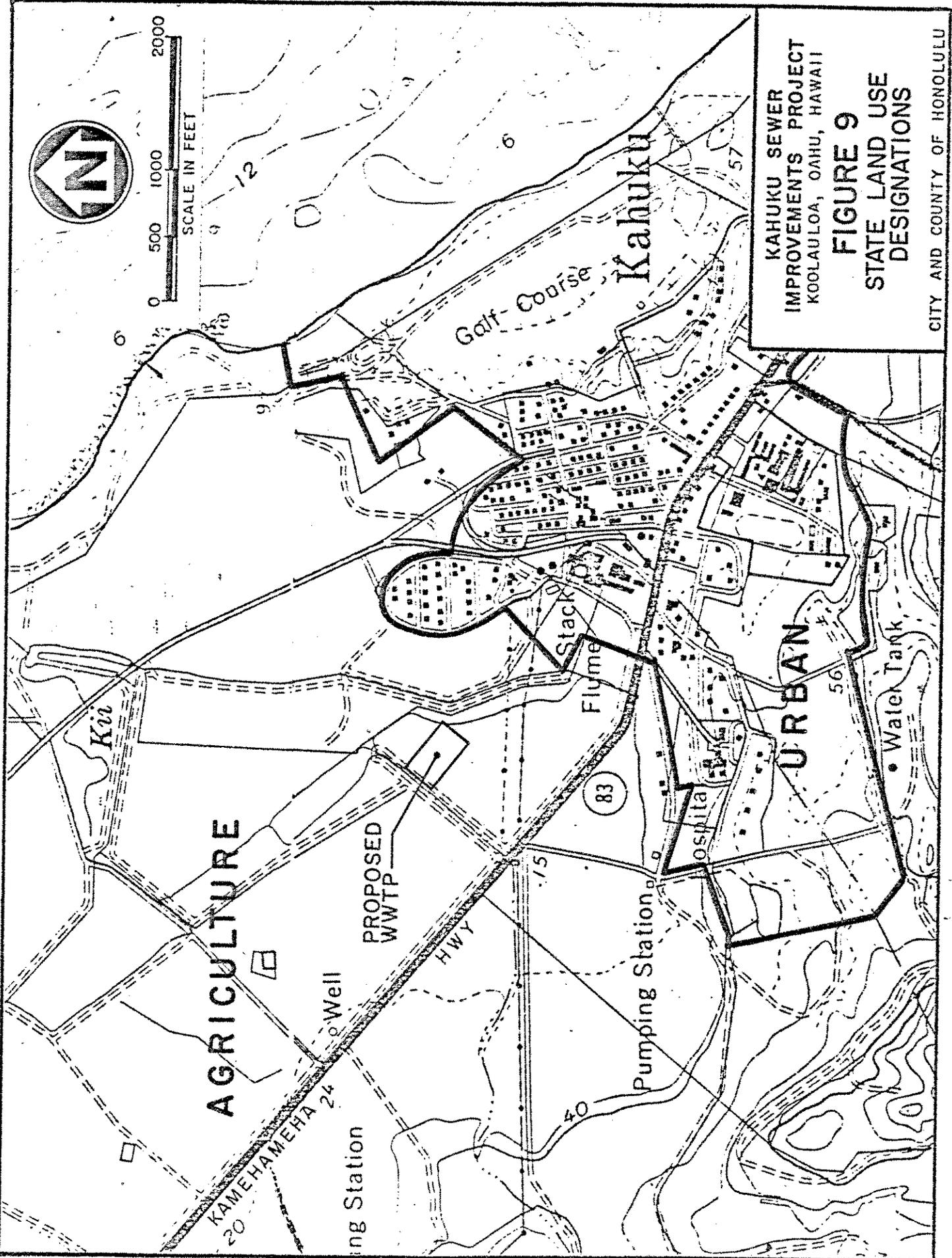
KAHUKU SEWER
IMPROVEMENTS PROJECT
KOOLAULOA, OAHU, HAWAII

FIGURE 8

DETAILED LAND USE MAP

CITY AND COUNTY OF HONOLULU

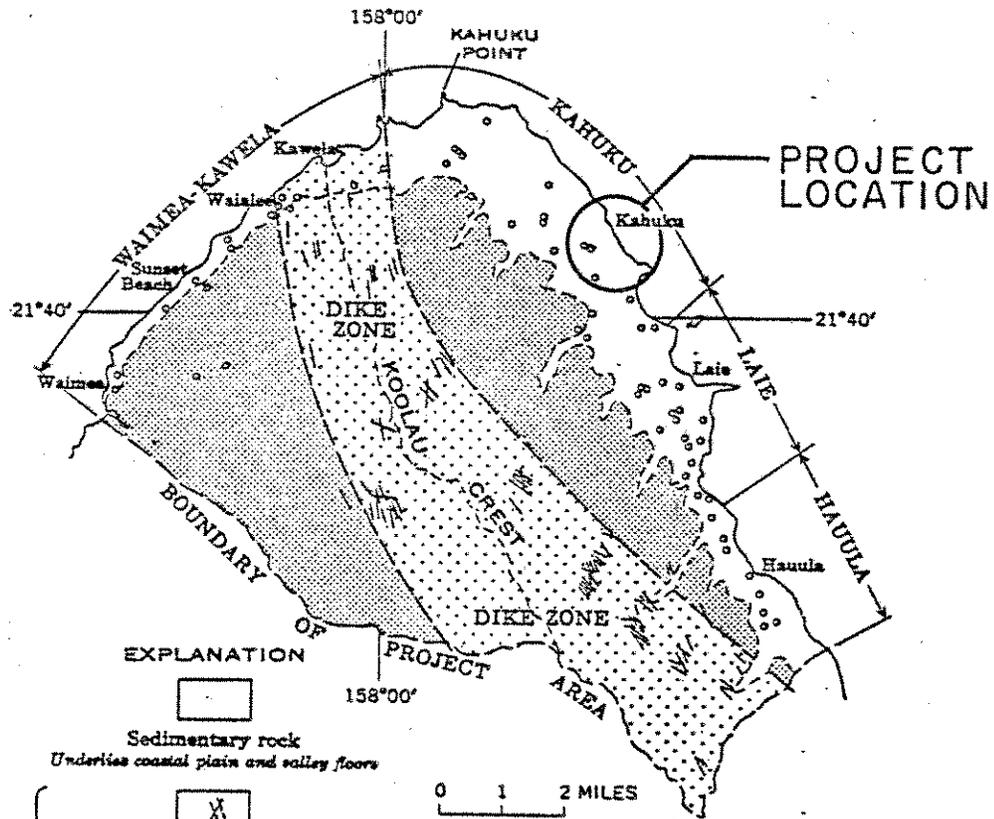
LEGEND	
	RESIDENTIAL
	PARKS & RECREATION
	COMMERCIAL
	HEAVY INDUSTRIAL
	CIVIC CENTER
	COLLECTOR
	ARTERIAL



KAHUKU SEWER
IMPROVEMENTS PROJECT
KOO LAU LOA, OAHU, HAWAII

FIGURE 9
STATE LAND USE
DESIGNATIONS

CITY AND COUNTY OF HONOLULU



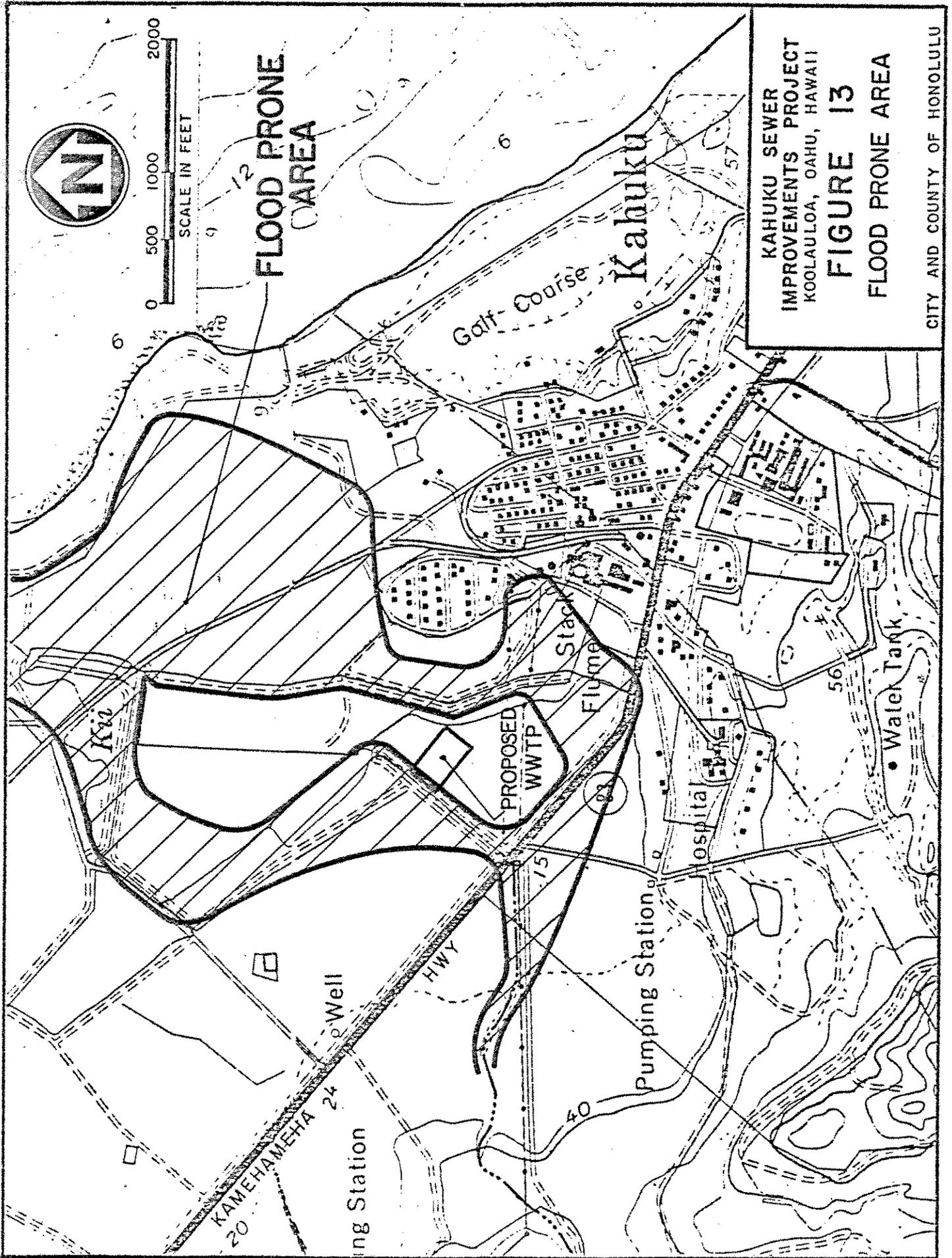
- EXPLANATION**
-  Sedimentary rock
Underlies coastal plain and valley floors
 -  Dikes
 -  Basaltic lava flows
Generally free of dikes
 -  Basaltic lava flows
Intruded by dikes
 -  Drilled well
 -  LAIE
Project subarea
- Koolau Volcanic Series*

**KAHUKU SEWER
IMPROVEMENTS PROJECT
KOOLAULOA, OAHU, HAWAII**

**FIGURE 12
GEOLOGIC MAP**

CITY AND COUNTY OF HONOLULU

SOURCE: "WATER IN THE KAHUKU AREA, OAHU, HAWAII"



**KAHUKU SEWER
 IMPROVEMENTS PROJECT**
 KOOLAULOAA, OAHU, HAWAII
FIGURE 13
FLOOD PRONE AREA
 CITY AND COUNTY OF HONOLULU

Tsunamis, commonly known as tidal waves, have caused extensive flooding and damage along the coast. The treatment facility site is not within the inundation zone as shown by Figure 14. Past tsunamis, generated by strong earthquakes near the Aleutian Island, caused runups to about the 9 foot elevation with 500 feet of inland flooding.

The flora of the proposed treatment facility site is comprised mainly of weeds, grasses and a small banana patch. The fauna of the area consists of mongooses, rats, house mice, feral cats and pigs. The avi-fauna observed in the surrounding area are the Barred Doves, Spotted Dove, Cardinals, Elepaio, I'iwi, Mockingbird, Mynah, Golden Plover, Pueo (owl), Rice Bird, House Sparrow, and White Eye (Mejiro). No threatened or endangered species are believed to reside within the project site.

The Fish and Wildlife Service, U. S. Department of the Interior has proposed a bird refuge at Kii Pond, the boundary of which is shown in Figure 15. The Fish and Wildlife Service has concurred with the method of treatment and disposal; however, their concurrence with the site location, originally 800 feet to the east of the present site, has not yet been negotiated. The Wildlife Service will be consulted again as soon as subsoil tests are completed for the present site.

The Historic Sites Division of the Department of Land and Natural Resources shows no record of any historic sites within the project. Inasmuch as the project site was under extensive sugarcane cultivation prior to 1971, it is very doubtful that any historical or archaeological artifacts exist within the project boundary today.

There are several projects in the development stage within Kahuku Town. As previously mentioned, the Kahuku Support Housing, a 300-unit housing development by the Department of Housing and Community Development is one. Another is the Board of Water Supply's (BWS) Kahuku Water System which consists of wells, a reservoir and a transmission main. This system will replace the present privately owned water system, which does not meet BWS Standards.



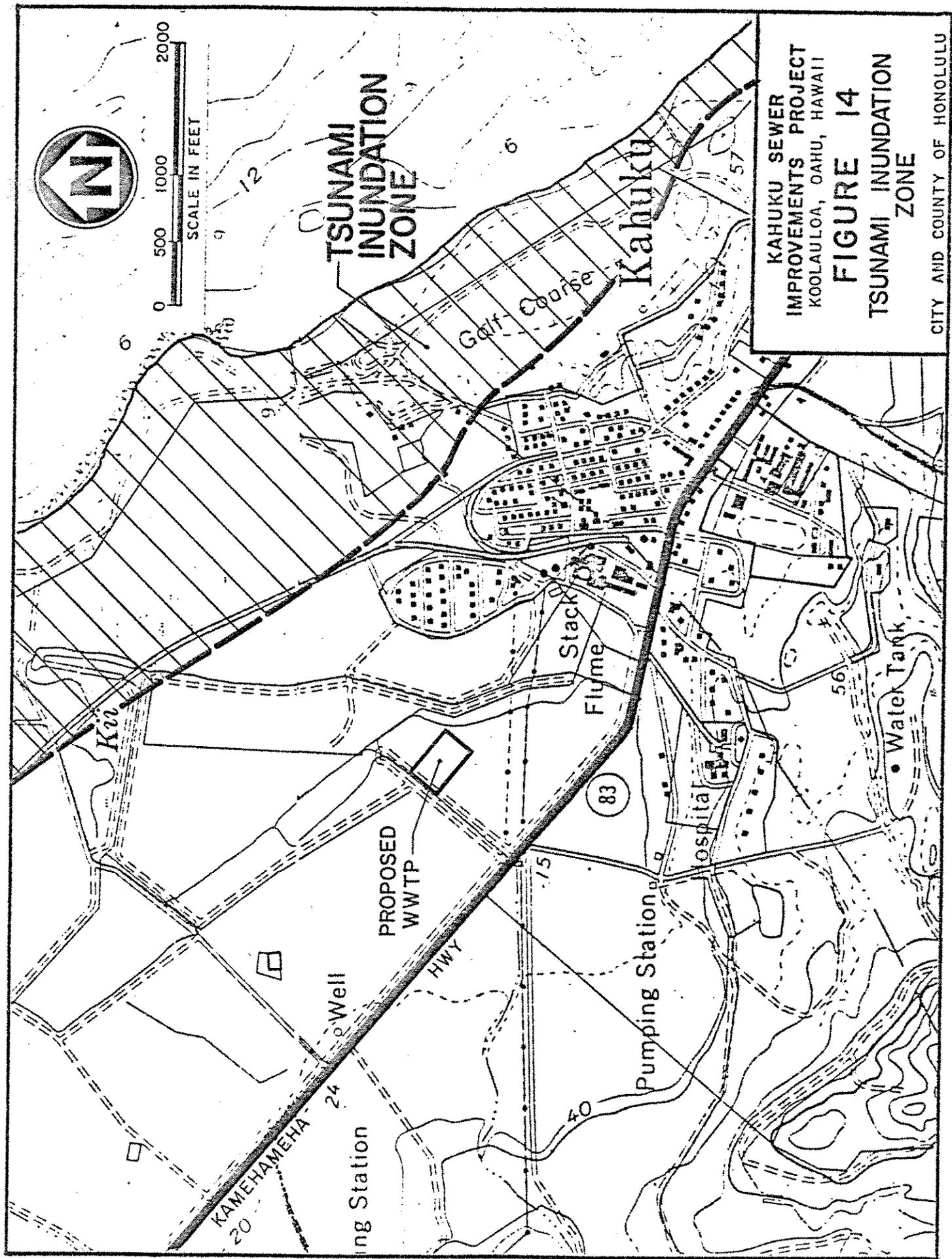
**TSUNAMI
INUNDATION
ZONE**

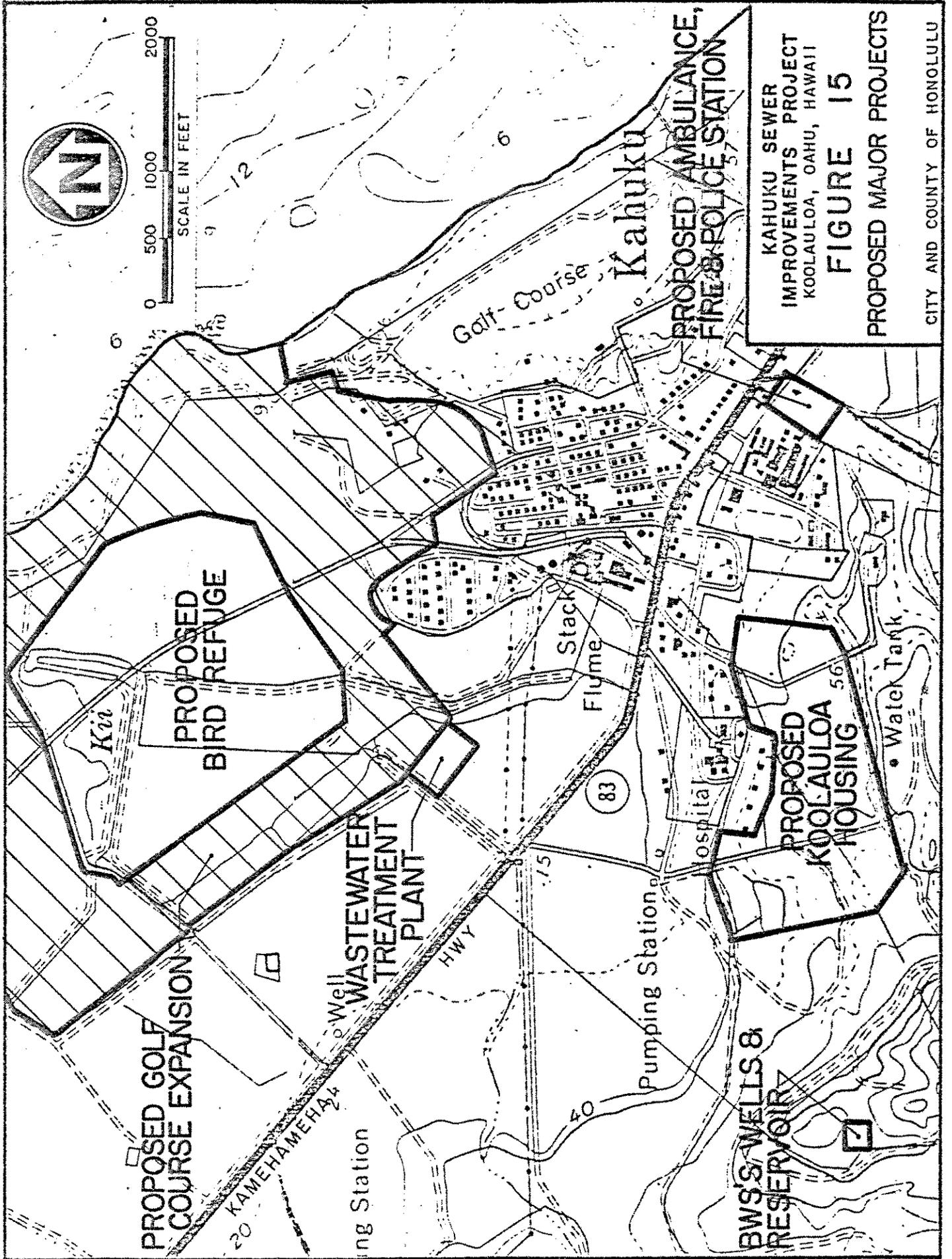
**KAHUKU SEWER
IMPROVEMENTS PROJECT
KOOLAULOA, OAHU, HAWAII**

FIGURE 14

**TSUNAMI INUNDATION
ZONE**

CITY AND COUNTY OF HONOLULU





KAHUKU SEWER
 IMPROVEMENTS PROJECT
 KOOLAULOA, OAHU, HAWAII
FIGURE 15
 PROPOSED MAJOR PROJECTS
 CITY AND COUNTY OF HONOLULU



PROPOSED GOLF COURSE EXPANSION

PROPOSED BIRD REFUGE

WASTEWATER TREATMENT PLANT

Stack Flume

PROPOSED KOOLAULOA HOUSING

PROPOSED AMBULANCE, FIRE & POLICE STATION

BWS'S WELLS & RESERVOIR

Kahuku

Golf Course

Water Tank

Pumping Station

hospital

HWY

ing Station

KAMEHAMEHA

83

40

15

20

6

9

12

6

56

The Kahuku Ambulance, Fire and Police Station project will be located on a four acre parcel next to Kahuku High School. The project consists of a new district police station, a fire station complex, emergency ambulance facility and a helicopter landing pad.

