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

hilo bayfront highway

FINAL ENVIRONMENTAL IMPACT STATEMENT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PROJECT NUMBER U-019-2(10)

George R. Ariyoshi
Governor, State of Hawaii

FHWA-HI-EIS-75-03-F

Hilo Bayfront Highway
Project No. U-019-2(10)

involving the
Construction of a multi-lane divided highway
from west of the Wailoa River to the junction of
Kalanianaole Avenue and Silva Street, FAP 19
Hilo, Island of Hawaii, Hawaii

ADMINISTRATIVE ACTION

FINAL

ENVIRONMENTAL IMPACT STATEMENT

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

and

State of Hawaii Department of Transportation
Land Transportation Facilities Division

Submitted pursuant to 42 U.S.C. 4332(2)(c),
23 U.S.C. 128(a) and 49 U.S.C. 1653(f) and
16 U.S.C. 470(f)

6/30/78
Date

Robert W. Gregory
Director, Office of Environment & Design
Federal Highway Administration, Region 9

FHWA-HI-EIS-75-03-F

Hilo Bayfront Highway
Project No. U-019-2(10)

involving the
Construction of a multi-lane divided highway
from west of the Wailoa River to the junction of
Kalanianaole Avenue and Silva Street, FAP 19
Hilo, Island of Hawaii, Hawaii

ADMINISTRATIVE ACTION

FINAL

ENVIRONMENTAL IMPACT STATEMENT

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

and

State of Hawaii Department of Transportation
Land Transportation Facilities Division

Submitted pursuant to 42 U.S.C. 4332(2)(c),
23 U.S.C. 128(a) and 49 U.S.C. 1653(f) and
16 U.S.C. 470(f)

_____
Date

_____
Director, Office of Environment & Design
Federal Highway Administration, Region 9

SUMMARY

A. Check appropriate box(es)

Federal Highway Administration

Administrative Action Environmental Statement

( ) Draft (X) Final

(X) Section 4(f) Statement attached

B. Individuals to be contacted for further information:

Mr. Ralph Segawa
Division Adminstrator
Federal Highway Administration
677 Ala Moana
Honolulu, Hawaii
PH: 546-5150

Mr. Tetsuo Harano
Chief, Highways Division
Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii
PH: 548-5711

C. Brief Description:

The proposed highway improvement involves the widening of the existing Kamehameha and Kalanianaole Avenues into a four to six lane divided highway. The project length is approximately 1.3 miles and begins west of the Wailoa River, ending at the Kuhio Wharf. The project will be a part of the Federal Aid Primary System of the State of Hawaii. The project is located in the city of Hilo, County of Hawaii.

D. Environmental Impacts:

1. Positive Impacts:

a. Increase in highway user's safety and welfare.

b. Increase in highway capacity.

c. Improve access to and from seaport and airport.

d. Complements the upgrading of Kanoelehua Avenue which is a Federal Aid Primary Highway connecting to the project.

e. Conducive to long term economic growth.

f. Intent of improvement is in accordance with General Plan, County of Hawaii, and Hilo Community Development Plan.

2. Negative Impacts

a. Properties along Kamehameha Avenue and Kalanianaole Avenue will be affected totally or partially.

b. A number of businesses will have to be relocated.

c. Section 4(f) lands (Hoolulu Park, Banyan Drive Golf Course, and the Hilo Bay Open Area) will be impacted to some degree.

d. During construction, there will be temporary effects of noise, air and water pollution.

e. Increase in highway traffic noise levels. Generally in excess of FHWA noise level standards.

E. Summary of Major Alternatives Considered:

1. Right-of-way Acquisition Alternatives:

Within the revised Alignment A (Kamehameha-Kalanianaole Avenue) corridor, five other right-of-way alternatives were considered. Each alternative differed with respect to the number of public and private parcels impacted.

2. Alignment Alternative:

Revised Alignment B follows Kamehameha Avenue up to Kanoelehua Avenue; thereafter, it is on a new location. The alignment skirts the front of the airport and remains outside the primary surface of Runway 8-26, terminating in an alignment which is aligned with Kuhio Street.

3. No Action Alternative:

A "do nothing" alternative was evaluated and found not responsive to the needs of the public.

F. List of Agencies and Organizations:

(See list enclosed in Appendix E.)