III. RELATIONSHIP OF PROPOSED ACTION
TO LAND USE PLANS, POLICIES
AND CONTROLS
FOR THE AFFECTED AREA

The proposed Kahuku Sewer Improvement project does not conflict with any approved or proposed, State or County land use plans, policies and controls. To the extent that the project will provide a new sanitary sewer system for the existing and future residences, the project can be said to conform with the approved land use plans for the area.

The proposed WWTP facility is an allowable landuse in the AG-1 Restricted Agricultural District of the Kahuku Zoning Map, Figure 7, and the Agricultural District of the Detailed Land Use Map (DLUM), Figure 8. Although the DLUM has a parcel designated for a Sewage Treatment Plant (STP) site, this parcel is within the proposed U. S. Fish and Wildlife's bird refuge. Therefore, a relocation to the presently proposed WWTP site was required.

The proposed facility is also an allowable land use in the Agriculture District of the State Land Use Designations, Figure 9; therefore, a Special Use permit must be obtained.

IV. PROBABLE IMPACT OF THE PROPOSED ACTION
ON THE ENVIRONMENT

In assessing the environmental impacts of projects such as the Kahuku Sewer Improvement Project, consideration must be given to primary and secondary impacts, as well as to long-term and short-term impacts. Fundamentally, the project being proposed should involve primarily short-term impacts, inasmuch as the treatment facility is an interim facility, to be abandoned when the regional wastewater treatment plant is constructed. However, due to the uncertainty with implementing the regional sewerage plans for the Kahuku area, the life of the proposed treatment facilities may indeed be long-term. In this respect, the proposed Kahuku Sewer Improvement project needs to be evaluated in terms of long-term impacts.

Population. Although the Kahuku Sewer Improvement project is intended to serve the proposed Kahuku Housing project, as well as several existing Kahuku Town facilities and residences, part of the planned system will be designed so as to accommodate flows that may be generated in the future by further development. In this sense, there will be a secondary impact of allowing for future development to occur. The part of the planned system that will be designed for flows greater than that expected initially is the collection and transmission system, and the reason for this approach is based purely on fundamental engineering economics. The treatment facility, on the other hand, will be designed to serve only the initial flows. It should be further noted that the design ultimate flows for the collection and transmission system are based only on housing projections as indicated by the present residential zoning for Kahuku Town. Considering these facts, the secondary impact of allowing future growth, should the Kahuku Sewer Improvement project be constructed, is not believed to be adverse.

Land Use. In dealing with the impact of this project on the land component of the environment, consideration was given to its continued use in diversified agriculture. The long-term impact will be the loss of about 2.0 acres of agricultural land for at least the lifetime of the facility and perhaps beyond, depending on the economics of reclaiming the site for other purposes at that time.

At the present time, less than one acre of the site is being cultivated in banana. However, for the purpose of total production yield, it is assumed that the entire site is under cultivation. Assuming a yield of 10,800 lbs. per acre per year (DPED, 1975), the production from the 2-acres would be 10.8 tons per year. In 1974, the farm price for bananas was 13.1¢ per lb. (DPED, 1975), and assuming a 10 percent per year increase, the value of this production today may be about \$3,500.00 per year. From the standpoint of the tenant farmer, this may be a severe loss. However, from the standpoint of losing 2-acres of agricultural land in favor of providing for a public facility that will help to meet the needs of the Kahuku community, the impact of this land use change is considered to be of positive value.

Water Quality. Potential pollution of both groundwater and coastal waters were also considered in the planning of the proposed project.

As described earlier, the present method of sewage disposal for the some 250 households in Kahuku Town is by cesspool, or some 100,000 gallons of raw sewage is being introduced into the ground daily. The many years of practicing this disposal method has not adversely affected the groundwater in the area. The Honolulu Board of Water Supply has stated that cesspools below Kamehameha Highway are acceptable, at least from the standpoint of potable groundwater protection. Considering that the treated effluent will be disinfected, and that ultimately, golf course irrigation will be practiced, the proposed wastewater treatment and effluent disposal plans are not considered to pose a threat to the potable groundwater in the area.

Water quality data for the coastal waters in the area of the proposed project are limited to bacteriological analyses conducted by the Department of Health on 85 samples taken from January 1971 through December 1976. Of those 85 samples, 22, or 26 percent, were positive for total coliform, and 18 or 21 percent were positive for fecal coliform. The range of these positive counts was from less than 2 to 49 for total coliform, and from less than 2 to 33 for fecal coliform. Even if the more numerous "zero" counts are not considered in evaluating the sanitary quality of the coastal waters with respect to the State standards, it is observed that these waters are well within the established Class A limits for both parameters. Again, the long-time practice of cesspool disposal apparently has not had an adverse effect on the sanitary quality of the nearby coastal waters; and therefore, disposal of treated effluent by seepage pits and/or golf course irrigation is not considered a threat to the sanitary quality of these coastal waters.

Nutrient data are not available for these coastal waters, and the precise impact of any migrating nitrogen or phosphorous on these waters cannot be described without detailed and extensive field investigations, both hydrogeologic as well as oceanographic. A crude estimate of the maximum nutrient addition to the coastal waters that might be expected would have to assume that soil absorption does not occur, nor any chemical reactions involving soil or soil microorganisms. Under these conditions, an addition of some 17 lbs. of phosphorous and 50 lbs. of nitrogen per day might result. However, it is highly unlikely that those nutrients would migrate unaffected by the soil regime, and it is more than likely that those additions would be substantially less. Furthermore, the actual impact of those additions on the marine environment would be dependent on the oceanographic conditions existing where the seeping effluent might emerge. In the final analysis, there is insufficient data to state definitively the impact of nutrient addition, if any, on the nearby coastal waters. However, based on the magnitudes involved, as well as on the high probability of soil interaction with those nutrients, it is expected that the coastal waters should not be adversely affected by this treated effluent.

Water Conservation. A beneficial impact of the proposed action is that a valuable resource, effluent for irrigation, would be conserved. The use of secondary treated effluent for irrigation of the proposed golf course expansion would reduce the demand on potable water. This action is an example of one of the Oahu Water Plan's Alternatives for Domestic Water Sources (BWS, 1975).

Air-Quality. No long-term impacts on air quality are expected to result from the proposed project. Odors, which are always a concern with wastewater treatment plants, will be minimized by utilizing aerobic processes and a buffer zone of 600 feet to the nearest resident.

Flora and Fauna. Construction of the proposed project is not expected to affect adversely the existing flora and fauna of the area. As pointed out earlier, there are no threatened or endangered species within the project site, and the flora consists of a variety of weeds and grasses and a small banana patch.

Located approximately 600 ft. north of the proposed site is Kii Pond where the U. S. Department of Interior's Fish and Wildlife Service is planning a bird refuge. This pond presently receives urban, agricultural and forest land runoff from the surrounding watershed which encompasses approximately 2,000 acres. There is a possibility that treated effluent might migrate to this pond via the subsurface disposal system. The extent of this migration that may occur is not predictable at this time.

Social Impacts. The obvious impact that this project will have on the social component of Kahuku Town's environment is not only to allow the construction of much needed housing to proceed, but more importantly, the construction of low to moderate income housing. Furthermore, 80 users in Kahuku Town will also benefit since periodic maintenance of their cess-pools will be eliminated. From this standpoint, the project is judged to have a positive effect on the community.

Summary of Impacts. In any project of this type, there will be some degree of stress placed on the environment. However, it is significant to note that the proposed project will have a negligible impact on the physical, chemical, and biological components of the environment, as opposed to the social and economic benefits that will be derived.

V. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS
WHICH CANNOT BE AVOIDED

In all projects such as that being proposed, some stress will be placed on the environment. However, the designation of stresses as adverse impacts is dependent upon the magnitude of such stresses. Furthermore, a distinction must be made as to the short- or long-term nature of these impacts.

In the short-term, the primary adverse impacts that will result from the proposed project are those associated with the construction activities. Temporary air pollution from dust, possible erosion hazard, noise pollution from construction equipment, and traffic congestion from sewer pipe placement will no doubt result.

In the long-term, potential primary adverse impacts are those associated with the operation of the facility, including 1) possible unpleasant odors, and 2) noise from mechanical devices which are typical of most WWTP facilities.

VI. ALTERNATIVES TO THE PROPOSED ACTION

Among the alternatives to the proposed Kahuku Sewer Improvement project was to not proceed with the improvements. However, this alternative would preclude any community development such as provided by the City's Kahuku Support Housing project, and it was felt that this was not acceptable from a public welfare standpoint. Therefore, the alternatives that were considered dealt with design options for effluent disposal.

One of the effluent disposal alternatives originally considered was a deep ocean outfall similar to the one proposed in the WQPO report for the regional sewer plan. However, in addition to the prohibitive cost of such a facility, construction of an ocean outfall would duplicate the regional plan. This was considered to be unwise from a resource utilization standpoint, and therefore no further detailed examination of this alternative was performed.

Another alternative initially considered was tertiary treatment followed by discharge into existing drainage ditches. However, capital and operating costs are respectively about 60% and 50% higher than those for secondary treatment followed by ground disposal. In situations where adequate environmental protection can be provided only by advanced treatment, then these facilities must be constructed. However, when adequate environmental protection can be provided by secondary treatment, construction of such a facility would be more appropriate.

In the case of the proposed project, it is felt that secondary treatment followed by subsurface disposal can provide such environmental protection. It is recognized that successful operation of the seepage pit is dependent upon 1) a conservative engineering design, 2) a carefully monitored operational procedure, and 3) implementation of a routine maintenance program. Based on the foregoing, consideration of tertiary treatment did not proceed beyond the preliminary stage.

VII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES
AND LONG-TERM PRODUCTIVITY

The proposed Kahuku Sewer Improvement project will result in the long-term loss of 2.0 acres of land, in favor of improved, and also long-term, health protection and community development for Kahuku Town. From a practical standpoint, the proposed action may foreclose future options for use of the land which is presently vacant (except for a small banana patch), however, only at the expense of reducing long-term risks to public health and building the foundation for revitalizing the Kahuku community.

VIII. MITIGATIVE MEASURES

Short-term impacts associated with construction activity are expected. The surrounding area will be subjected to some dust, erosion, noise and traffic generated by construction.

Dust will be generated during excavation and embankment construction. Water, as needed, will be sprayed to abate the dust, and exposed areas will be grassed as soon as practicable.

The proposed project site will be subjected to erosion hazard during construction. To minimize the potential adverse impact on water quality, the contractor shall be required to adhere to the Soil Erosion Standards and Guidelines of the City and County of Honolulu. In addition, soil retention should be improved since the project site will be landscaped.

Noise from construction equipment will be audible during construction. The usual noise control procedures of construction, such as limiting operations to normal working hours will be utilized.

Existing roadways will remain open to local traffic during construction. Traffic control devices to safeguard public traffic will be provided and used in conformity with the "Rules and Regulations Governing the use of Traffic Control Devices on or Adjacent to Public Streets and Highways" adopted by the State Highway Safety Coordinator.

Air pollution from motor exhausts of construction equipment is not expected to materially affect air quality. For a project of this nature, the number of equipment operating at any one time is small.

Long-term impacts associated with the normal operation of the WWTP are expected. Pumps, motors and other equipment will generate noise, and also the emergency standby generator will produce noise during power outages and during preventive maintenance testing. Provisions will be included in the design to reduce the noise levels to the limits specified in Chapter 44B of the State Public Health Regulations.

The unpleasant odor that may accompany normal operation would be difficult to control; however, the impact should be reduced because of the facility's location. The nearest residential home is located about 700 feet away and the land around the facility is reserved for agriculture. Therefore, odors should be reduced by dispersion within the agricultural buffer zone.

IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS
OF RESOURCES

The proposed Kahuku Sewer Improvement Project will irreversibly commit land, labor, material and energy resources required for its design, construction and operation.

Approximately 2 acres of agricultural land will be lost to the WWTP site; however, the land could be returned to agricultural use if the North Oahu Regional WWTP is constructed. Since this regional WWTP is not scheduled to be constructed in the foreseeable future, the land for the proposed project is for all practical purposes irreversibly committed.

Labor will be involved in the construction and operation of this system, as is the case with any piping and pumping network; all labor expenditure will be essentially irreversible and irretrievable. Materials such as concrete, cast iron, reinforcing steel, etc., will be required for construction, and when in-place, will be for all practical purposes irreversibly and irretrievably committed.

The operation of the pump and appurtenances will require electrical energy for the life of the system. This constant energy demand, although not large at all, will be an irreversible and irretrievable commitment of energy resources in the future.

X. AGENCIES AND ORGANIZATIONS CONTACTED

City and County of Honolulu

Department of Housing and Community Development

Board of Water Supply

Division of Refuse Collection and Disposal

State of Hawaii

Department of Planning and Economic Development

Department of Health

Department of Land and Natural Resources

Federal

Farmers Home Administration, Department of Agriculture

U. S. Fish and Wildlife Service, Department of Interior

Private Organizations

Kahuku Housing Corporation

Kahuku Community Association

Campbell Estate

Kahuku Seafood Plantation

XI. AGENCIES TO BE CONSULTED

City and County of Honolulu

Department of Land Utilization
Department of Transportation Services
Department of General Planning
Board of Water Supply
Division of Refuse and Disposal

State of Hawaii

Department of Health
Department of Land and Natural Resources
Department of Planning and Economic Development
Department of Agriculture

Federal

Farmers Home Administration, Department of Agriculture
Soil Conservation Service, Department of Agriculture
U. S. Fish and Wildlife Service, Department of Interior
Corps of Engineers, Department of Army

Private Organizations

Kahuku Housing Corporation
Kahuku Community Association
Campbell Estate
Kahuku Seafood Plantation

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1. City and County of Honolulu, "General Plan, Statement of Objectives and Policies", Resolution No. 238, January 18, 1977.
2. Department of General Planning, "Detailed Land Use Map of the Oahu General Plan", City and County of Honolulu, 1964.
3. Department of Land and Natural Resources, Division of Water and Land Development, "Kahuku Flood Hazard Area, Kahuku, Oahu, Hawaii", prepared in cooperation with the Department of the Army, Honolulu District, Corps of Engineers, June 1971.
4. Department of Planning and Economic Development, Hawaii Urban Planning Information Center, "Community Profiles for Hawaii", State of Hawaii, February 1973.
5. Department of Planning and Economic Development, Land Use Commission, "Land Use District Boundaries", State of Hawaii, December 20, 1974.
6. Honolulu Board of Water Supply, "Oahu Water Plan", City and County of Honolulu, July 31, 1975.
7. Real Estate Data, Inc., "Real Estate Atlas of the State of Hawaii, Geographical Ownership", Volume 2, Tenth Edition, 1977.
8. Sunn, Low, Tom & Hara, Inc., Engineering Sciences, Inc., and Dillingham Corporation, "Water Quality Program for Oahu with Special Emphasis on Waste Disposal", prepared for Department of Public Works, City and County of Honolulu, February 1972.
9. Takasaki, K. J. and Santos Valenciano, "Water in the Kahuku Area, Oahu, Hawaii", U.S.G.S. Water Supply Paper 1874, 1969.

10. U. S. Department of Agriculture, "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii", Soil Conservation Service in conjunction with the University of Hawaii Agricultural Experiment Station, August 1972.

11. Wilson, Okamoto & Associates, Inc., "Environmental Impact Statement, Kahuku Ambulance, Fire, and Police Station, Kahuku, Oahu", prepared for Building Department, City and County of Honolulu, February 1977.

PART III--COMMENTS AND RESPONSES

FEDERAL

AFZV-FE-EE

12 AUG 1977

Office of the Governor
State of Hawaii
Environmental Quality Commission
550 Halekaunila Street, Room 301
Honolulu, Hawaii 96813

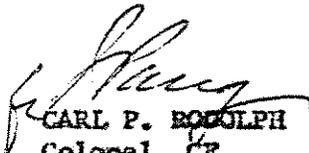
RECEIVED
AUG 18 3 23 PM '77

Gentlemen:

Thank you for the opportunity to review the inclosed Environmental Impact Statement for the Koolauloa Housing Project, Kahuku, Oahu, Hawaii. A review has been conducted and there are no comments. The document is returned as requested.

Sincerely,

1 Incl
As stated


CARL P. RODOLPH
Colonel, CE
Director of Facilities Engineering

Copies furnished: (wo incl)
Dept. of General Planning
CC, Honolulu
650 S. King Street
Honolulu, Hawaii 96813

✓ Dept. of Housing & Community Dev.
CC, Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Return address: Dept of the Army
Headquarters, US Army Support Command
Hawaii
APO SF 96558

August 22, 1977

Colonel Carl P. Rodolph
CS, Director of Facilities Engineering
Department of Army
Headquarter, U.S. Army Support Command, HI
APO, San Francisco 96558

Dear Colonel Rodolph:

Subject: Draft Koolauloa Housing Project

We thank you for reviewing and responding to the above
draft environmental impact statement for the Koolauloa
Housing Project at Mahuku, Koolauloa, Oahu, Hawaii.

Sincerely,

TYRONE F. KUSAO
Director

1/1/77

HEADQUARTERS
FOURTEENTH NAVAL DISTRICT

BOX 110
FPO SAN FRANCISCO 96510

IN REPLY REFER TO:

002A:FWD:amn
Ser 1700

24 AUG 1977

Environmental Quality Commission
Office of the Governor
State of Hawaii
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Gentlemen:

Draft Environmental Impact Statement for
the proposed Koolauloa Housing Project - Kahuku

The draft Environmental Impact Statement for the proposed
Koolauloa Housing Project has been reviewed and the Navy has no
comments. As requested by your letter, the subject EIS is
returned.

Thank you for the opportunity to review the EIS.

Sincerely,



R. P. NYSTEDT
CAPTAIN, USN
DISTRICT CIVIL ENGINEER
BY DIRECTION OF THE COMMANDANT

October 28, 1977

Captain R. P. Nystedt, CEC, USN
District Civil Engineer
Headquarters, 14th Naval District
P. O. Box 110
FPO San Francisco 96610

Dear Captain Nystedt:

Subject: Draft Environmental Impact
Statement for the Proposed
Koolauloa Housing Project,
Kahuku

Thank you for reviewing and responding to the
draft environmental impact statement for the proposed
Koolauloa Housing Project at Kahuku, Koolauloa, Oahu,
Hawaii.

Sincerely,

TYRONE T. KUSAO
Director

RN:mn

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P. O. Box 50004, Honolulu, HI 96850

September 2, 1977

Mr. Tyrone T. Kusao
Acting Director
Department of Housing &
Community Development
City and County of Honolulu
650 S. King St.
Honolulu, HI 96813

DEPT. OF HOUSING
AND COMMUNITY DEVELOPMENT
SEP 6 9 03 AM '77

Dear Mr. Kusao:

Subject: Draft EIS - Koolauloa Housing Project, Kahuku, Oahu, HI

We have reviewed the subject draft EIS and have the following comments:

1. The dEIS mentions (page II-1) the properties of the Kaena stony clay soils, but there is no mention of what measures will be taken to overcome these poor properties in relation to construction of homes and sewer transmission lines. Without suitable measures to offset the poor quality of the soils, considerable problems may occur.
2. The dEIS should state the number of acres of prime farm land that will be lost. Soils found at the project site that are considered prime farm land are: Kawaihapai (KIA), Lahaina (LaB) and Waialua (WkB). Are there mitigative plans for the loss of this prime farm land.
3. The dEIS mentions that considerable clearing, grubbing and grading activities will occur. Erosion control measures to be used during these activity periods should be discussed.

Thank you for the opportunity to review this document.

Sincerely,



Jack P. Kanalz
State Conservationist

cc: Department of General Planning, City & County of Honolulu



September 12, 1977

Mr. Jack P. Kanalz
State Conservationist
Soil Conservation Service
U.S. Department of Agriculture
P. O. Box 50004
Honolulu, Hawaii 96850

Dear Mr. Kanalz:

Subject: Environmental Impact Statement
Koolauloa Housing Project, Kahuku

This is in response to your comments on the draft environmental impact statement for the Koolauloa Housing Project at Kahuku, Koolauloa, Oahu, Hawaii.

1. Measure to Offset the Poor Quality of the Soils
(p.II-1):

Corrective measures of the poor quality of the soils were not suggested since the details of the soils properties and the treatment of the poor quality of the soils will be reported in the preliminary soils report for the proposed project. However, we will add a statement relating to measure to offset the poor quality of the soils in Section VI, Mitigation Measures Proposed to Minimize Impact.

F. Soils--Poor Quality

The high shrink-swell potential of the Kaena Series is an undesirable properties for the construction of roads and homes. The soils become sticky and plastic when wet.

To offset the undesirable properties of the soil a preliminary soil report will be required for the proposed project. The poor quality soils will be substituted with materials acceptable to the City for roadbed and foundations. A soil engineer will be retained to monitor the soil properties during construction to mitigate the adverse impact.

2. Loss of Their Prime Farm Land:

We suggested several alternatives for the site in the draft EIS. One of the alternatives was to clear the entire site and convert the vacant land to diversified agriculture.

The Department of Housing and Community Development is responsible for the City housing program. The final selection of this site was based on the following reasons:

- a. The site is adjacent to the existing Kahuku Village and borders the Kahuku Community Hospital and Kahuku High and Elementary School.
- b. The site is vacant.
- c. The site is zoned Urban District in the State Land Use Map.
- d. The families in the existing Kahuku Village are in need of replacement housing for their dilapidated homes.
- e. Provide families in the low- and moderate-income category in the vicinity the opportunity to acquire their own units.
- f. Achieve our goals and objectives of the City to increase the housing inventory.

September 12, 1977

3. Erosion Control:

The proposed housing project will be developed under the regulations of the grading ordinance, subdivision rules and regulations, and the standard details for public works construction. The grading ordinance contains measures in dust control, runoff control, and erosion control. The subdivision rules and regulations and standards details contain provisions in street landscape and measures in extensive cut and fill controls.

The above statement concerning erosion control will be added to Section VI, Mitigation Measures Proposed to Minimize Impact as subsection "G, Erosion Control Grading."

We hope the above responses satisfy your comments.

Sincerely,

TYRONE T. KUSAO

SEP 12 1977

TYRONE T. KUSAO
Director

RN:mn



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

COMMANDER (m)
Fourteenth Coast Guard District
Prince Kalaniana'ole Federal Bldg.
300 Ala Moana Blvd.
Honolulu, Hawaii 96850
Phone: 808-546-7510

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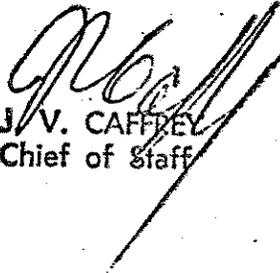
15 SEP 1977

Dept. of General Planning
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Sir:

The U. S. Coast Guard has no comments on this Draft Environmental Impact Statement for the Kooauloa Housing Project.

The opportunity to review and comment on this statement is appreciated.


J. V. CAFFEY
Chief of Staff

Copy to:
State of Hawaii OEOC
→ Dept of Housing & Community Dev.
COMDT (G-WEP-7)

DEPT OF HOUSING
AND COMMUNITY DEVELOPMENT
SEP 19 1 09 PM '77

October 28, 1977

Commander J. V. Caffrey
Fourteenth Coast Guard District
300 Ala Moana Blvd.
Honolulu, Hawaii 96850

Dear Commander Caffrey:

Subject: Draft Environmental Impact
Statement for the Proposed
Koolauloa Housing Project,
Kahuku

Thank you for reviewing and responding to
the draft environmental impact statement for the pro-
posed Koolauloa Housing Project at Kahuku, Koolauloa,
Oahu, Hawaii.

Sincerely,

TYRONE T. KUSAO
Director

TH:mn

DGP 9/77-2492



DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII
APO SAN FRANCISCO 96558

7 SEP 1977

AFZV-HS-HE

(Mayor) Department of General Planning
City and County of Honolulu 650 S. King Street
Honolulu, HI 96813

DEPARTMENT OF
GENERAL PLANNING
C & C HONOLULU

77
SEP 9 PM 12:55

RECEIVED

Gentlemen:

We have reviewed the Draft Environmental Impact Statement for the Proposed Koolauloa Housing Project-Kahuku and have the following major concern: The DEIS does not adequately assess the impact of the proposed sewage disposal system on the existing well water source used by the Kahuku Military Reservation. This well is located at 21° 41' 14" latitude and 157° 51' 48" longitude. It is located approximately 1,800 feet to the southwest of the area labeled "STP" in Figure 8, Appendix B, and 1,300 feet southwest of the proposed golf course expansion in Figure 15, Appendix B.

First of all, the DEIS and Appendix B do not clearly show where the sewage seepage pits will be located. We are assuming that the area to be used for seepage pits is that area labeled "STP" in Figure 8 of Appendix B.

Secondly, the DEIS states on page II-2 of Appendix B that the caprock in the Kahuku area is somewhat permeable but that "it does tend to inhibit the seaward flow of fresh water into the ocean." Also, Figure 13 of Appendix B shows flood-prone areas, some of which coincide with the proposed golf course expansion. If this area is flood-prone, then this means that water does not drain very readily.

Lastly, paragraph 4 on page IV-2 of Appendix B states that the 250 households in Kahuku Town have been discharging some 100,000 gallons of raw sewage into the ground daily without adversely affecting the groundwater in the area. This seems to be used as the reasoning for which the potability of the groundwater in the area is not threatened. This reasoning does not follow for the Army well water source described above for the following reasons:

- 1) Kahuku Town is farther removed from the well than the proposed sewage disposal systems.

7 SEP 1977

2) The discharge of 250 households over a wide area may not have as great an effect as all of the discharge in one area such as the one to be used for seepage pits.

3) The proposed flow from the project is 0.2 mgd which is twice the amount disposed of by Kahuku Town. Also, the ultimate flow is estimated at 0.80 mgd.

Therefore, even though the well source lies upgradient of the proposed sewage disposal systems, this does not rule out the possibility of the well drawing in the percolate. We disagree with the statement on page IV-2 of Appendix B which states that, "the proposed wastewater treatment and effluent disposal plans are not considered to pose a threat to the potable groundwater in the area."

There is potential for contamination of the water supply used at the Kahuku Military Reservation. We recommend that consideration be given to increasing the capacity of the proposed new water supply system for the Koolauloa Housing Project to accommodate the needs of Kahuku Military Reservation. A demand of 10 to 15 thousand gallons per day can be anticipated.

Thank you for the opportunity to comment. Questions may be directed to Mr. Steve Kim, 433-6693.

Sincerely yours,



JOHN R. MOHN
Major, MSC
Administrative Officer
Directorate of Health Services

CF:
Dept of Housing & Comm Dev
Board of Water Supply
DFAE, Utilities
DFAE, Envir Energy Con

October 26, 1977

Major John R. Mohn, MSC
Administrative Officer
Directorate of Health Services
Department of the Army
Headquarters United States Army
Support Command, Hawaii
APO San Francisco 96558

Dear Major Mohn:

This is in response to your comments to our draft environmental impact statement for the proposed Koolauloa Housing Project at Kahuku, Koolauloa, Oahu, Hawaii.

The subsurface disposal facility is proposed within the wastewater treatment plant site labeled "Proposed WWTP" in Figure 8. The exact location, required number, and depth will be determined based on soil material encountered and the result of a percolation test at the site.

The Board of Water Supply has implemented a program for the protection of the water resources for the island of Oahu. As to wastewater disposal facilities, they have a map outlining the areas where subsurface disposal systems would be permitted. These are areas, they felt, subsurface disposal would not detrimentally affect the quality and/or quantity of existing or potential water resources for domestic use. The proposed subsurface disposal system is within their permitted area. Their comment to the draft EIS reflects that they do not anticipate any adverse effect to the potable groundwater resources from the proposed disposal facility.

Major John R. Mohn

-2-

October 28, 1977

Your water source for the Kahuku Military Reservation, as understood, is from a well referred to as USGS Well No. 351, which is an artesian well. The treated effluent will be disposed into the caprock water which is separate from the basal water. It is not expected that the disposal of effluent into the caprock water will have any effect on the basal water source including the artesian well.

Enclosed is a copy of the comments from the Board of Water Supply.

Sincerely,

TYRONE T. KUSAO
Director

Enc.



COPY

August 29, 1977

DEPT. OF HOUSING
AND COMMUNITY DEVELOPMENT
AUG 29 11 17 AM '77

TO: MR. RAMON DURAN
ACTING CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: EDWARD Y. HIRATA
MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT FOR KOOLAULOA
HOUSING PROJECT KAHUKU, OAHU, HAWAII

We have the following comments on the submitted environmental impact statement for the proposed 300-lot subdivision:

1. On page V-2, item 5, delete the second sentence: "Board of Water Supply proposes to build a new water system and water sources for the entire Kahuku area."
2. The water distribution system within the development must meet BWS standards. Construction plans must be submitted to us for review and approval.
3. We do not anticipate any adverse effects to potable groundwater resources from the proposed waste disposal facility.

Our departmental contact is Lawrence Whang at 548-5221 if further information is needed.

E. Y. Hirata

EDWARD Y. HIRATA
Manager and Chief Engineer

cc: Tyrone T. Kusao, Director
Dept. of Housing and Community
Development

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15TH AIR BASE WING (PACAF)
HICKAM AIR FORCE BASE, HAWAII 96853



8 SEP 1971

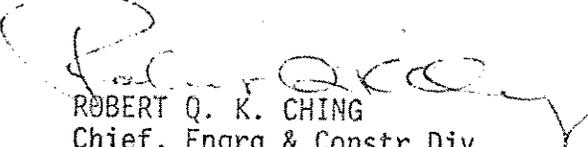
REPLY TO
ATTN OF: DEEE (Mr. Nakashima, 4492158)

SUBJECT: Environmental Impact Statement (EIS) for the Proposed Koolauloa
Housing Project Kahuku, Oahu, Hawaii

TO: (Mayor) Dept of General Planning
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

1. This headquarters has reviewed the subject EIS and has no comment to render relative to the proposed project.

2. We greatly appreciate your cooperative efforts in keeping the Air Force apprised of your project and thank you for the opportunity to review the EIS.


ROBERT Q. K. CHING
Chief, Engrg & Constr Div
Directorate of Civil Engrg

Cy to: Dept of Housing & Community Development ✓
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Refer to DEET
(Mr. Nakashima, 4492153)

November 2, 1977

Mr. Robert W. K. Ching
Chief, Engrg. & Constr. Division
Directorate of Civil Engineering
Department of the Air Force
Hqtrs. 15th Air Base Wing (PACAF)
Hickam Air Force Base, Hawaii 96853

Dear Mr. Ching:

Subject: Draft Environmental Impact Statement for the
Proposed Koolauloa Housing Project--Kahuku

Thank you for your review and comment on the draft EIS
for the proposed Koolauloa Housing Project at Kahuku,
Koolauloa, Oahu, Hawaii.

Sincerely,

STEWART T. KUSAO
Director

RN:mn

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

P. O. Box 50004, Honolulu, Hawaii 96850

October 14, 1977

Mr. Tyrone T. Kusao
Acting Director
Department of Housing &
Community Development
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

OCT 19 11 10 AM '77
DEPARTMENT OF HOUSING
& COMMUNITY DEVELOPMENT

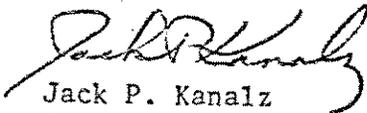
Dear Mr. Kusao:

Subject: Draft EIS - Koolauloa Housing Project, Kahuku, Oahu, HI

In reference to your response of September 12, 1977, concerning our comments on the Draft EIS of the Koolauloa Housing Project, we feel that your response does not adequately address the loss of prime farm land in the project area. The soils found at the site that are considered prime farm land are: Kawaihapai (K1A), Lahaina (LaB) and Waiialua (WkB). Therefore, we contend that the loss of this land should be addressed in more detail as an adverse effect. A few of the items that need further discussion are: the number of acres lost, present land use, and mitigative measures planned to offset the loss of prime farm land.

Your response to our other concerns appear to be adequately covered.

Sincerely,


Jack P. Kanalz
State Conservationist

cc: Department of General Planning, City and County of Honolulu



November 2, 1977

Mr. Jack P. Kanalz
U.S. Department of Agriculture
Soil Conservation Service
P. O. Box 50704
Honolulu, Hawaii 96851

Dear Mr. Kanalz:

Subject: Draft Environmental Impact Statement for
the Koolauloa Housing Project--Kahuku

This is the additional information on the acreage of the
different kind of soils found on the project site and the present
land uses.

The acreage of the different type of soils found on the
site is found on the table below:

Table: Soil Properties

<u>Characteristics</u>	<u>Kaena</u>	<u>Kawaihapai</u>	<u>Lahania</u>	<u>Coral Outcrop</u>
Texture	Stony Clay	Clay Loam	Silty Clay Loam	
Classification	(CH) high liquid limit	(CL) low liquid limit	(CL-ML,ML) low liquid limit	
Permeability	0.06-0.63 inches/hr.	0.63-2.0 inches/hr.	0.63-2.0 inches/hr.	
Available Water Capacity	0.11-0.13 inches/inch	0.06-0.15 inches/inch	0.10-0.12 inches/inch	
Drain-Potential	High	Moderate	Moderate	
Area = 50 acs.*	18.4 acs.	14.7 acs.	12.8 acs.	5.1 acs.
Percent (%)	36%	29%	25%	10%

*Excludes proposed park site.

Mr. Jack P. Kanalz

-2-

November 2, 1977

Unless Alternatives A (no action) and B (retained in agricultural use) are selected for the project site, the prime agricultural land (14.7 acres of Kawaihapai Series and 12.8 of Lahaina Series) will be lost to urban development. The prime farm land in Kahuku under Campbell Estate jurisdiction totals approximately 1,390 acres consisting of 540 acres of Lahaina Series, 785 acres of Waialua Series and 65 acres of Kawaihapai Series. The percentage of prime farm land lost in Kahuku is less than 2 percent of the total prime farm land. The impact of the project on the prime farm land is minimal.

Approximately 20 acres of the project site is presently cultivated in diversified crops and banana involving only one farmer. Campbell Estate made available another site suitable for agricultural purposes. The farmer will prepare the site and relocate himself after harvesting his present crop.

Sincerely,

TYRONE T. KUSAO
Director

RNF:mn



DEPARTMENT OF THE ARMY
 HONOLULU DISTRICT, CORPS OF ENGINEERS
 BLDG. 230, FT. SHAFTER
 APO SAN FRANCISCO 96559

PODED-PV

9 September 1977

Mr. Tyrone T. Kusao, Acting Director
 Department of Housing and Community Development
 City and County of Honolulu
 650 S. King Street
 Honolulu, Hawaii 96813

DEPT. OF HOUSING
 AND COMM. DEVELOPMENT
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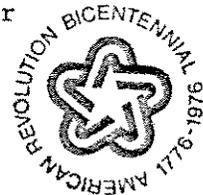
Dear Sir:

We have reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Koolauloa Housing Project-Kahuku as requested in your letter received by this office on 3 August 1977. The following comments are offered for your consideration:

a. Social Impacts. It is difficult to adequately assess social impacts of the project until the demographic study (page XII-4) is completed. It is suggested the derivation of the project population increase to 1370 (page IV-3), and differences between the design and existing residential area (total and under roof area) be explained.

b. Natural Environment. Page V-2 of the DEIS states that a "drainage system on the site will carry storm water from the site to a natural channel and eventually to a swampy area on the makai side of Kamehameha Highway which will serve as a ponding area." The swampy area referred to is apparently Kii Pond, which has been identified by the U.S. Fish and Wildlife Service and the Division of Fish and Game, State of Hawaii, as a "key area to be preserved and developed as a wildlife refuge" (1970, Hawaii's Endangered Waterbirds). The impact of increased storm water and sediment loads due to the Koolauloa Housing Project on endangered waterbirds and their habitat should be addressed in the final EIS.

c. Appendix B, EIS for the Kahuku Sewer Improvement Project, Koolauloa, Oahu, Hawaii, although not prepared by your office, does not address the possible health hazards of using the treated effluent for irrigation of the proposed expansion of the Kahuku Golf Course. Also, there is the distinct possibility that effluent may leach or discharge into Kii Pond since the pond is surrounded on all sides



PODED-PV

Mr. Tyrone T. Kusao

9 September 1977

by the proposed golf course expansion. It is also suggested that the U.S. Fish and Wildlife Service be contacted to obtain concurrence on the location of the seepage pits to be used for interim effluent disposal.

Thank you for the opportunity to comment on the DEIS.

Sincerely yours,


for RISUK CHEUNG
Chief, Engineering Division

October 28, 1977

Mr. Kisuk Cheung
Chief, Engineering Division
Department of the Army
Honolulu District, Corps of Engineers
Bldg. 230, Ft. Shafter
APO San Francisco 96358

Dear Mr. Cheung:

Subject: Draft Environmental Impact Statement for
the Proposed Koolauloa Housing Project,
Kahuku

This is in response to your comments to the draft
environmental impact statement for the proposed Koolauloa
Housing Project at Kahuku, Koolauloa, Oahu, Hawaii.

a. Social Impact

The project will relocate approximately 150 families
from the existing village and add an equal number
of new families. The new families are generally of
the same income level and ethnic groups. These
families will be moving from deteriorating and
dilapidated homes to new homes with new improved
streets.

Generally, the project will have a beneficial
impact on the surrounding environment. Aesthetically
the community will be improved. The project will
vacate the village to be programmed for other
development by Campbell Estate.

October 28, 1977

Population

The projected population of 1,370 persons is the sum of the present Mahuku Village estimated population (833 persons) and the projected population of the 150 new families at 3.53 persons per household ($3.53 \times 150 = 537$ persons).

b. Natural Environment

The 52-acre project represents only 2.8 percent of the 1,880-acre Ohia Gulch drainage basin. The total storm runoff from this drainage basin is expected to increase by about 1.5 percent, as a result of this project. Since this increase is relatively small, no significant impact on the waterbirds or their habitat is anticipated.

- c. The U.S. Fish and Wildlife Service concurs with the disposal methods of treated sewage effluent as outlined in the EIS. The location of the subsurface disposal facility is being coordinated with them.

Using treated sewage effluent for golf course, irrigation is not expected to be a health hazard. They are being used at several golf courses.

Sincerely,

TYRONE T. KUSAO
Director



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Hawaiian Islands and Pacific Islands
National Wildlife Refuges
300 Ala Moana Blvd., Room 5302
PO Box 50167
Honolulu, Hawaii 96850

September 20, 1977

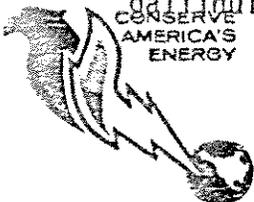
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U.S. DEPT. OF HOUSING
AND COMMUNITY DEVELOPMENT

Mr. Tyrone T. Kusao, Director
Dept. of Housing and
Community Development
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

The U.S. Fish and Wildlife Service has recently established a National Wildlife Refuge for endangered Hawaiian waterbirds in the Kahuku area of Oahu. This refuge was established through the cooperation of the Campbell Estate and was officially dedicated in 1977 with the signing of a 50-year lease agreement with the Estate. As the administering agency we are most interested in providing comments on the development of the sewage treatment plant for the Kahuku area. We had visited in the past with Park Engineering Co. about the sewage treatment proposal. However, we have just learned on September 16, that a request for comments on the EIS regarding this project was mailed on August 2 with a deadline of September 7 for reply. Apparently even though the Fish and Wildlife Service was listed on the distribution list for this EIS we were overlooked in the actual mailing. In the distribution list for the EIS Fish and Wildlife Service was listed, but not checked off as having been sent a copy of the invitation to comment.

Since the James Campbell NWR was established for the endangered Hawaiian waterbirds of the area, and the sewage treatment plant could have a possible adverse impact to the welfare of these endangered species, we feel we should be provided with the opportunity to comment on this project to assure that Section 7 of the Endangered Species Act is not violated. As I am sure you are aware, Section 7 of the Endangered Species Act of 1973 prohibits the expenditure of federal funds on projects having an adverse impact on critical habitat for any endangered species. The James Campbell NWR has been recommended by the Hawaiian Waterbirds Recovery Team for inclusion as critical habitat essential for the survival of the Hawaiian stilt, coot, and gallinule.



Save Energy and You Serve America!

Mr. Tyrone T Kusao, Director
Page 2
September 20, 1977

Our official comments regarding the EIS for the sewage treatment section of the Koolauloa Housing Project will be forthcoming within two weeks.

Sincerely,

J. Brent Giezentanner
J. Brent Giezentanner
Refuge Manager

September 22, 1977

Mr. J. Brent Giezentanner
Refuge Manager
Fish and Wildlife Service
U.S. Department of the Interior
300 Ala Moana Blvd., Rm 5302
Honolulu, Hawaii 96850

Dear Mr. Giezentanner:

This is in response to your letter dated September 20, 1977, relating to the Koolauloa Housing Project at Kahuku.