G. Date Draft Statement Mailed to CEQ: 9/12/75

FINAL

ENVIRONMENTAL IMPACT STATEMENT
HILO BAYFRONT HIGHWAY

TABLE OF CONTENTS

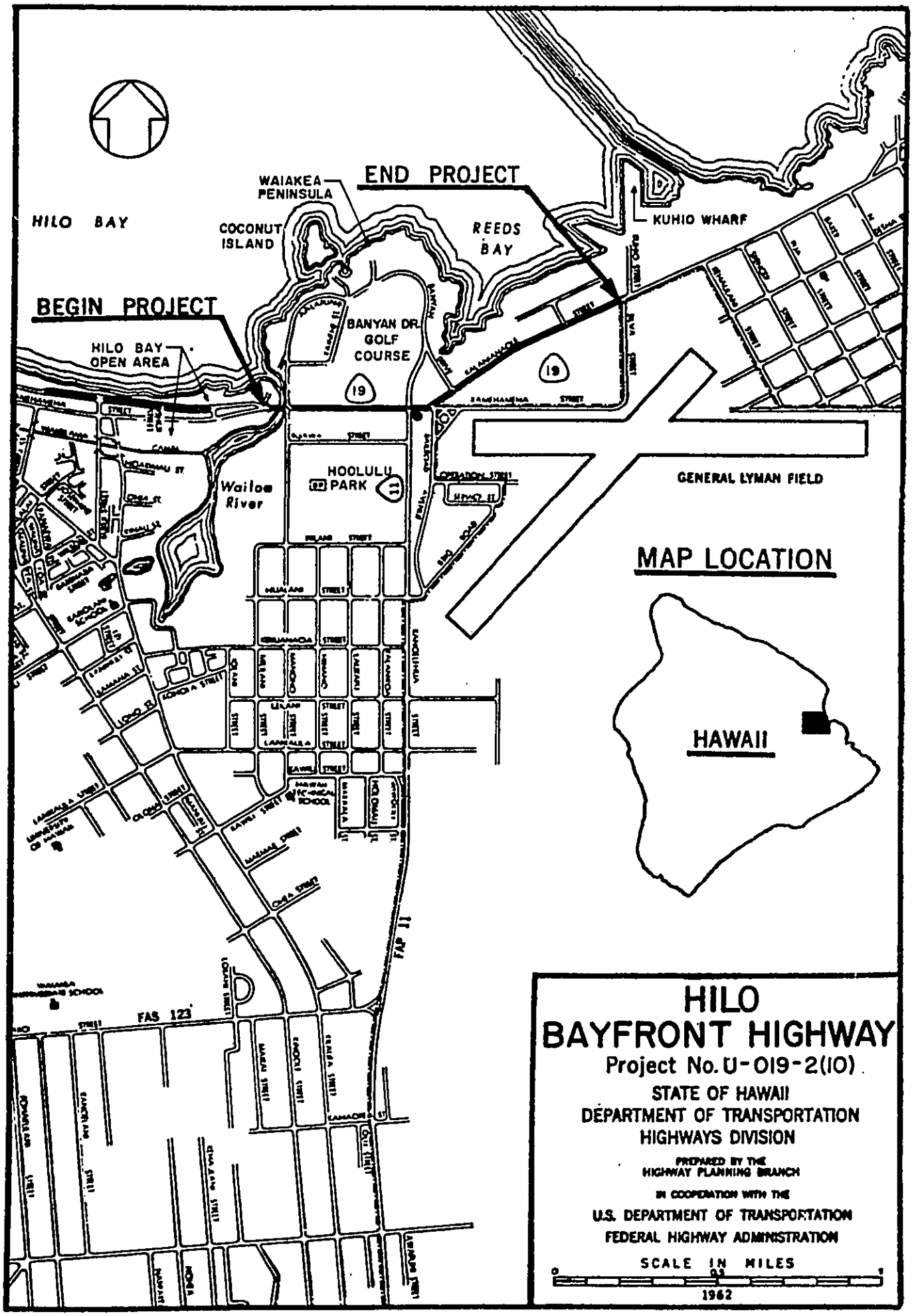

END PROJECT
BEGIN PROJECT
WAIAKEA PENINSULA
HILO BAY
COCONUT ISLAND
REEDS BAY
KUHIO WHARF
BANYAN DR. GOLF COURSE
HILO BAY OPEN AREA
Wailoa River
HOOLULU PARK
GENERAL LYMAN FIELD
FAS 123
FAP 11
MAP LOCATION
HAWAII
HILO
BAYFRONT HIGHWAY
Project No. U-019-2(10)
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PREPARED BY THE
HIGHWAY PLANNING BRANCH
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
SCALE IN MILES
1962

FIGURE 1

I. INTRODUCTION

The Kamehameha Avenue-Kalanianaole Avenue facility serves as an arterial highway for persons with origins and destinations in the Keaukaha area (east), South Hilo, the Hilo center business district (west), the Hamakua Coast (north) and the Waiakea Peninsula (north).

Major deficiencies such as a structurally inadequate Wailua River bridge and recurring roadway floodings along segments of Kamehameha and Kalanianaole Avenues seriously undermine the safety and welfare of the motoring public. In addition, the traffic carrying capacities of the existing roadways and intersections are not capable of servicing future traffic volumes.

In recognition of the described existing and potential problems, the State Legislature thru Act 217, Session Law of Hawaii 1967, Section 1, Item C-123 appropriated funds for this Hilo Bayfront Highway planning study to construct a divided highway, approximately 1.3 miles in length.