We were surprised to learn that your office did not receive the draft EIS for the Koolauloa Housing Project. The Office of Environmental Quality Commission is responsible for the distribution of the EIS. We filed 60 copies of the draft EIS with the Office of Environmental Quality Commission. Probably your office was omitted since the EIS mentioned your office was one of the agencies contacted. Attached is a copy of a letter dated June 19, 1975, from your office to Park Engineering, Inc.

Your letter will be referred to Park Engineering, Inc. for evaluation. Park Engineering, Inc. will be contacting your office on the conflict in the location of the sewer treatment plant with the National Wildlife Refuge in Kahuku. We hope that the method to discharge the effluent from the sewer treatment plant would be satisfactory. Every effort will be considered to mitigate the adverse impact on the critical habitat for any endangered species in the James Campbell National Wildlife Refuge.

We are sorry for this inconvenience.

Sincerely,

TYRONE T. KUSAO
Director

Enc



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Hawaiian Islands and Pacific Islands
National Wildlife Refuges
300 Ala Moana Blvd., Room 5302
PO Box 50167
Honolulu, Hawaii 96850

October 21, 1977

Mr. Tyrone T. Kusao, Director
Department of Housing and
Community Development
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

We appreciate the extension of the deadline which allows us to comment on the Kahuku Sewage Treatment proposal developed by Park Engineering Inc. (reference our letter of September 20, 1977).

Before presenting our detailed comments, I feel we should clarify a statement made in your letter of September 23, 1977, to Refuge Manager Giezentanner. This letter referred to a June 19, 1975 letter from former Refuge Manager Sekora to Park Engineering which gave refuge approval to location of the sewage treatment plant. At the time that letter was written, Park Engineering was planning for a plant site immediately adjacent to the Kahuku housing development. That proposed site has since been moved several times. The subsequent decisions to move the plant closer to the refuge boundary certainly influence our thoughts regarding possible disturbances the new location may cause to the endangered bird use of the James Campbell National Wildlife Refuge.

Informal negotiations with Campbell Estate prior to the establishment of the refuge considered that the Estate was planning a golf course for the area surrounding the entire Kii Unit. With this in mind, we recommended refuge boundaries be established with the golf course providing a buffer zone between the bird habitat and human activity. Had we known that encroachments into this golf course buffer zone were imminent, we would have probably requested a larger refuge unit in order to provide our own buffer.

A few months ago Mr. Hirano of Park Engineering approached us with a new plant location which would place the treatment plant within 700



Save Energy and You Serve America!

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DEPT. OF HOUSING
AND COMM. DEVELOPMENT

Mr. Tyrone T. Kusao
Page 2
October 21, 1977

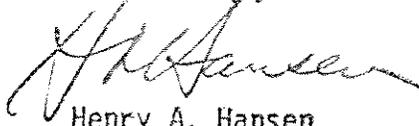
feet of the refuge boundary. We tentatively agreed to that location on the basis that no future development encroach closer to the refuge boundary than 700 feet. As we understand it, the present proposal is to move even further into the buffer zone and install the plant with the nearest point only 400 feet from the refuge boundary. This latest installation would be for a plant only one-half the size as originally proposed.

As we understand it, the actual plant will be an automated facility which requires very little human activity for maintenance. This being the case, the sewage treatment plant as proposed; i.e., one-half the original size, fenced, and located no closer than 400 feet to the south boundary of the refuge, probably would not have a significant impact on our management of the James Campbell NWR - Kii Unit or the endangered bird use of the unit. However, we must stress that this is the absolute minimum distance of this particular plant that must be maintained. Any future plant expansions will have to be made away from the refuge and any expansions which might create significant additional activity levels or human encroachment may not be approved by the Fish and Wildlife Service. Our approvals of the site as presently proposed by Park Engineering are dependent upon adequate subsoil testing which will assure that sewage effluent will not pollute the ponds and endangered waterbird habitat presently planned for the Kii Unit. If such subsoil tests determine that subterranean permeability may cause a pollution problem, our approval of the site selection will be immediately withdrawn.

As I have already stated, we are concerned about the creeping encroachment into the buffer zone. The site only 400 feet from our boundary is certainly not as desirable as would be a location further away. Even so, it is a viable alternative and certainly preferable to one proposal which would locate the plant immediately adjacent to the refuge boundary, an alternative which we feel is totally unacceptable.

Thank you for the opportunity of commenting on this proposal. We apologize for the lengthy delay in getting the comments to you.

Yours truly,



Henry A. Hansen
Hawaii Administrator

cc: Campbell Estate
Div. of Sewers, City &
County of Honolulu, Mr. Takamoto
Realty, FWS Regional Office
Portland

October 31, 1977

Mr. Henry A. Hansen
Hawaii Administrator
Fish & Wildlife Service
U.S. Department of Interior
333 Ala Moana Blvd., Rm. 5309
Honolulu, Hawaii 96850

Dear Mr. Hansen:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing
Project--Kahuku

This is in response to your comments on the location and operation of the proposed Kahuku Sewage Treatment Plant.

The discussion to relocate the proposed sewage treatment plant suggested by the Kahuku community with your office was an oversight by Park Engineering, Inc. We regret this incident.

We are pleased with your comments that the location of the reduced site with certain conditions would not have a significant impact on your management of the James Campbell National Wildlife Refuge. One of the conditions prior to the construction of the sewage treatment plant is a detailed soils report to meet the standards of the State Department of Health and the City Department of Public Works. Park Engineering, Inc., engineering consultant for the Division of Sewers and the Department of Housing and Community Development, is informed of your subsill tests requirement to determine the subterranean permeability.

Mr. Henry A. Hansen

-2-

October 31, 1977

The Division of Sewers is advised that any future expansion of the wastewater treatment facility is to be consulted with your office.

Sincerely,

TYRONE T. KUSAO
Director

RET:mn

STATE

GEORGE E. R. ARIYOSHI
GOVERNOR



VALENTINE A. SIEFERMANN
MAJOR GENERAL
ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
FORT RUGER, HONOLULU, HAWAII 96816

HIENG

09 AUG 1977

Department of Housing
and Community Development
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

Koolauloa Housing Project
Kahuku, Oahu, Hawaii

Thank you for sending us a copy of the "Koolauloa Housing Project"
Environmental Impact Statement. We have received the publication and
have no comments to offer.

Sincerely,


WAYNE R. TOMOYASU
Captain, CE, HARNG
Contr & Engr Officer

AUG 12 10 43 AM '77
HOUSING
ADJUTANT

August 22, 1977

Captain Wayne R. Tomoyasu
CE, FARNS, Contr. & Mgr. Officer
Office of the Adjutant General
Department of Defense
Fort Rager
Honolulu, Hawaii 96816

Dear Captain Tomoyasu:

Subject: Draft Environmental Impact Statement
Koolauloa Housing Project--Kahuku

We thank you for reviewing and responding to the above
draft environmental impact statement on the Koolauloa
Housing Project at Kahuku, Koolauloa, Oahu, Hawaii.

Sincerely,

WYRONA D. KUTAO
Director

W:am



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

August 11, 1977

MEMORANDUM

TO: Environmental Quality Commission
FROM: Historic Sites, Department of Land and Natural Resources
RE: Koolauloa Housing Project

Thank you for the opportunity to comment on the Environmental Assessment for the subject undertaking.

Existing records have been checked for archaeological and historical sites that may be affected by this undertaking. The following information and recommendations are for your consideration in processing this application:

Although no significant sites are known for these lands, sites are quite likely to be present. In the event that any unanticipated sites or remains are encountered, please inform the applicant to contact this office immediately.

John L. Silberman

October 28, 1977

Ms. Jane E. Silverman
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Ms. Silverman:

Subject: Draft Environmental Impact
Statement for the Koolauloa
Housing Project--Kahuku

Thank you for reviewing and commenting on the
draft environmental impact statement for the Koolauloa
Housing Project located at Kahuku, Koolauloa, Oahu,
Hawaii.

Sincerely,

TYRONE T. KUSAO
Director

RN:mn

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

W. Y. THOMPSON, Chairman

BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

August 11, 1977

Environmental Quality
Commission
State of Hawaii
550 Halekauwila Street
Honolulu, HI 96813

Gentlemen:

We have no further comments to offer on the
Koolau Housing Project.

Very truly yours,

A handwritten signature in dark ink, appearing to read "GORDON SOH".

GORDON SOH
Program Planning Coordinator

cc: DOWALD
Fish & Game
Historic Sites

October 28, 1977

Mr. Gordon Soh
Program Planning Coordinator
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Soh:

Subject: Draft Environmental Impact
Statement for the Koolauloa
Housing Project--Kahuku

Thank you for reviewing and commenting on the
draft environmental impact statement for the Koolauloa
Housing Project located in Kahuku, Koolauloa, Oahu,
Hawaii.

Sincerely,

WYRON T. KUSAO
Director

RN:mn

UNIVERSITY OF HAWAII

Water Resources Research Center

Office of the Director

August 22, 1977

Department of General Planning
 City and County of Honolulu
 650 South King Street
 Honolulu, Hawaii 96813

Gentlemen:

Subject: Review of EIS, Koolauloa Housing Project

We have reviewed the draft EIS and have the following comments:

1. The City should adhere to its own subdivision regulation and zoning standards. For the City to circumvent them for the sake of expediency in providing immediate, cheap housing for this particular group of people, nullifies the entire rationale for having any standards and regulations at all. It must be remembered that this subdivision will remain in perpetuity and will outlast the lives of the initial occupants. If (p. I-5) "The proposed subdivision will also be the start of a new Kahuku community," then it is a poor beginning and be a continued negative environmental impact in the future.

2. Exhibit 9 shows that the northern tip of the subdivision is in the path of a proposed arterial. But the subdivision plan (Exhibit 3) shows no right-of-way reservation. The arterial will also split the subdivision.

3. The possibility of using the sewage sludge on the adjacent agricultural lands (p. I-5) should be explored. Also the WWTP and the STP should be located such that future residential areas will not be downwind recipients of obnoxious odors.

4. The EIS provides no specific provisions for relocating or dealing with the existing farming enterprises and residences.

5. The EIS is deficient in that it gives no information concerning water demand for the project or prospective sites for the new water source which will be required.

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 GENERAL PLANNING
 C & C HONOLULU

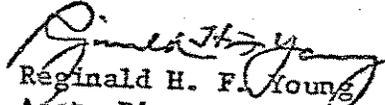
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Page 2
August 22, 1977

Thank you for the opportunity to participate in this EIS review.

Sincerely,


Reginald H. F. Young
Asst. Director, WRRRC

RHFY:jmn

cc: H. Gee
E. Murabayashi
F. Peterson
Env. Ctr.

October 27, 1977

Mr. Regionald H. F. Young
Assistant Director
Water Resource Research Center
University of Hawaii
2543 Dole Street
Honolulu, Hawaii 96822

Dear Mr. Young:

Subject: Draft Environmental Impact Statement for
the Proposed Koolauloa Housing Project,
Kahuku

This is in response to your comments to the draft EIS for
the proposed Koolauloa Housing Project at Kahuku, Koolauloa,
Oahu, Hawaii.

1. The modifications to the subdivision standards and
zoning regulations were carefully selected to give the residents
the lowest unit cost without adversely affecting the intent of
the subdivision and zoning regulations. As stated in the EIS
the modifications include the following: (1) lot size below
1,000 square feet; (2) zero lot line; (3) eliminate curbs,
gutters and sidewalks; (4) eliminate driveway aprons, and
(5) install overhead utilities.

The reduced lot size and zero lot line are already permitted
in the zoning regulations. The curbs, gutters, sidewalks and
driveway aprons were deleted and overhead utilities installed
to retain the rural lifestyle and atmosphere for the project.
The project's physical appearance is compatible to the existing
Kahuku Village. However, the street improvements, sewer, water
and utilities will be constructed in accordance to the construc-
tion standards of the City.

2. We are aware of the proposed arterial shown on the detailed Land Use Map for the Kahuku to Pupukea area. The DLUM was prepared as requested by the City on March 15, 1967 based on the projected traffic volume and urban and resort growth.

The State Highways Planning Division has no secondary highway planned for this section. Therefore, the arterial alignment designated on the DLUM should be used as a guide and not a definite alignment. Both the City and State have changed their growth policy and when Campbell Estate submits their master plan for their Kahuku land, the City and State should re-evaluate the need for the arterial highway. Our housing project is but a small insignificant part of Campbell Estate master plan for Kahuku.

3. The digested dried sludge could possibly be used on adjacent agricultural lands and will be explored.

Several sites for the wastewater treatment plants were considered. Obnoxious odors are always a concern with wastewater treatment plants. However, the nearest residential homes are located approximately 600 feet from the plant site and the surrounding area is presently reserved for agricultural use. This should minimize the impact from unpleasant odors. Also, the prevailing wind throughout the year is the northeasterly trade wind and thus the areas presently zoned for residential use should not be recipients of obnoxious odors.

4. The land with the existing residential dwelling units has been deleted from the project area. Mr. Nakayama is the only farmer in the project area. His tenancy on this farm was on a month to month lease. Campbell Estate has provided him another suitable site. Mr. Nakayama will relocate his farm when his present crops are harvested.

5. The existing water supply is provided by three existing wells and a 3.0 MG reservoir. This system presently serves Kahuku Town, the golf course, school and hospital. These wells were formerly owned and operated by Kahuku Plantation Company, with the bulk of the water being used for irrigation of sugar cane. This existing system and quality of the water have been determined to be inadequate to SD standards. Consequently, a completely new water system will be constructed according to the standards of the SD.

Mr. Regionald H. F. Young

-3-

October 27, 1977

This system will include two new wells and a 0.5 MG reservoir. In addition to the proposed project, this system will also provide services to Kahuku Town, the golf course, school and hospital. The average daily demand from the proposed project is 150,000 gallons per day.

Sincerely,

TYRONE T. KUSAO
Director

RN:mn

GEORGE H. KAWANISHI
GOVERNOR



FRANKLIN Y. K. SUNN
EXECUTIVE DIRECTOR

WILLIAM A. HALL
ASS'T. EXEC. DIRECTOR

STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING
HAWAII HOUSING AUTHORITY

P. O. BOX 17907
HONOLULU, HAWAII 96817

IN REPLY REFER

August 23, 1977

TO: 0-158.1/2373

Honorable Dr. Albert Q. Y. Tom
Chairman, Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Dr. Tom:

Re: Review of Draft Environmental Impact Statement/
Koolauloa Housing Project/ Kahuku, Oahu.

The Hawaii Housing Authority has reviewed the attached draft EIS on the above-captioned subject matter, and has no objections or comments to the draft EIS. If we may be of further assistance, please do not hesitate to call us.

Sincerely,

A handwritten signature in cursive script, appearing to read "Franklin Y. K. Sunn".

FRANKLIN Y. K. SUNN
Executive Director

cc: Tyrone Kusao, Director

September 2, 1977

Mr. Franklin Y. K. Sunn
Executive Director
Hawaii Housing Authority
Dept. of Social Services & Housing
P. O. Box 17907
Honolulu, Hawaii 96817

Dear Mr. Sunn:

Subject: Draft Environmental Impact Statement
for Koolauloa Housing Project, Kahuku

Thank you for your review and comment to our draft
environmental impact statement for Koolauloa Housing
Project at Kahuku, Koolauloa, Oahu, Hawaii.

Sincerely,

I. BARRY ENDO
Deputy Director

GEORGE K. ARIYOSHI
GOVERNOR



JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

5-1-1977

AUG 31 9 02 AM '77
OFFICE OF THE CHAIRMAN
BOARD OF AGRICULTURE

MEMORANDUM

To: Environmental Quality Commission
Subject: Environmental Impact Statement for
Koolailoa Housing Project, Kahuku, Oahu, Hawaii

The Department of Agriculture has reviewed the subject Draft Environmental Impact Statement. Our only suggestion is more detail be provided on page V-1 relating to surface runoff. It is unclear what "natural channel" will be used and where the runoff is to be ponded.

Our concern, of course, is that the inevitable increase in runoff from the project be diverted from areas of agricultural activity.

We appreciate the opportunity to comment.

JOHN FARIAS, JR.
Chairman, Board of Agriculture

cc: Asst. Dir. of Inland Fisheries, CAC of Honolulu
Asst. Dir. of Inland Fisheries, CAC of Honolulu

September 2, 1977

Mr. John Farias, Jr.
Chairman, Board of Agriculture
Department of Agriculture
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Farias:

Subject: Draft Environmental Impact Statement for
the Koolauloa Housing Project, Kahuku

Thank you for your review and comments on the draft environmental impact statement for the Koolauloa Housing Project, Kahuku.

The term "natural channel" should have read, "existing channel north of Kamehameha Highway." The channel was formerly used by Kahuku Sugar Company to discharge their overflow and drain the low land mauka of the highway. Details of the drainage system will be available at the completion of the final working drawings of the construction plan for the 300-lot subdivision. The site will be graded in accordance to the provisions of the City grading ordinance. The design and improvements of the drainage system will comply with the Standard Details for Public Works Improvements.

Your concern on the increase runoff affecting the agricultural land will be forwarded to the consulting engineer for their evaluation.

We hope that this response satisfies your questions.

Sincerely,

I. HARRY ENDO
Deputy Director

GEORGE R. ARIYOSHI
GOVERNOR

DGP 9/77-2419

CHARLES G. CLARK
SUPERINTENDENT

RECEIVED



77 SEP 2 AM 9:34

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2360
HONOLULU, HAWAII 96804

C & C HONOLULU

OFFICE OF THE SUPERINTENDENT

August 24, 1977

Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: Koolauloa Housing Project EIS

We have reviewed the draft Environmental Impact Statement (EIS) for subject project and have the following additional comments:

The Department of Education anticipates that continuing enrollment growth in the Kahuku area may require conversion of Kahuku High-Elementary from Grades K-12 to Grades 7-12 only. Grades K-6 would be relocated to a new site in the vicinity of Kahuku Town. A firm time table has not been established; however, growth may dictate a K-6 relocation within 6-10 years.

New school sites cannot be developed until the Department of Accounting and General Services has conducted a detailed site selection study. These studies normally analyze at least three alternative sites before submitting a recommendation to the Governor. DOE has not yet requested a site selection study for a new elementary school in the Kahuku area. However, when submitted, our request will include a recommendation that the five-acre school parcel in the Koolauloa Housing plan be considered as one alternative.

In reviewing the subject EIS, DAGS made a preliminary review of the Koolauloa 5-acre school parcel and has indicated that there may be some difficulties. The potential disadvantages do not appear to be major problems; however, we are enclosing an informational copy of DAGS' comments to assist your final EIS evaluation.

Sincerely,

A handwritten signature in cursive script, appearing to read "Charles G. Clark".

CHARLES G. CLARK
Superintendent

cc: Dept. of Housing & Community Dev.
Dept. of Accounting & General Services
Windward District

Attachment

8/18--orig. HH

GEORGE R. ARIYOSHI
GOVERNOR



HIDEO MURAKAMI
COMPTROLLER

MIKE N. TOKUNAGA
DEPUTY COMPTROLLER

STATE OF HAWAII

1977 AUG 22 AM 9 23

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P. O. BOX 119, HONOLULU, HAWAII 96810

D.E. ANNEX-FACILITIES

LETTER NO. (P) 1863.7

AUG 17 1977

Mr. Koichi Tokushige
Assistant Superintendent
Office of Business Services
Department of Education
State of Hawaii
Honolulu, Hawaii

Dear Mr. Tokushige:

Subject: Draft EIS for the Proposed
Koolauloa Housing Project - Kahuku

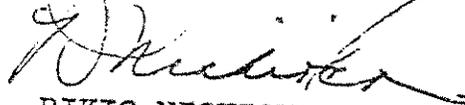
We have reviewed the draft EIS for the subject project and have the following comments to offer for your appropriate action:

1. Based on the first paragraph of Section E. School Facilities (pg. VI-2), it appears that the 5-acre area identified for school expansion on Exhibit 3 should actually be identified as a possible elementary school site. If this is so, this change should be made and the last two paragraphs on page VI-2 revised accordingly.
2. Based on the assumption that the 5-acre area is a possible elementary school site, we have the following comments:
 - a. Traffic Congestion: Vehicular access to the school site via a short dead-end street may cause traffic congestion in the school parking lot and roads in the vicinity of the school before and after school.
 - b. Pedestrian Safety: The roadways within the proposed development will have no curbs, gutters or sidewalks. This will make walking to school hazardous.

- c. Noise: The Revised Ultimate Site Plan for the Kahuku High and Intermediate School shows that an industrial arts building and a paved playcourt will be located immediately east of the proposed school site. The noise generated from the facilities may disturb school activities within the proposed site.
- d. Zoning: The proposed school site is zoned AG-1. Although schools are permitted in AG-1 districts, the maximum lot coverage of buildings and structures allowed is only 20%. Therefore, a zoning change or variance will be required if the site is to be developed for a school.

If there are any questions, please call us.

Very truly yours,



RIKIO NISHIOKA
State Public Works Engineer

NS:nk 1-3

cc: Mr. K. Takata
Mr. L. Takahashi

November 4, 1977

Mr. Charles G. Clark
Superintendent
Department of Education
State of Hawaii
P. O. Box 2360
Honolulu, Hawaii 96804

Dear Mr. Clark:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing
Project--Kahuku

Thank you in responding to the draft EIS for the proposed
Koolauloa Housing Project at Kahuku, Koolauloa, Oahu, Hawaii

The proposed development plan for the project was revised
after numerous discussions with the representatives of the
Kahuku Community Association and the Kahuku Housing Corporation.
The community groups strongly objected to the displacement of
several permanent structures along Kamehameha Highway and an
existing plantation road. The project boundary was modified
with the approval of the community groups to relocate the pro-
posed park site to the proposed school expansion site as suggested
on Exhibit 3, "Proposed Subdivision, Park and School Expansion
Plan." The revised Exhibit 3, "Proposed Subdivision Layout and
Park Site" is enclosed for your information.

The Department of Parks and Recreation will be developing
an ultimate plan for a proposed district park including the
proposed park site and the proposed relocated Adams Field.

Mr. Charles G. Clark

-2-

November 4, 1977

The exhibit and text in the revised EIS will be corrected to reflect the deletion of the proposed elementary school site from the suggested development plan (Exhibit 3). The comments prepared by the Department of Accounting and General Services relating to the school facilities are now moot.

We hope that the modification of the suggested development plan for the project deleting the proposed elementary school site will not in any way inconvenience in your selection of a new elementary school site.

Thank you.

Sincerely,

TYRONE T. KUSAO
Director

Enc.
RN:mn

November 4, 1977

Campbell Estate
138 Fort Street Mall
Suite 500
Honolulu, Hawaii 96817

Dear Sir:

Subject: Koolauloa Housing Project, Kahuku

We wish to inform your office that Exhibit 3, "Proposed Subdivision, Park and School Expansion Plan," in the draft EIS for the proposed Koolauloa Housing Project has been revised. The project park site was relocated from the Kamehameha Highway frontage to the proposed elementary school site. The proposed elementary school site has been deleted from Exhibit 3.

The revision of Exhibit 3 was the result of the many discussions with Kahuku Community Association and Kahuku Housing Corporation and comments from the Department of Education. The community groups expressed their concern on the displacement of the several permanent structures along Kamehameha Highway and the plantation road. The Department of Education commented that a new school site cannot be developed until the Department of Accounting and General Services has conducted a detailed site selection study. Department of Education reported that Department of Accounting and General Services made a preliminary review of the suggested site and has indicated that there may be some difficulties.

It is our opinion that the site of the new elementary school should be selected at the time when your office developed a detailed development plan for Kahuku. We request that your office

Campbell Estate

-2-

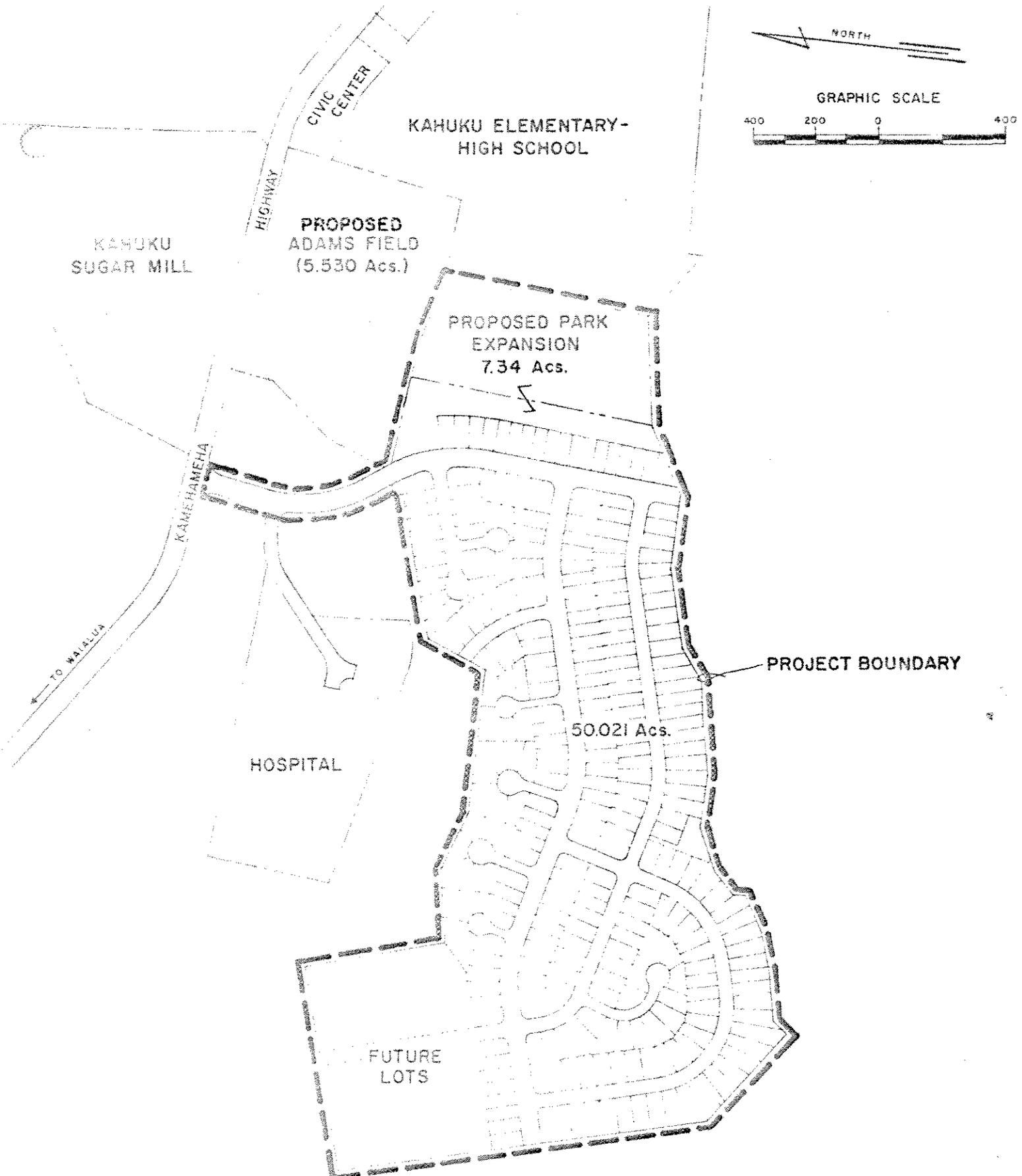
November 2, 1977

give favorable consideration in designating a new elementary
project for the purpose of the project plan that would be accept-
able to the Board of Directors.

Attached is a copy of the revised project boundary for your
information.

Sincerely,

WILLIAM H. BURNS
Director



PROPOSED SUBDIVISION LAYOUT
AND PARK SITE

KOOLAULOA HOUSING PROJECT

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

RECEIVED

'77 SEP 14 PM 12:09

RECEIVED
GENERAL INVESTIGATIVE
DIVISION
HONOLULU



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801

September 6, 1977

GEORGE A. L. YUEN
DIRECTOR OF HEALTH
Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health
Henry N. Thompson, M.A.
Deputy Director of Health
James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

In reply, please refer to:
File: EPHS - SS

MEMORANDUM

To: Environmental Quality Commission
Office of the Governor

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Koolauloa Housing Project,
Kahuku, Oahu, Hawaii

Thank you for allowing us to review and comment on the subject EIS. We submit the following comments for your consideration:

Sewage Disposal

The EIS should address the social impact of sewerage improvements, such as sewer user charges. The use of aerated lagoons as an alternative to seepage pits should be considered.

Noise

1. There are reservations in the proposed project due to the non-compatible use of land. Noise created by recreational activities of the proposed park and school as well as agricultural activities can have an adverse effect to the residents.
2. The proposed school should be located away from major highways.
3. Construction activities must comply with Public Health Regulations, Chapter 44B, Community Noise Control for Oahu.
 - a. An application for Community Noise Permit must be filed and approved by the Department of Health.
 - b. Construction activities must comply with the provisions of the conditional use of permit as stated in Public Health Regulations, Chapter 44B, and the conditions of the permit.
4. All heavy vehicles travelling on trafficway to and from construction project must comply to the limits stated in Public Health Regulations, Chapter 44A, Vehicular Noise Control for Oahu.
5. Efforts must be made to minimize the effect of noise from construction and heavy vehicles to the existing school, hospital and residential area.

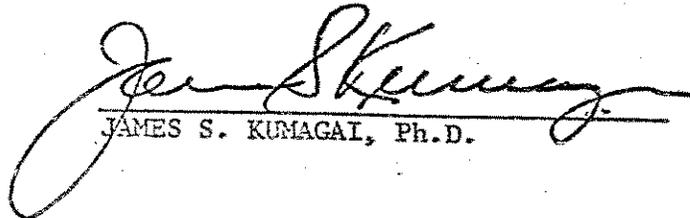
September 6, 1977

Vehicular Emission Analysis

Evaluating Appendix A for compliance with Volume 9 identified some questionable figures and methodology. For example:

1. The estimated average daily traffic for 1980 is stated as 7,599. From percentages shown one would estimate the 1980 figure to be approximately 8,206.
2. The ratio of the volume demand capacity for the north bound lane is stated as 0.35 and the south bound lane as 0.18. Our calculations estimate 0.7 for the north bound lane and 0.36 for the south bound lane.
3. The State standard for CO is 10 mg/m^3 and not 11.5 mg/m^3 as shown in the EIS. We concur that this project will probably not create violations of our State CO standards.

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.



JAMES S. KUMAGAI, Ph.D.

cc: Dept. of General Planning ✓
Dept. of Housing & Community Development

Refer to your file
EPHS-85

October 23, 1977

Mr. James S. Kumagai
Deputy Director
Environmental Health
Department of Health
P. O. Box 3373
Honolulu, Hawaii 96901

Dear Mr. Kumagai:

Subject: Draft Environmental Impact Statement for
the Koolauloa Housing Project--Kahuku

This is in response to your comments on the draft EIS for
the proposed Koolauloa Housing Project at Kahuku, Koolauloa,
Oahu, Hawaii.

Sewage Disposal

No social impact from the sewer user charges is anticipated.
Presently, service charge is assessed, directly or indirectly,
for cesspool maintenance.

An activated sludge (oxidation ditch) treatment plant will
be provided. An aerated lagoon was one of the several treatment
processes given consideration. The seepage pits will be used
for disposal of treated effluent.

Noise

1. We don't anticipate adverse effect from the proposed
park and school activities as well as the agricultural activities.
We will request the Department of Parks and Recreation to keep

October 28, 1977

the active recreational facilities away from the residential development in their design of the park. The proposed school site will be deleted from Exhibit 3, "Revised Subdivision Layout and Proposed Park Site." The Department of Education stated that the new school sites cannot be developed until the Department of Accounting and General Services has conducted a detailed site selection study. We don't expect the truck farmer to use heavy equipment.

2. The proposed elementary school site will be deleted from the revised subdivision layout.

3. A section will be incorporated in the specifications for the Koolauloa Housing Project requiring the construction activities to comply with the provisions of public health Regulations, Chapter 44B, Community Noise Control for Oahu.

4. A section will be incorporated in the specifications for the project requiring all heavy vehicles traveling on traffic-way to and from the project to comply with the provisions of Public Health Regulations, Chapter 44A, Vehicular Noise Control for Oahu.

5. Time of operation for the heavy equipment and heavy vehicles will be controlled to minimize the effect of noise.

Vehicular Emission Analysis

Mr. James W. Morrow, Director, Environmental Health of the American Lung Association of Hawaii, has questioned the figures and methodology of our traffic projection and the CO emission in Appendix A.

After a discussion with Mr. Morrow, Appendix A was revised incorporating the suggested method for the vehicular emission analysis. For that portion of the existing Kamehameha Highway, the capacity and traffic projection, we obtained those figures from the State Highways Planning Division, Department of Transportation. Enclosed is a copy of the revised Appendix A.

We hope our responses meet with your satisfaction.

Sincerely,

TYRONE T. KUSAO
Director

Enc.

September 7, 1977

STP 8.4444

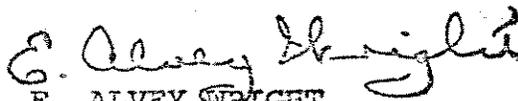
Office of Environmental
Quality Control
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Gentlemen:

Subject: EIS - Proposed Koolauloa Housing
Project, Kahuku

Thank you very much for giving us the opportunity to
review the above-captioned document. We have no comments
to offer which could improve the statement.

Sincerely,


E. ALVEY WRIGHT
Director

ALK:jk

cc: LT-P
City Dept. of General Planning
City Dept. of Housing &
Community Development

SEP 12 10 45 AM '77
HAWAIIAN HOUSING
DEPARTMENT

October 28, 1977

Mr. E. Alvey Wright, Director
Department of Transportation
State of Hawaii
369 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing
Project, Kahuku

Thank you for reviewing and responding to the draft
environmental impact statement for the Koolauloa Housing
Project at Kahuku, Koolauloa, Oahu, Hawaii.

Sincerely,

TYRONE T. KUSAO
Director

RN:mn

DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENTGEORGE R. ARIYOSHI
GovernorHIDETO KONO
DirectorFRANK SKRIVANEK
Deputy Director

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

September 7, 1977

Ref. No. 4431

Mr. Ramon Duran
Acting Chief Planning Officer
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Duran:

Subject: Review of Draft Environmental Impact Statement for
the Proposed Koolauloa Housing Project in Kahuku

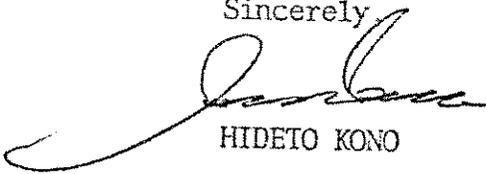
We have reviewed the subject draft document and wish to offer the following comments for your consideration in preparing the final EIS.

- 1) Sections in the report which address the demand for low and moderate income housing in the Kahuku area and the intentions of the proposed project to alleviate housing demands appear to be inadequately documented. No information and corresponding analysis is provided, for example, on why 150 additional units are proposed to be constructed beyond which would replace the existing dilapidated plantation homes. We suggest that an attempt be made to strengthen the EIS section on Low and Moderate Income Housing (p. IV-4), by including information on the existing housing stock in the Kahuku area, and existing and potential low and moderate income housing demand in the Kahuku area.
- 2) As identified on page IV-3, the additional population resulting from the proposed project will have some adverse impacts, particularly on existing school and recreational facilities. Possible solutions to these adverse impacts should be described in more detail.
- 3) May we suggest that a statement be incorporated within the EIS document clarifying how homes are to be distributed to potential buyers and whether protective or regulatory measures will be incorporated to curtail speculation.

Mr. Ramon Duran
Page 2
September 7, 1977

We have no further input to offer at this time. Thank you for the opportunity to review and comment upon this draft environmental impact statement.

Sincerely,

A handwritten signature in black ink, appearing to read "Hideto Kono", written in a cursive style. The signature is positioned above the printed name "HIDETO KONO".

HIDETO KONO

cc: Dept. of Housing and Community Development
City and County of Honolulu

November 4, 1977

Mr. Hideto Kono, Director
Department of Planning and Economic
Development
State of Hawaii
P. O. Box 2380
Honolulu, Hawaii 96804

Dear Mr. Kono:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing
Project--Kahuku

This is in response to your comments in the draft EIS
for the proposed Koolauloa Housing Project at Kahuku, Koolauloa,
Oahu, Hawaii.

We did not attempt to address the demand for the low- and
moderate-income housing in the Kahuku area because this project
is to fill the immediate housing need for residents in Kahuku
Village and vicinity. The Kahuku Housing Corporation, present
lessee of Kahuku Village (lease expires in 1983), reported
150 families in the village are interested in the units in the
project and 80 families were undecided. Poll taken by the
Koolauloa Neighborhood Board No. 23, as reported by Chairman
Roland W. Logan, indicated that 235 families are interested in
the units in the project.

Your report, "Housing in Hawaii" prepared by Marshall,
Kaplan, Gans, Kahn and Yamamoto in March 1971, projected that
Hawaii will need 33,000 housing units merely to stabilize the

November 4, 1977

current housing shortage in the next five years. The report stated that approximately 22,000 units or 66 percent should be constructed for households with income below \$12,500 of which Oahu will need 14,500 units or 2,500 units per year for low-, moderate-, and middle-income families from 1970 to 1975. Our statistical and analytical report on housing and community development in Honolulu reported an increase of 34,267 private units and 2,810 governmental units from 1970 to 1976.

We believe the government sector has not met the demand for housing for the low- and moderate-income families. The distribution of the population and housing should be reviewed and determined by agencies with responsibility for the growth and the objectives of the State and the County.

The size of the project was limited by several factors: (a) the size of the land area zoned for Urban District by the State Land Use Commission; (b) the conditions imposed by the Kahuku Housing Corporation and the Kahuku Community Association on the project to retain the same lifestyle, construct only single family dwellings on standard lots or better, and restrict the growth of Kahuku Village not to double the present population; and (c) the restriction imposed by the Farmers Home Administration on the size of the sewage treatment plant.

The impact of the 150 new families to the existing school and recreational facilities was identified on page IV-5 and the mitigation measure proposed to minimize the impact was identified on pages VI-1 and VI-2.

The student projections were revised by Department of Education, Public Facility Branch, to 60 elementary students (K-6 grades) and 30 high school students (grades 7-12) because of the reduction of the number of lots. The original project was programmed for 425 lots. The project now is programmed for 150 replacement housing and 150 new families. Department of Education stated, "The Department of Education anticipates that continuing enrollment growth in the Kahuku area may require conversion of Kahuku High-Elementary from grades K-12 to grades 7-12 only. Grades K-6 would be relocated to a new site in the vicinity of Kahuku Town. A firm time table has not been established; however, growth may dictate a K-6 relocation within 6-10 years."

Mr. Hideto Kono, Director

-3-

November 4, 1977

The project will set aside 7.3-acre parcel of land for recreational purposes adjacent to the north boundary of the present Kahala High-Elementary School. The park site will be transferred to the Department of Parks and Recreation. The Department of Parks and Recreation has negotiated with Campbell Estate to relocate the existing 5.3-acre Adams Field along the mauka side of Manahameha Highway and adjacent to the proposed park site. The Department of Parks and Recreation is designing a preliminary layout for the ultimate park design on the combined land.

The details on the disposition of the units have not been completed. However, we will include a statement in the description of the project a generalized statement on the disposition and restriction on the sale of the units.

The statement will read as follows:

"7. Marketing and Restrictions

The homes will be made available to eligible purchasers on a first come, first serve basis.

The announcement of the opening date for the acceptance of applications will be published in the local newspapers and will also conform to Federal Fair Housing Marketing Guidelines.

Regulatory measures to curtail speculation will be incorporated into buyers' purchase agreements by way of covenants running with the land granting the city buy back rights (right of first refusal)."

We hope that these responses satisfy your comments to the Draft EIR.

Sincerely,

THOMAS T. KUSAO
Director

RN:mn

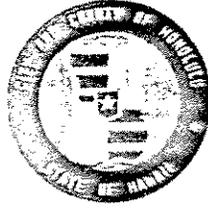
OLAULOA NEIGHBORHOOD BOARD

NO. 28

(Kahuku, Laie, Hauula, Punaluu, Kaaawa-Kahana)

C/O HAUULA SATELLITE CITY HALL

54-316 KAM HIGHWAY
HAUULA, HAWAII 96717



October 19, 1977

Mr. Tyrone Kusao, Director
Department of Housing & Community
Development
City & County of Honolulu
Honolulu, HI 96813

Dear Sir:

This is to inform you that a survey of housing needs in the Koolauloa District was made in 1976. The survey showed that approximately 235 families were in need of homes.

Currently, an update of this survey is being conducted. Indications show that the need for housing in the Koolauloa District will exceed the 235 figure.

Sincerely yours,

A handwritten signature in black ink that reads "Roland M. Logan". The signature is written in a cursive style.

Roland M. Logan, Chairman
Neighborhood Board No. 28

ckl

Oct 26 10 07 AM '77

RECEIVED
CITY OF HONOLULU

hsq

October 25, 1977

TO: Planning

VIA: H. H. Chee

FROM: Housing

SUBJECT: Answers to General Planning's comment #1 of EIS
Letter dated September 9, 1977, Koolauloa Project

- 1. Updated housing inventory for Kahuku Town as of September 20, 1977, not including outlying areas such as Kuilima:

Total occupied residences.....	237
Vacant units.....	<u>3</u>
TOTAL	<u>240</u>

- 2. Low-moderate income families interested in project:

Based upon housing surveys completed December 1976 and July 1977, it is estimated there are about 150 low and moderate income families from the immediate Kahuku area interested in the Koolauloa Project and an additional 80 families undecided of which 30 probably will prefer rental.

It has been reported at the October 19, 1977 public hearing by Neighborhood Board No. 28 that about 235 families are in need of housing in the Koolauloa area.

- 3. Qualification requirements for the purchase of homes in the project through the FmHA subsidized and nonsubsidized loan programs will enable even those low income families unable to purchase homes through conventional financing to be eligible for homeownership.

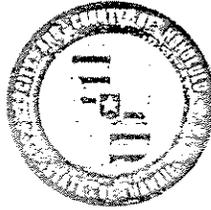
4. All 237 households in Kahuku Village face possible eviction in 1983 depending upon the outcome of lease renegotiations. The total families living in Kahuku town are more than the above number of households since some of the dwellings house two or three families.
5. All 237 households in Kahuku Village pay monthly rental and utility charges considerably less than what they will be required to pay when their leases expire in 1983. Average rentals are less than \$40 per month.

In addition, water charges are only \$1.50 per month or less. Should the Kahuku residents have to pay market rentals, this would incur considerable hardship for the families, especially those on fixed incomes or low-moderate incomes.

CITY AND COUNTY

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK P. PASI
MAYOR

YOUNG SUK KO
DIRECTOR

August 23, 1977

Mr. Albert Q. Y. Tom
Environmental Quality Commission
Office of the Governor
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT (EIS)
FOR KOOLAULOA HOUSING PROJECT
KAHUKU, OAHU

We have reviewed the 1977 Draft Environmental Impact Statement for the proposed Koolauloa Housing Project at Kahuku, Oahu and have no changes to recommend or other comments to offer.

Sincerely,

Young Suk Ko
YOUNG SUK KO, DIRECTOR

cc: Department of General Planning
Department of Housing & Community Development

Aug 24 8 11 AM '77

DEPARTMENT OF HOUSING
& COMMUNITY DEVELOPMENT

August 29, 1977

Mr. Young Suk Ko, Director
Department of Parks & Recreation
City and County of Honolulu
Honolulu, Hawaii

Dear Mr. Ko:

Re: Draft Environmental Impact Statement
for Koolauloa Housing Project, Kahuku

We thank you for reviewing and responding to the
above draft environmental impact statement on the
Koolauloa Housing Project at Kahuku, Koolauloa, Oahu,
Hawaii.

Sincerely,

TYRONE T. KUSAO
Director

RN:mn



COPY

August 29, 1977

DEPT. OF HOUSING
AND COMM. DEVELOPMENT
SEP 2 11 17 AM '77

TO: MR. RAMON DURAN
ACTING CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: EDWARD Y. HIRATA
MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT FOR KOOLAULOA
HOUSING PROJECT KAHUKU, OAHU, HAWAII

We have the following comments on the submitted environmental impact statement for the proposed 300-lot subdivision:

1. On page V-2, item 5, delete the second sentence: "Board of Water Supply proposes to build a new water system and water sources for the entire Kahuku area."
2. The water distribution system within the development must meet BWS standards. Construction plans must be submitted to us for review and approval.
3. We do not anticipate any adverse effects to potable groundwater resources from the proposed waste disposal facility.

Our departmental contact is Lawrence Whang at 548-5221 if further information is needed.

E. Y. Hirata

FOR EDWARD Y. HIRATA
Manager and Chief Engineer

cc: ✓ Tyrone T. Kusao, Director
Dept. of Housing and Community
Development

October 28, 1977

Mr. Edward Y. Hirata
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii

Dear Mr. Hirata:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing
Project--Kahuku

This is in response to your comments to our draft EIS for the proposed Koolauloa Housing Project at Kahuku, Koolauloa, Oahu, Hawaii.

1. Item 5, the second sentence on page V-2, quoted: "Board of Water Supply proposed to build a new water system and water sources for the entire Kahuku area," will be deleted as requested in the revised environmental impact statement for the proposed Koolauloa Housing Project, Kahuku.
2. Park Engineering, Inc. will prepare the engineering drawings for the 300-lot subdivision and the 56-foot access road. The construction plans will be submitted to your office for review and approval for the water distribution system within the project area.
3. Your statement that the proposed waste disposal facility will not have any adverse effects to potable groundwater resources will be kept in our files for further reference.

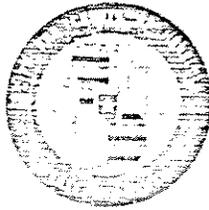
Sincerely,

TYRONE T. KUSAO
Director

RN:mn

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



WANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR

TE8/77-3413

September 6, 1977

Environmental Quality Commission
550 Halekauwila Street
Honolulu, Hawaii 96813

Gentlemen:

Draft Environmental Impact Statement for the
Proposed Koolauloa Housing Project - Kahuku

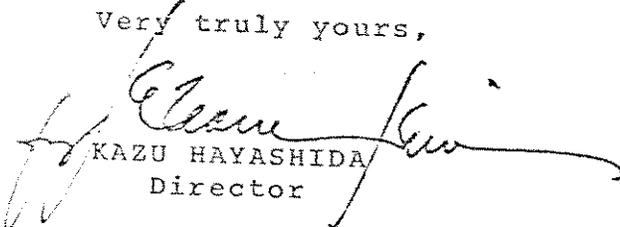
We have reviewed the subject Environmental Impact Statement and provide the following comments:

In Appendix A, under Existing Highway and Traffic volume, the capacity of Kamehameha Highway in that locality should be the total vehicles per hour in both directions as computed for a two-lane highway under uninterrupted flow conditions.

Under Traffic Projection, the increase in the average daily traffic on Kamehameha Highway due to the proposed project should reflect trips generated only by the 150 additional units available to other families in the low and moderate income level. Trips generated by the 150 families who will be relocated to the project are already reflected in the existing A.D.T.

Thank you for the opportunity to comment on this Draft EIS for the proposed Koolauloa Housing Project.

Very truly yours,


KAZU HAYASHIDA
Director

October 31, 1977

Mr. Kazu Hayashida, Director
Department of Transportation Services
City and County of Honolulu
Honolulu, Hawaii

Dear Mr. Hayashida:

Subject: Draft Environmental Impact Statement for the
Proposed Koolauloa Housing Project, Kahuku

This is in reference to your comments on the draft
environmental impact statement for the proposed Koolauloa Housing
Project at Kahuku, Koolauloa, Oahu, Hawaii.

Appendix A

The capacity of Kamehameha Highway along Kahuku Village has
been revised to 1,500 vph for both directions. This information
was furnished by the State Highways Planning Division.

The traffic projection will be adjusted according to your
suggestion. The increase in the average daily traffic on
Kamehameha Highway will be based on 150 new families instead of
the 300-lot subdivision.

Thank you for your suggestions.

Sincerely,

BYRON T. KUSAO
Director

RN:mn

RECEIVED CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

1977 SEP 8 AM 8:47

FRANK F. FASI
MAYORDEPT.
GENERAL PLANNING
& CITY ENGINEERINGWALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

ENV 77-456

September 6, 1977

MEMORANDUM

TO : MR. RAMON DURAN, ACTING CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED KOOLAULOA HOUSING PROJECT, KAHUKU, HAWAII

We have reviewed the subject draft EIS and have the following comments.

1. The disposition of the non-standard streets and roadways of the proposed development should be clarified. Street standards should be compatible to allow unrestricted movements of refuse collection vehicles especially at cul-de-sacs.
2. Drainage plans for the proposed development should be coordinated with the Drainage Section of the Division of Engineering.
3. The use of wind energy to provide power for the wastewater treatment plant is being investigated by the University of Hawaii for this department. A grant proposal is being prepared by the University for submission to the Energy Research and Development Administration (ERDA).

Since wind energy is non-polluting, we believe that a supplemental EIS need not be prepared in the event the proposed is approved and funded by ERDA. Location of the windmill and other details of the

Mr. Ramon Duran

- 2 -

September 6, 1977

proposed installation as they may affect the
aesthetic of the area are not known at this time.


WALLACE MIYAHIRA
Director and Chief Engineer

cc: Dept. of Housing & Community
Development
Div. of Engineering
Div. of Sewers

November 8, 1977

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
Honolulu, Hawaii

Dear Mr. Miyahira:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing
Project--Kahuku

This is in response to your comments on the draft EIS
for the proposed Koolauloa Housing Project at Kahuku, Koolauloa,
Oahu, Hawaii.

1. All streets in the proposed project will be constructed in accordance to the provisions of the Standard Details for Public Works Construction of the City and County of Honolulu, except the installation of curbs, gutters, sidewalks, driveway aprons and the underground utilities. Upon the completion of the construction of all the streets, the improvements will be dedicated to the city.
2. Park Engineering, Inc. will be preparing the construction plans for the 300-lot subdivision. They will consult the Drainage Division for the drainage requirements for the project. The construction plans will be routed to your office for review and approval.

Mr. Wallace Miyahira

-2-

November 8, 1977

3. We are pleased to learn that the use of wind energy to provide power for the wastewater treatment plant is being investigated. We will anxiously wait for the result of the application for a grant to the Energy Research and Development Administration by the University of Hawaii.

Sincerely,

TIRONI F. KUSAO
Director

Wima

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

GEORGE S. MORIGUCHI
DIRECTOR

LU8/77-5532 (MA)
77/EC-5

September 7, 1977

MEMORANDUM

TO : MR. TYRONE KUSAO, DIRECTOR
DEPARTMENT OF HOUSING & COMMUNITY DEVELOPMENT

FROM : GEORGE S. MORIGUCHI, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED KOOLAULOA HOUSING PROJECT, KAHUKU, OAHU

Thank you for the opportunity to review the above. Our comments are arranged in order of the references' appearance in the EIS text and take into consideration accompanying technical reports and exhibits.

1. Reference: Project Description

Comment: What is the phasing and timing schedule of the proposed project? This was not mentioned in the EIS text.

2. Reference: Water Source and System, page IV-2

Comment: The EIS does not clearly identify and evaluate existing water wells and transmission lines, especially in relation to the proposed project. What are the water requirements of the project? What impact will the project have on potable water supply in Kahuku?

3. Reference: Solid Waste Collection and Disposal, page IV-3

Comment: Are there no adverse impacts on refuse collection and services? The EIS does not adequately evaluate disposal area(s) and capacity. On the basis that 7.8 pounds/person/day in the present per capita generation of urban waste on Oahu (Metcalf and Eddy, Inc. 1971), the proposed project would generate 4,188 pounds of solid waste/day. This figure is based only upon a 150-lot subdivision population.

SEP 8 9 11 AM '77
DEPT. OF HOUSING
AND COMMUNITY DEVELOPMENT

4. Reference: Probable Impact of the Proposed Action on the Environment

Comment: The proposed project will entail a substantial increase in population at Kahuku. What impact will this have on existing hospital facilities and services?

An increase in population will also affect demand for commercial, public and community facilities and services. What socio-economic impact will this have on Kahuku? Where is the proposed housing project in relation to commercial centers and community facilities?

5. Reference: Social Impact, page IV-3

Comment: If the proposed project is designed for a definite "target group," the present residents of Kahuku Village (approximately 150 families), why is an additional 150-family units being incorporated into the project? What impact will this have on preserving the "lifestyle" of Kahuku residents?

The new General Plan for Honolulu indicates that the residential population of the extensive Kahaluu-Kahuku area will increase by 6,110 people by the year 2000. The proposed housing project will account for a significant portion of that growth.

Your projected population increase resulting from the housing development seems rather low. A base of 3.58 persons per unit does not appear to be consistent with the proposed house design, which seems to be intended for larger households.

6. Reference: Public School, page IV-5

Comment: A potential school site was identified in the EIS, however, the phasing of the proposed housing project with a proposed school plan was not addressed. How will student enrollments be accommodated if 200-270 students in grades K-12 are expected from the housing project?

7. Reference: Flora, page V-1

Comment: "Clearing, grubbing and grading will remove all of the existing florals on the site." Will a landscaping plan be prepared?

8. Reference: Fauna and Avifauna, page V-1
Comment: "The removal of plants and animals found on this site will not affect the environment." This is too definite a statement since such an impact is cumulative in nature which often delays tangible effects. We would suggest that such phrases be modified to say, the effects would be minimal.
9. Reference: Surface Runoff and Drainage System, page V-2
Comment: What impact will surface runoff from the project site have on natural drainage channels and the swampy area makai of Kamehameha Highway?
10. Reference: Sewer and Water System, No. 4-5, page V-2
Comment: City water and sewer plans/projects are not integrated with proposed housing project development. Will city water and sewer project implementation coincide with proposed project development?

In addition to displacing and relocating the residents and farmers presently utilizing the proposed site development land, what other alternatives exist or could be considered? What social and economic impact will this have on residents, the proposed project and Kahuku Village?

Should you have any questions, please contact Mr. Michael Anderson of our staff at 523-4256.


GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ey

cc: Dept. of General Planning
Environmental Quality Commission

October 27, 1977

Mr. George S. Moriguchi, Director
Department of Land Utilization
City and County of Honolulu
Honolulu, Hawaii

Dear Mr. Moriguchi:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing
Project--Kahuku

This is in response to your comments on the draft environmental impact statement for the Koolauloa Housing Project at Kahuku, Koolauloa, Oahu, Hawaii.

1. Project Description--Phasing and Time Schedule

The phasing and timing schedule was not included in the project description because the consulting engineer was not selected when the draft EIS was completed. Enclosed is a preliminary time scheduling for the proposed Koolauloa Housing Project that will be included in the Revised Environmental Impact Statement for the Proposed Koolauloa Housing Project.

2. Water Source and System

The following will be added to this item on page IV-2:

The existing water supply is provided by three existing wells and a 0.25 MG reservoir. This system presently serves Kahuku Town, the golf course, school and hospital. These wells were formally owned and operated by Kahuku Plantation Company, with

the bulk of the water being used for irrigation of sugar cane. This existing system and quality of the water have been determined to be inadequate by BWS standards. Consequently, a completely new water system will be constructed according to the standards of the BWS.

This system will include two new wells and a 0.5 MG reservoir. In addition to the proposed project, this system will also provide services to Kahuku Town, the golf course, school and hospital. The average daily demand from the proposed project is 150,000 gallons per day.

3. Solid Water Collection and Disposal

We concur with the amount of solid waste generated from the 150 new families of the proposed Koolauloa Housing Project. The 4,188 pounds of additional solid waste per day generated from the project are significant increase from Kahuku Village area. However, Division of Refuse Collection and Disposal verbally informed the office that they could satisfactorily service the proposed project.

4. Probable Impact of the Proposed Action on the Environment (Health Care and Shopping Center)

The Kahuku Community Hospital is adjacent to the proposed project. The City provides 24-hour emergency ambulance and first-aid coverage islandwide. The City has ten ambulance units and three contractual ambulance units. The units are strategically located to provide coverage within 12 minutes. The public transportation system provides 30-minute bus service to any part of the island.

Hawaii Medical Association stated that Koolauloa District has six practicing doctors. The number of doctors for the Koolauloa District is adequate. The H.E.W. rated the number of physicians by C.F. is adequate. The Hawaii Dental Association stated that the number of dentists in the Windward District is adequate to meet the need from the proposed project.

The Hawaii Medical Association stated that Kahuku Community Hospital is able to accommodate the need of the proposed project.

The Koolauloa Counseling Center at Kahuku is a State agency providing mental health service five days a week.

Generally, the employed parent leaves their children to day care centers near their place of employment. The Department of Social Services reported that the nearest subsidized day care center is at Hauula, 20 minutes by bus. The CYO day care reported that their enrollment is filled.

Kahuku Village is a small plantation town with a theater, grocery store and a service station. The grocery store services the villager with the immediate needs.

For the convenience of Kahuku Village, Laie Village Shopping and Hauula Shopping Centers are within 5-10 minutes traveling time. Laie Village Shopping Center is approximately 3.1 miles from the project site and the Hauula Shopping Center is 5 miles from the site. These two centers provide the general needs of the residents in the Koolauloa District in addition to the isolated store.

The community and regional shopping centers in Kaneohe and Kailua are beyond the desirable traveling time of 15 minutes and 25 minutes, respectively. The distance to Kaneohe and Kailua from the project site are 25.2 miles and 30.6 miles, respectively.

6. Public School

The proposed elementary school site shown on Exhibit 3, and addressed on page IV-5, will be deleted based on the comments received from the Department of Education. D.O.E. stated that new school sites cannot be developed until the Department of Accounting and General Services has conducted a detailed selection study.

The statistical section of the D.O.E. revised the school projection based on 150 new families. The revised student projections from the project are 60 students for the K-6 and 30 students for the 7-12 grades.

The Department of Education anticipates that continuing enrollment growth in the Kahuku area may require

conversion of Kahuku High-Elementary from grades K-12 to grades 7-12 only. Grades K-6 would be relocated to a new site in the vicinity of Kahuku Town. A firm timetable has not been established; however, growth may dictate a K-6 relocation within 6-10 years.

7. Flora

The grading of the project area will be in accordance to the grading ordinance. A landscape plan will be included in the construction plan. Street tree planting will be coordinated with the Department of Parks and Recreation and the sidewalk area will be grassed.

8. Fauna and Avifauna

Your suggestion to revise the sentence from "The removal of plants and animals found on this site will not affect the environment" to "The effects on the removal of plants and animals found on this site to the environment would be minimal," will be incorporated in the Revised EIS.

9. Surface Runoff and Drainage System

The 52-acre project area represents 2.8 percent of the 1,880-acre Ohia Gulch drainage basin. The total storm runoff from this drainage basin is expected to increase by about 1.5 percent as a result of this project. Since this increase is relatively small, no significant impact on the natural drainage channels or the swampy area makai of Kanehameha Highway is anticipated.

10. Coordination on the Construction of the Sewer and Water System

The Board of Water Supply has obtained a loan and grant from the Farmers Home Administration to construct a 0.5 MG reservoir, two wells, pump station and the transmission lines. BWS will prepare their environmental impact assessment and the engineering drawings. We have obtained their preliminary time schedule for the construction of the water source and system as shown on Exhibit 11. Exhibit 11, "Preliminary Time Schedule for the Koolauloa Housing Project," shows the relationship

Mr. George S. Moriguchi

-5-

October 27, 1977

on the construction of the housing project, sewage treatment plant and appurtenances and the water source and system.

We hope that the above responses satisfy your comments to our draft EIS.

Sincerely,

TYRONE T. KUSAO
Director

RN:mn

OTHER

11

AMERICAN  LUNG ASSOCIATION of Hawaii

August 17, 1977

Department of Housing & Community Development
650 South King Street
Honolulu, Hawaii 96813

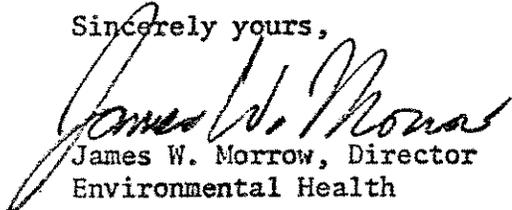
Gentlemen:

Subject: EIS for the Proposed Koolauloa Housing Project

We have reviewed those portions of the subject EIS which dealt with air quality impact and concur with the finding that the proposed project is unlikely to cause violations of the State's 1-hour CO standard. However, there were a number of rather significant errors in the analytical procedure employed which we have noted in our detailed comments.

If we may be of any assistance on future projects involving air quality impact assessment, please do not hesitate to call on us.

Sincerely yours,


James W. Morrow, Director
Environmental Health

JWM:lp

cc: Department of General Planning
Dr. Richard E. Marland
Department of Health

AMERICAN LUNG ASSOCIATION
DEPARTMENT OF HOUSING
& COMMUNITY DEVELOPMENT
AUG 18 3 06 PM '77



AMERICAN LUNG ASSOCIATION OF HAWAII

ENVIRONMENTAL IMPACT STATEMENT REVIEW

... an air quality assurance program

Project: Koolauloa Housing Project - Kahuku

Date: August 17, 1977

1. Appendix A, p. 1. "Under the present City's guideline, the capacity of this portion of Kam Highway is between 600-750 vph."

COMMENT: Is this the capacity of Kam Highway at service level E? (Highway Capacity Manual, 1965) Is this the capacity of the 2-lane highway or the capacity per lane?

2. Appendix A, p. 2. "Traffic Projection"

COMMENT: The text described the traffic increase between 1970 and 1973 as a linear function but then apparently used some other method to project the traffic to 1980. Had the same linear function been employed, the 1980 ADT would have been 8,206 (instead of 7,599) and the a.m. and p.m. peaks would have been 393 and 479 respectively (instead of 368 and 454). The net effect would be an underestimation of traffic and air quality impact.

3. Appendix A, p. 3. "We will compute only the A.M. peak since the morning traffic has a higher concentration of vehicles. The morning peak lasts for two hours as compared to three hours for the afternoon."

COMMENT: It is true that p.m. peak traffic is often more spread out than the a.m. peak, but in this case the data being used is based on the peak hour percentage (according to the DOT publication cited) and the peak hour percentage is greater in the afternoon than the morning (8.6% vs. 6.8% in 1973 for example).

4. Appendix A, p. 3. "The ratio of the volume demand capacity for the north bound lane is 0.35 and for the south bound lane is 0.18."

COMMENT: Based on the 66:34 directional split, the a.m. peak hour traffic estimate of 638 vph, and the lane capacity of 600-750 vph cited in the Appendix, the volume demand capacity (V/C) ratios should have been either 0.70 and 0.36 (based on lane capacity of 600 vph) or 0.56 and 0.29 (based on lane capacity of 750 vph).

STATE OFFICE
245 N. Kukui St.
Hono., Hawaii 96817
Telephone 537-5966

HAWAII COUNTY
Post Office Box 925
Hilo, Hawaii 96720
Telephone 935-1206

KAUAI COUNTY
Post Office Box 991
Lihue, Hawaii 96766
Telephone 245-4142

MAUI COUNTY
Cameron Center
Wailuku, Hawaii 96793
Telephone 244-5110

5. Appendix A, p. 3. "From the chart "Volume Demand-Capacity Ratio" (Exhibit A) in a lane on a major street versus CO concentration impact at a perpendicular distance of 10 meters we read the CO concentration for the north bound lane, 2.1 ppm and for the south bound lane, 1.35 ppm. The impact on one-hour CO concentration from the traffic along Kam Highway to the pedestrians is 3.45 ppm."

COMMENT: In addition to the incorrect V/C ratios mentioned above which would result in an underestimation of CO concentrations, there are two additional errors indicated here. First, the CO values taken from the curves in Exhibit A should be adjusted for distance between the lane and the receptor using Figure 5 of the EPA publication cited. In this case, failure to adjust the CO value for the lane farthest from the receptor site would result in a slight overestimation of impact. Secondly, the final sum of the CO values for both lanes should have been adjusted for the year of interest, in this case 1980, using the values in Table 2 on p. 42 of the EPA publication. Failure to do this also resulted in an overestimation of impact.

6. Appendix A, p. 3. "The State standard for ambient air quality for CO concentrations is 11.5 ppm."

COMMENT: There apparently was a simple mistake made here. The CO conversion factor for ppm to mg/m^3 is 1.15 and for mg/m^3 to ppm is 0.87. Thus, since the State 1-hour standard for CO is $10 \text{ mg}/\text{m}^3$ this would convert to $10 \times 0.87 = 8.7$ or rounded off to 9 ppm.

7. NOTES FOR FUTURE REFERENCE

- a. Because Congress recently relaxed vehicle emission standards, the correction factors in Table 2, p. 42 of the EPA publication cited are no longer accurate. Their use will result in a slight underestimation of air quality impact. In this case the error was insignificant. In cases of greater traffic volume, the difference may well be significant.
- b. Some consideration should be given to the 8-hour CO concentration since in some cases the 1-hour standard could be met, but the 8-hour standard might be violated. This is especially true here because Hawaii has such a low ($5 \text{ mg}/\text{m}^3$) 8-hour standard. In this case, the estimated 1-hour CO level under worst case conditions was below $5 \text{ mg}/\text{m}^3$; thus, it would be extremely unlikely that the 8-hour average would exceed $5 \text{ mg}/\text{m}^3$.

September 2, 1977

Mr. James W. Morrow, Director
Environmental Health
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817

Dear Mr. Morrow:

Subject: Draft Environmental Impact Statement
for the Proposed Koolauloa Housing Project

This is in response to your comments on our Draft Environmental Impact Statement for the proposed Koolauloa Housing Project.

We revised Appendix A, "Traffic Projection and Air Quality" of the EIS for the Koolauloa Housing Project to rectify the errors and incorporate changes suggested by you. We will try to satisfy your comments, point by point.

1. Appendix A, P. 1

Capacity of existing Kamehameha Highway through
Kahuku Town

Response. The statement in Appendix A, p.1, should read, "Under the present City's guideline, the capacity of this portion of Kam Highway is between 600-750 vph per lane." (Corrections underline.)

However, we obtained a computed capacity for this portion of Kam Highway from the State Highways

Planning Division, D.O.T., which we incorporated in the appendix. Mr. Kenneth Hee, State Highways Planning Division, informed us that Kam Highway is classified at level of service E and the capacity for that portion of the highway is 1,500 vph both ways.

2. Appendix A, P.2

Traffic Projection

Response. The linear function that we employed to determine the traffic projection was faulty. The interval between 1970 to 1973 was too short and the traffic counts fluctuated radically. We discounted this method of traffic projection for this portion of Kam Highway and used the data furnished by the State Highways Planning Division, D.O.T., for the years 1980, 1990, and 2000. Mr. V. Hashizumi in the Research Section provided their latest projections. There were 6,300 vph for 1980, 8,800 vph for 1990 and 11,300 vph for 2000. The K-factor (peak hour) for the year 2000 is 11.5 percent. The K-factor was adjusted proportionately from 1973 and the adjusted K-factor for 1980 will be 9.3 percent.

The peak hour volume for 1980 was revised to 586 vph in both directions. Adding the 180 vph generated from the project, the adjusted peak hour projection will be 766 vph.

3. Appendix A, P.3

Selection of peak hour concentration

Response. The peak hour selection was revised to reflect your suggestion to use the higher peak hour percentage instead of the shorter peak hour duration.

4. Appendix A, P.3

The ratio of the volume demand-capacity

Response. The directional split on the traffic movement on Kam Highway was changed to reflect the actual traffic

movement on a survey taken by the State Highways Planning Division. The ratio of the volume demand-capacity was recomputed for each lane based on the revised demand volume and capacity.

5. Appendix A, P.3

The impact on one-hour CO concentration from the traffic along Kam Highway to the pedestrians 10 feet from the nearest lane.

Response. The CO concentration was revised by applying (1) the conversions of feet to meters, (2) relative concentration of CO vs. perpendicular distance from a traffic lane, and (3) the correction factors reflecting emission control program to the adjusted 1930 peak hour traffic volume. The adjusted CO concentrate is less than one fifth of the State standard for ambient air quality.

6. Appendix A, P.3

State standard for ambient air quality for CO concentration.

Response. The State standard was corrected as pointed out in your review.

We enclosed the revised Appendix A, "Traffic Projection and Air Quality." We hope the revisions meet with your satisfaction.

Sincerely,

TYRONE T. KUSAO
Director

Enc.

APPENDIX A

TRAFFIC PROJECTION AND AIR QUALITY

Rev. 8/31/77

APPENDIX A

KAHUKU SUPPORT HOUSING PROJECT IMPACT TO THE EXISTING HIGHWAY AND THE AIR QUALITY FROM THE TRAFFIC AND POLLUTION GENERATED FROM THE 300-UNIT DEVELOPMENT

The Kahuku Support Housing Project is a 300-unit development located on the foothill on the windward side and northern portion of Koolau Range. The site is located approximately 600 feet mauka of Kamehameha Highway opposite Kahuku Mill. The project includes a 56-foot access road.

The site is practically vacant except for a few residences on the highland. A section of the site is presently used for truck farming and grazing. Major portion of the land is overgrown with shrubs, trees and other vegetations. The site is surrounded by vacant agricultural land and urban land. The urban land consists of Kahuku Community Hospital and a plantation camp.

The 300-unit development will have some impact on the present highway traffic and air quality of the surrounding area. We used the 1970 Census data and other factors on trip generations to project the traffic volume. We used the screening procedure established in the Guideline for Air Quality Maintenance Planning and Analysis, Vol. 9, prepared by the U.S. Environmental Protection Agency to determine the impact of the CO concentration.

Existing Kamehameha Highway (Kam Hwy)

Kam Hwy is a two-lane, two-way highway circling the eastern half of the island. The average pavement width of the lane ranges from 10-11 feet. The operating speed of Kam Hwy through Kahuku Town is 25 mph and the speed beyond the town ranges from 35 to 45 mph.

1. Capacity

According to the Highway Capacity Manual 1965, Kam Hwy is classified at level of service E. Under ideal condition, the volume in both directions will be 2,000 passenger cars per hour. The State Highways

Planning Division, Department of Transportation, computed the capacity for this portion of Kam Hwy at our request on August 26, 1977. Mr. Kenneth Lee, Highways Planning Division, informed this office that the capacity of Kam Hwy will be 1,500 vph for both directions.

2. Existing Traffic

Traffic Summary Report 1973, prepared by State Highways Planning Division, D.O.T., reported that the average daily traffic (ADT) for Kam Hwy between Malaekahana and Airport Road (Kahuku) is 4,795 vpd. The peak hour traffic volume in the afternoon represents 8.3 percent of the ADT or 398 vph.

The 24-hour accumulation traffic count taken on Kam Hwy during February 9-10, 1976, north of Kahuku Village, revealed that the ratio of the directional split of the traffic volume as 51:49. Approximately 299 vehicles are southbound (Kaneohe) and 287 vehicles are northbound (Kuilima).

3. Traffic Projection. The traffic projections for this portion of Kam Hwy were obtained from the State Highways Planning Division. The State Highways Planning Division projected the traffic volume based on traffic data up to 1976. The projected ADT of Kam Hwy at Kahuku Town for 1980, 1990, and 2000 are 6,300, 8,800 and 11,300 vpd, respectively.

The K-factor (peak hour volume) calculated for the year 2000 is 11.5 percent. The peak hour volume for the year 2000 will be 1,300 vph.

The peak hour traffic volume generated from the project is computed by using the median on the number of workers per unit and the percentage of drivers in the table "Means of Transportation." The 300-lot subdivision will generate 555 workers of which 361 drive to work. The duration of the peak hour traffic is estimated at two hours. Therefore, the peak hour traffic will be 180 vph. The combined peak hour volume will be 1,480 vph. The adjusted peak hour traffic volume

for 2000 will be near the capacity of the existing highway. The Oahu General Plan calls for the widening of Kam Hwy through Kahuku Town.

5. Air Quality

The amount of carbon monoxide (CO) concentration produced from the traffic will not have a significant impact to the air quality on the environment. The State does not have regular monitoring of the air pollution on the island. In the absence of such data, we used the screenline procedure established in the report "EPA-450/4-75-001, Guidelines for Air Quality Maintenance Planning and Analysis, Vol. 9: Evaluating Indirect Sources," to determine the CO concentration.

The Kahuku Housing Project will be completed by 1980. The air quality for 1980 will be based on the traffic projection prepared by the State Highways Planning Division plus the traffic generated by the project. The air pollution is computed at a receptor station, 10 feet mauka of the nearest traffic lane (southbound).

We have adjusted the K-factor proportionately from 1973 to 2000 for the peak hour traffic volume. The K-factor increases approximately 0.1 percent per year or 9.3 percent for 1980. The peak hour traffic projected for 1980 will be 586 vph. The peak hour traffic volume of the project should equal one half of the number of workers who drives or 180 vehicles. The total peak hour traffic volume for 1980 including the traffic from the project area will be 766 vph.

The traffic movement indicated on the survey conducted by the State Highways Planning Division at Station 26-B (Kam Hwy at Kahuku Airport Road) on February 9-10, 1976 and the place of employment were used to determine the ratio of the directional split for each lane. The ratio of the directional split for both the traffic survey and the place of employment were same or 51:49 in favor of the southbound traffic. Applying the ratio to the 1980 projected peak hour traffic, the southbound traffic will be 391 vph and the northbound traffic will be 375 vph.

The volume demand-capacity ratio (v/c) for the southbound traffic will be 0.52 and for the northbound traffic will be 0.50. The readings of the impact on one-hour CO concentration from the chart (Exhibit A) are 1.97 ppm for the southbound lane and 1.90 ppm for the northbound lane.

The value of the relative concentration of CO vs. the perpendicular distance from the traffic lane from the chart (Exhibit B) reads 1.18 for the southbound lane (10 feet) and 1.02 for the northbound lane (21 feet). The CO concentration at the receptor station will be 2.32 ppm for the southbound lane and 1.94 ppm for the northbound lane. The total CO concentration is 4.26 ppm or 4.90 mg/m³. The Clean Air Act imposed an interim Federal CO emission standards to the auto industry. The 1980 correction factors in Table 2 on page 42 of the EPA publication 450/4-75-001 reflecting emission control program for CO concentration is 0.4. The adjusted CO concentration for 1980 is 1.70 ppm or 1.96 mg/m³. The State one-hour standard for CO is 10 mg/m³. The one-hour CO concentration on the projected 1980 traffic volume including the traffic generated from the project at the receptor station is below the State standard.

TABLE

1970 CENSUS--C.T. NO. 101

A. Population

Male	1,906 persons
Female	<u>1,591 persons</u>
	3,497 persons

B. Housing Units

1. Tenure

Owner Occupied	251 units
Renter Occupied	693 units
Vacant	<u>171 units</u>
	1,115 units

2. Size of Unit (Median)

4.3 rooms per unit

3. No. of Persons Per Unit

3.1 (median)

4. Type of Structures

Single Family	1,034
Duplex	41
3 to 4 Units/Building	4
5 to 49 Units/Building	<u>8</u>
Total Structures	1,087

5. No. of Cars

1 Car/Unit	390 units	390 cars
2 Cars/Unit	380 units	760 cars
3 or More/Unit	<u>68 units</u>	<u>204 cars</u>
	838 units	1,354 cars
None	<u>95 units</u>	-
	933 units	1,354 cars

Median: 1.5 cars per unit.

C. Employment

1. Means of Transportation

Driver	875 persons	64.9 percent
Passenger	91 persons	6.7 percent
Bus	5 persons	0.4 percent
Walk	325 persons	24.1 percent
Home	33 persons	2.4 percent
Other	<u>20 persons</u>	<u>1.5 percent</u>
	1,349 persons	100.0 percent

Average No. of Workers Per Unit: 1.85 persons per unit

2. Place of Work

Honolulu	226 persons		
Koolaupoko	17 persons		
Ewa	107 persons		
Waianae	<u>15 persons</u>	365 persons	51 percent
Waialua	182 persons		
Wahiawa	<u>174 persons</u>	<u>356 persons</u>	<u>49 percent</u>
Subtotal		721 persons	100 percent
Koolauloa		<u>415 persons</u>	
Total		1,136 persons	
Northbound	49 percent		
Southbound	51 percent		

EXHIBIT A
VOLUME DEMAND - CAPACITY RATIO IN A LANE ON A MAJOR STREET VERSUS CO CONCENTRATION IMPACT AT A PERPENDICULAR DISTANCE OF 10 METERS

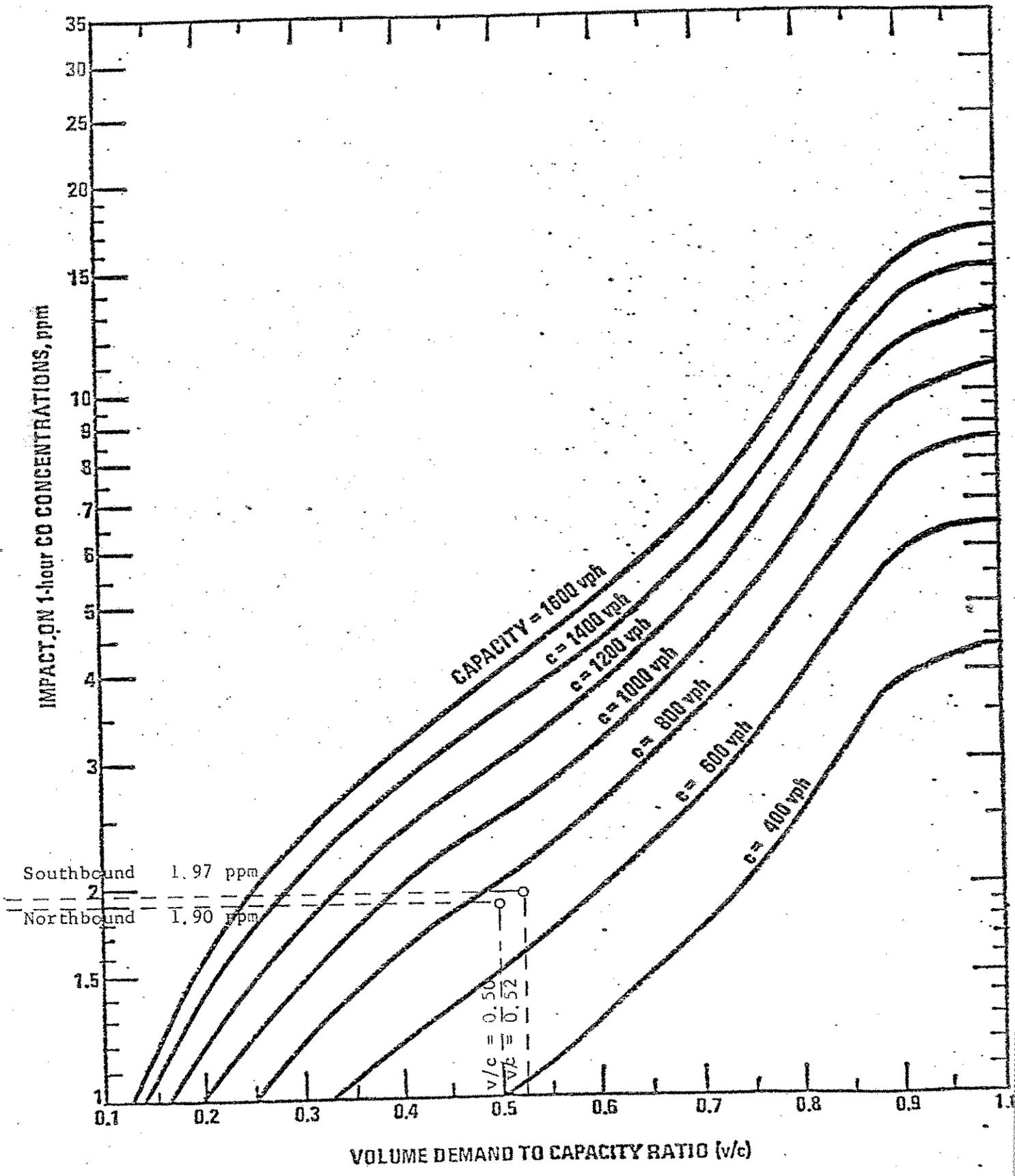
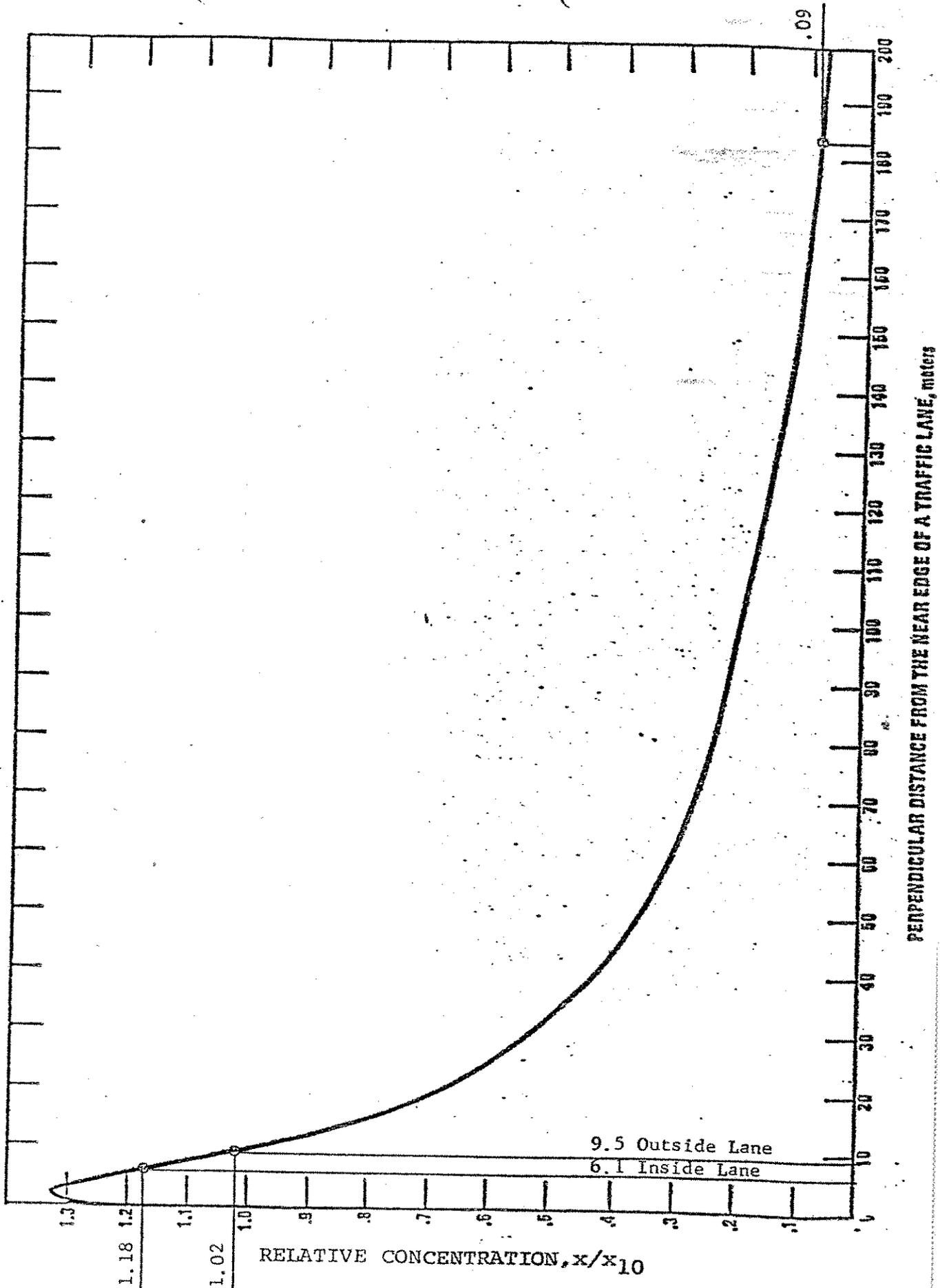
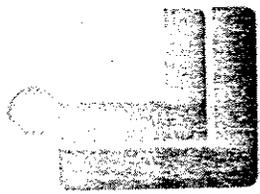


EXHIBIT B

FIGURE 6. RELATIVE CONCENTRATION OF CO VS. PERPENDICULAR DISTANCE FROM A TRAFFIC LANE WITH FREELY FLOWING TRAFFIC





**BLACKFIELD
HAWAII
CORPORATION**

1221 KAPIOLANI BOULEVARD
SUITE 700
HONOLULU, HAWAII 96814
(808) 538-3841

DEPARTMENT OF HOUSING
AND COMMUNITY DEVELOPMENT
SEP 0 1 12 PM '77

September 6, 1977

Department of General Planning
City and County of Honolulu

Department of Housing and
Community Development
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

RE: Environmental Impact Statement (Draft)
Koolauloa Housing Project
Kahuku, Oahu

Thank you for the opportunity to review the draft E.I.S. for this project. As we own and operate the Kahuku Sugar Mill, what happens in this town is of great importance to us.

Our comments are listed below by page number:

Drainage System

Comments on the drainage system are found on pages IV-2 and V-2. The comments in the draft statement elude to the fact that this project will have the effect of increasing the storm run off. It also seems to say that the existing system of swales and drainage channels will eventually carry the water to "the makai side of Kamehameha Highway which will serve as a ponding area." Unfortunately, no map is shown indicating the route of the water from the proposed housing site. As Kahuku Sugar Mill is located on the makai side of the highway, and now is the recipient of large amounts of storm water from the mauka areas, we are concerned. During heavy rains the mill's system of ponds overflow and have flooded our administration office. While we have taken steps to alleviate this, we cannot handle increased amounts of water. The final E.I.S. should speak to this serious question.

Population Statistics

On page IV-3 the draft statement says the 1970 Census reported 3.58 persons per household in census tract 101. Our reading of the State of Hawaii 1976 Data Book gives the 1970 figure of 3.13 and a 1975 figure of 2.85. As the proposed project will undoubtedly bring many new, younger families into the area, and these families will probably have more children, the figure of 3.58 is probably a good one.

Community Association Comments

Kahuku town is a very unique place. The residents are very close to one another and speak as one. This is quite different from almost any other area on Oahu where there would likely be a variety of opinions of any one subject. Because the town speaks as one, it should be listened to more than perhaps other places. Their request for the housing units to be built in three stages (pages XII-4) should be seriously considered. Also, the lot sizes should vary so that larger families could have a 5,000 square foot lot while smaller families would enjoy a smaller lot.

Kahuku Sewer Improvement Project

Page I-1 of Appendix B states that the objectives of the new sewer system are to service:

1. the proposed Koolauloa housing project
2. the school and hospital
3. approximately 80 other users.

Apparently a decision was made not to include other users in Kahuku town. When a project of this magnitude is proposed, it is difficult to understand why the sewage plant can't be sized to accommodate the entire needs of the community. We would like consideration of the sugar mill being able to hook up to the system as well as the other residential and commercial users in town.

The map, entitled "Figure 5 - Collection and Transmission System" indicates the proposed location of the main lines from the users to the treatment plant. The line from the treatment plant to the highway is long and on a route that will probably never have any requests for future hookups. It would seem to make more sense to have the system all flow to a central place, like the Sugar Mill, and go along the road by the theater, flowing behind the Sugar Mill toward the treatment plant. This route would allow for future hookups along it in an area that would be a natural one.

Department of General Planning and
Department of Housing & Community Development
September 6, 1977
Page 3

Safety

Exhibit 3, entitled "Proposed Subdivision Park and School Expansion Plan" outlines the new development. Consideration should be given to a second road for ingress and egress. A three hundred unit subdivision all going in and out on one road, and that road being the one that will also be used for emergency hospital vehicles, doesn't seem to give proper consideration to safety.

We assume that the normal requirements for fire hydrants is not one of the items an exemption is being sought from.

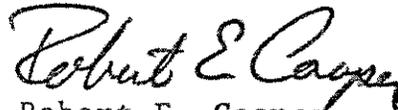
In General

We support the desire to build affordable homes, and at the same time to upgrade the water and sewer system.

Thank you for this opportunity.

Sincerely,

BLACKFIELD HAWAII CORPORATION



Robert E. Cooper
Vice President

REC/pam

cc: Environmental Quality Commission

October 27, 1977

Mr. Robert E. Cooper
Blackfield Hawaii Corporation
1821 Kapiolani Blvd., Suite 700
Honolulu, Hawaii 96814

Dear Mr. Cooper:

Subject: Draft Environmental Impact Statement for
the Proposed Koolauloa Housing Project

Thank you for the review and comments on the draft EIS for the proposed Koolauloa Housing Project at Kahuku. We had Park Engineering review and prepare the responses to your comments.

The following are the responses to your comments:

Drainage System (Page IV-2)

The drainage problems of Kahuku Sugar Mill is recognized and is currently being considered in the final drainage study. Among the schemes being considered is the diversion of part of the subdivision runoff to the adjacent drainage basin. The objective of this diversion would be to minimize the impact of the increase in storm runoff on the downstream urban lands.

Surface Runoff and Drainage System (Page V-2)

A general description of the drainage system is provided above. More detailed information on the swales, intake structures and pipes in terms of size, location and depth will depend upon final design. These detailed information are, therefore, not available at this time.

October 27, 1977

Population Statistics

We are happy that you concurred with our population projection. We have disregarded the lower 1975 persons per household in OY 101 because growth of this area since 1970 was concentrated in the Puiliua development. The units in this development were bought for second homes, speculation and vacation homes. Our single family dwelling is developed for the low- and moderate-income families. In our opinion, the 1970 Census household size should be retained for the Koolauloa Housing Project.

Community Association Comments

As the result of the conditions imposed by the communities at the public meeting, the department had several meetings with the executive committees of the Kahuku Housing Corporation and Kahuku Community Association. The development plan for the project was modified to incorporate all the conditions except the relocation of the five homes. The area with the five homes was deleted from the project.

Kahuku Sewer Improvement Project

The primary intent of this sewer improvement project is to accommodate the housing project. The school, hospital, and approximately 80 other users were incorporated into the system to meet the condition set forth by the Farmers Home Administration who is financing the project through a grant and loan for community services program.

Several alternate routes were considered for the sewer line alignment. In considering these alternates, an alignment was sought that would serve the intent of the sewer improvement project be the most economical to construct, and accommodate possible further growth in this area. The project would have to be within the cost commitment by Farmers Home Administration.

Lottery

The project site will be subdivided in accordance to the city subdivision rules and regulations with modifications as stated in the SPS.

October 27, 1977

The proposed subdivision layout for the project including the access road as shown on Exhibit B entitled, "Proposed Subdivision, Proposed Park and School Expansion Plan," will be submitted to the various governmental agencies (including Department of Parks and Recreation, Department of Public Works, Department of Transportation Services, Department of Transportation, Department of Education, Department of Health, etc.) for their reviews and comments. All requirements in the construction standards except the modifications will be installed. Other suggestions will be given every consideration and incorporated in the project provided the items are reasonable and economically feasible.

The Farmers Home Administration expresses its concern on the single access to the project. However, Farmers Home Administration stated that they have no objection, provided the plan is approved by the Fire Department and the Department of Transportation Services.

We thank you for the support of the project.

Sincerely,

TYRONE T. KUSAO
Director

REJ:mn

PUNALU
P. O. Box 239

COMMUNITY

ASSOCIATION
Hauula, Hawaii 96717

September 6, 1977

Mr. Robert Way, Director
Department of General Planning
City and County of Honolulu
Honolulu, Hawaii 96717

Ref: Draft EIS for Kahuku-
Koolauloa Housing Project

Dear Sir:

In reviewing the referenced report I find that community concern was well expressed on pages XII-2, 3 and 4 of the report.

The project is unacceptable because of lot sizes and number of units. By more than doubling the number of residents with similar needs, it will undoubtedly create a social/economic headache for a community already plagued by low income and poor job opportunity. We find the data and projections used are unrealistic in regard to impact on schools, health and highway.

The Kahuku and Koolauloa area is striving for controlled development of a rural/agriculture community. The creation of a 300 unit, highly congested, sub-standard housing project is not in conformity with the needs or desires of our community.

Sincerely,

PUNALUU COMMUNITY ASSOCIATION



Creighton U. Mattoon
President

cc: Dept. of Housing & Comm. Dev.-T. Kusao'
Neighborhood Board #28
Koolauloa Council

October 28, 1977

Mr. Creighton U. Mattoon, President
Kahuku Community Association
P. O. Box 239
Kalaheo, Hawaii 96717

Dear Mr. Mattoon:

The conditions imposed on page XII-4, and the concerns expressed by the communities were thoroughly discussed with the committees, Kahuku Housing Corporation and Kahuku Community Association. We presented the economic feasibility of the project and the additional housing demand from a survey by Mr. Logan of Koolauloa Neighborhood Board No. 28.

The committees accepted a modified proposal consisting of:

1. Three hundred lot subdivision with at least 150 lots with 5,000 square feet and 150 lots with a minimum of 4,000 square feet.
2. The five residential dwellings mauka of the hospital to be deleted from the project.
3. The project includes the acquisition of the proposed park site.
4. The north portion of the project is divided in two phases.

Mr. Creighton U. Mattoon

-2-

October 28, 1977

The 150 new families will have some impact on the population, school enrollment, social and economic environment, health care and the traffic volume.

The data used for our projections were obtained from the 1970 Census and from the agencies affected directly. The household size used in the population projection is median household size for C.S. 101. The Department of Education statistical section reduced the student projection to 60 elementary students and 30 intermediate-high school students. The original student projection was based on 425-lot subdivision without regard to replacement housing for the villagers. The Department of Education has anticipated the continued enrollment growth and plans to relocate grades 3-6 when the elementary enrollment exceeds 400 students. Until such time the Kahuku High-Elementary School will use temporary quarters.

Representatives of the Kahuku Community Hospital, Hawaii Medical Association and Hawaii Dental Association verbally assured that present number of doctors and dentists and the hospital facilities in the Windward areas are adequate to service the additional 150 families.

The highway capacities and projection were obtained from the State Highway Planning Division.

The density and the lifestyle in the proposed Koolauloa Housing Project are compatible to the present Kahuku Village except that the homes and street improvements are of higher quality. It is our opinion that the 150 new families will come from nearby communities.

Sincerely,

HERBERT W. KUSKO
Chairman

W:am

KAHUKU HOUSING CORPORATION

P.O. BOX 278 • KAHUKU, HAWAII 96731
PHONE: 293-9569

December 21, 1976

Councilman Toraki Matsumoto
City Council
City & County of Honolulu
Honolulu, Hawaii 96813

Re: Koolauloa Housing Project

Dear Toraki,

The Community Association and Kahuku Housing Corporation's board members recommended a meeting of the general public on December 4, 1976. This meeting was held and all information on hand were narrated to them in the Kahuku Theatre. They were requested to fill a questionnaire pertaining to the Koolauloa Housing, the Elderly Housing, and the present Kahuku village.

The Kahuku Housing Corporation's board of directors met and evaluated the tabulation and made a decision.

They approved the housing project with the following conditions:

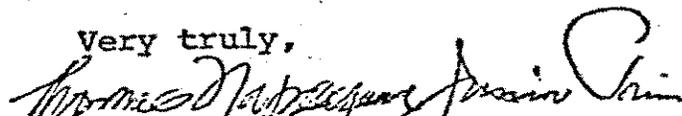
1. An integrated community.
2. A recreational park.
3. Moving of the 5 homes in the project area.
4. Various plot size.
5. Build the 300 homes in 3 increments.

JAN 5 4 23 PM '77
D.I.P. OF HOUSING
AND COMM. DEVELOPMENT

TN:jcm

cc: Bill Miller, Campbell Estate

Very truly,


Thomas Nakayama, John Primacio,
President, KHC President, KCA

SEP 9 1 32 PM '77

September 7, 1977

Department of General Planning
City and County of Honolulu
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: Draft Environmental Impact Statement for
the Koolauloa Housing Project

Enclosed you will find our comments on the Draft Environ-
mental Impact Statement for the Koolauloa Housing Project.

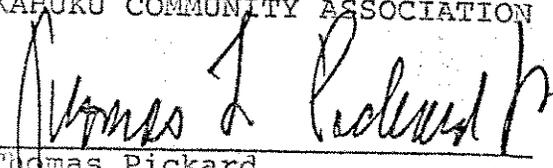
We hereby ask that your strong consideration be given
on our comments and also the comments that the communities
mentioned on October 7, 1976.

We look forward to further discussing this project with
you to enable us community leaders a comprehensive under-
standing of the proposed Koolauloa Housing Project.

KAHUKU HOUSING CORPORATION

KAHUKU COMMUNITY ASSOCIATION


Thomas Nakayama
President


Thomas Pickard
President

DN/TP:ap

Incl.

cc: ✓ Department of Housing & Community Development
Councilman Toraki Matsumoto
Campbell Estate

DRAFT
ENVIRONMENTAL IMPACT STATEMENT
FOR THE PROPOSED
KOOLAULOA HOUSING PROJECT---KAHUKU

COMMENTS BY:
KAHUKU HOUSING CORPORATION
and
KAHUKU COMMUNITY ASSOCIATION

SUMMARY:

3. Project Impacts (Page 2)

a. Beneficial Impact (2nd Paragraph)

This paragraphs does not give any certainty of the relocation of families of the existing homes in the plantation village. We have indicated in the past that preference should be given to residence of Kahuku Village.

4. Alternatives (Page 3)

Another paragraph should be added as an alternative which is not included in this report. The fifth alternative is to put in off site improvements. Also, subdivide the area and sell the land to prospective people for them to build their own homes.

I. PROJECT DESCRIPTION (Page I-1)

(g) (3) Page I-3

This section does not mention fire hydrants, stand pipes, or a fire protection system.

IV. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

D. Public Utilities, Facilites and Services (Page IV-2)

1. Sewer System

We do not concur with the size, location and route of the sewer lines as proposed in Appendix B and Figure 5 (Page I-9).

3. Drainage System

We feel that this paragraph does not give enough detailed information regarding runoffs, swells, a system of collecting drain lines, and existing drainage channels.

E. Social Impact (Page IV-3)

1. Population

Based on the 1970 U.S. Census report whereby 3.58 persons per household in this census tract---We feel that these 300 units would basically increase the person per household from 3.58 to 5.00. We feel that the majority of the buyers would be young with growing families as compared with the existing town of which approximately sixty percent (60%) are not in their family raising status.

3. Low- and Moderate-Income Housing (Page IV-4)

Throughout this report, it is emphasized that this project is geared to take care of the needs of Kahukuans, but in reality, it is open to the general public---and this project cannot discriminate. Therefore, we feel that this statement is deceiving.

PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

3. Surface Runoff and Drainage System (Page V-2)

The second paragraph does not give us any detailed information as to a drainage system. We think that it is very important that this matter is probed.

EXHIBIT 3: PROPOSED SUBDIVISION PARK, AND SCHOOL EXPANSION PLAN

We do not think that an access road to Kamehameha Highway should be located as plotted for the following reasons:

1. The present road, on which the proposed access road to the project is to be built, is basically used for the emergency ambulance service. We feel that added traffic on this road would create an impact.
2. We intend to keep the existing homes that are located bordering the project boundary and feel that a road as proposed would split that section of the camp.

3. For the safety of all those concerned, we feel that one access road isn't adequate to take care 300 homes and other users. We propose that two (2) access roads be included in this project.

November 7, 1977

Kahuku Housing Corporation &
Kahuku Community Association
P. O. Box 278
Kahuku, Hawaii 96731

Gentlemen:

Subject: Draft Environmental Impact Statement for
the Proposed Koolauloa Housing Project,
Kahuku

This is in response to your comments to the draft EIS for
the Koolauloa Housing Project at Kahuku, Koolauloa, Oahu, Hawaii.

Summary

3. Project Impact (Page 2)

a. Beneficial Impact

This project is a federally assisted project under
the provisions of Community Development Block
Grant program. The federal regulations prohibit
the City to discriminate in the selection of
families in the project. The homes will be made
available to eligible purchasers on a first come,
first serve basis. Announcement of the opening
date for the acceptance of applications will be
published in the local newspapers.

4. Alternatives (Page 3)

Your suggestion to subdivide the land and sell the land
to prospective families for them to build their own

homes as an alternative has been considered. We discarded this alternative for the following reasons:

- a. The objectives of the City housing program to provide housing to the low- and moderate-income families at the lowest possible cost.
- b. Tract home development has proved low cost home production.
- c. Sale of land only will increase administrative cost in reviewing and approving of house plans, monitoring loans, inspecting and approving the completion of homes.

5. Project Description (Page 3)
(g)(3), Page I-3

The project will be developed under the provisions of the City subdivision rules and regulations. The project will include all the improvements required in the subdivision rules and regulations except the modification mentioned in the draft EIS. The improvements in the subdivision include a complete water system containing water main, fire hydrant and other appurtenances as required by Board of Water Supply.

IV. Probable Impact of the Proposed Action on the Environment

D. Public Utilities, Facilities and Services (Page IV-2)

1. Sewer System

The sewer lines have been planned and sized to handle the housing project and the potential ultimate flows from within the immediate Kahuku Town area. The projected ultimate wastewater flow was based on the areas presently zoned for residential (R-6) use.

Several alternative routes were considered for the sewer line alignment. In considering these alternatives, an alignment was sought that would serve the intent of the sewer improvement project; be the most economical to construct; and accommodate the housing project. The school complex, the hospital, and approximately 80 other users were incorporated into the system to meet the condition set forth by the Farmers Home Administration who is financing the project through a grant and loan for community services program. The project would have to be within the cost commitment by Farmers Home Administration.

3. Drainage System (Page IV-2)

The storm runoff for the project will be approximately 260 cubic feet per second. The subdivision drainage system which will handle this runoff will consist of swales, stormwater intake structures and underground drain lines. This system will be designed in accordance with the Storm Drainage Standards of the Department of Public Works, City and County of Honolulu.

E. Social Impact

1. Population (Page IV-3)

Basically the three-bedroom units illustrated in Exhibit 5 can accommodate up to six persons per unit. However, the trend in the household size in the last decade has been declining. The household size for Oahu decreased to 3.63 persons per household from 3.92 persons per household according to the 1970 and 1960 Census Reports. The present trend of the household size does not concur with your projection of household size. It is our opinion that the current household size for C.T. 101 should be adhered to.

2. Low- and Moderate-Income Housing (Page IV-4)

This section emphasizes the need of housing for all low- and moderate-income families including those in Kahuku and the justification in the selection of the project site. Although the project was proposed to fulfill the need of the Kahuku community, federal regulations prohibit the City to discriminate in the selection of the families. All eligible families will have equal opportunity in the application. See the above response on 3-a, "Beneficial Impact."

V. Probable Adverse Environmental Effect Which Cannot Be Avoided

3. Surface Runoff and Drainage System (Page V-2)

A general description of the drainage system is provided above. More detailed information on the swales, intake structures and pipes in terms of sizes, location and depth will depend upon final design. These detailed information are, therefore, not available at this time.

Exhibit 3. Proposed Subdivision, Park and School Expansion Plan

Access Road

1. The existing road is a narrow coral base pavement. The new access is a 56-foot right-of-way with 40-foot asphaltic concrete pavement on 6-inch base course. The new access is more than adequate to serve the units in the project as well as the emergency ambulance service. The Department of Transportation Services has no objection to the proposed development plan.
2. The access road will not displace any of the existing homes. The alignment of the access shown on the development plan was selected based on good traffic engineering practice. The access is a necessity to the project.

November 7, 1977

3. The projected traffic volume from the 300-lot subdivision during the peak flow is 180 vehicles per hour (Appendix A). The access road to the project is a four 10-foot lane, two-way roadway. The capacity for the four 10-foot, two-way highway is 1,820 vehicles per hour both ways or 910 vehicles per hour one way (Reference: Highway Capacity Manual, 1965). The 56-foot access to the project is more than adequate to service the 300-lot subdivision.

Sincerely,

TYRONE T. KUSAO
Director

RN:mn