II. DESCRIPTION OF THE PROPOSED ACTION

A. The Existing Highway (Plate 1)

The existing Kamehameha/Kalanianaole Highway is in part a segment of the Federal Aid Primary System (FAP-19), on the Island of Hawaii. Beginning west of the Wailoa River, the FAP highway designation continues from the Hawaii Belt Highway onto Kamehameha Avenue which is an undivided four lane highway with no control on access.

Beyond Kanoelehua Avenue (FAP-11), Kamehameha Avenue intersects Kalanianaole Avenue at a sharp skew. As a two lane highway, it continues easterly through a traffic rotary. Beyond the rotary, the highway runs parallel to General Lyman Field's Runway 8-26 and is within the runway's primary surface. Thereafter, with a sharp curve, it becomes Silva Street and terminates at Kalanianaole Avenue at an offset to Kuhio Street.

Kalanianaole Avenue, which emerges from the sharp skewed intersection, is a two lane highway. It traverses through a developed area and continues northeast.

B. Need for the Proposed Improvement:

Looking at the Island of Hawaii, Hilo is the most urbanized area. The island's largest shipping port and airport are located in Hilo area. The highway segment under consideration is the focal point of the population and of the transportation system of the island.

1. Major Deficiencies:

   a. Structurally Inadequate Bridge:

      The existing bridge over the Wailoa River, constructed in 1936, is seriously undermined at both abutments. The State Highways Division has in the past, undertaken emergency repair work. In addition, the existing structure was not designed to accommodate modern design loads.

   b. Recurring Roadway Flooding:

      There are a number of drainage problems on the existing facilities. Please refer to Plate 1. The major concern is a segment of Kamehameha Avenue, west of the Kamehameha-Kanoelehua Avenues intersection, which is frequently inundated with rain waters.

   c. High Accident Rates:

      According to statistics obtained from the Hawaii County Standard Motor Vehicle Accident Reports, the Kamehameha Avenue-Kanoelehua Avenue/Banyan Drive and the Kamehameha Avenue-Manono St./Lihiwai St. intersections were rated the first and second most dangerous intersections respectively, in Hawaii County during the period 1966 to 1975.

2. Inadequate Traffic Carrying Capacity (Plate 2):

   By 1994, it is forecast that Kamehameha Avenue will be servicing an average of 1,508 to 1,916 vehicles per hour in one direction. The peak hour traffic, which occur normally between the hours of 7 to 8 A.M. and 4 to 5 P.M., is approximately 9 percent of the average daily traffic delineated on Plate 2. The average daily traffic in one direction, projected for the year 1994 varies from 8,397 vehicles for a segment of Kalanianaole Avenue to 22,051 vehicles for a segment of Kamehameha Avenue.

   Analyses of the projected traffic volumes indicate that in the future, the existing facilities' traffic capacities will be greatly taxed. The intersections at Manono Street and at Kanoelehua Avenue will experience forced flow conditions and segments of Kamehameha and Kalanianaole Avenues, within the project, will experience congestion as traffic volumes increase.

The proposed improvement is needed to efficiently and safely fulfill the demands of the increased traffic volumes that will be generated by the commercial, industrial, and residential developments in the Hilo area. In addition, the proposed improvement is needed to maintain major transportation links to Kuhio wharf (located at the eastern terminal of the project) and to General Lyman Field.

C. Description of the Highway Improvement:

1. Alignment:

The project begins west of the Wailoa River and terminates at the Kalanianaole Avenue-Silva Street junction.

Revised Alignment A basically follows the Kamehameha Avenue-Kalanianaole Avenue alignment with improvements to the horizontal and vertical geometrics. The highway alignment is approximately 1.3 miles in length and has been developed to accommodate a 40 mile per hour design speed. The alignment departs from the existing corridor near Reeds Bay to avoid potentially adverse impacts to the bay.

2. Rights-of-Way Requirement (Typical Section - Plate 3):

The right-of-way widths necessary for this alignment vary. Between Manono Street and Kanoelehua Avenue, the minimum width is 118 feet. Between Kanoelehua Avenue and the Kalanianaole/Silva Street junction, the minimum width is 90 feet. The right-of-way acquisition alternative A-5 selected for this corridor is delineated on Plate 12.

3. Major Design Features:

The highway planned for this corridor is a divided highway with no control of access. The minimum number of lanes is four 12-foot wide lanes. Between the Manono Street and Kanoelehua Avenue intersections, two additional lanes are necessary to provide adequate capacity through those intersections. Where a curbed median is provided, median openings will be provided at major cross streets (e.g. Kalanikoa Street).

The Kanoelehua Avenue intersection is a major focal point in terms of traffic. Heavy left turn movements, east to south and south to west, compound

the problem. It was felt that a directional interchange was too severe in terms of social and visual impact. A lesser interchange with braided left turn ramps, would alleviate the congestion but not lessen the impact. As a consequence, it was decided that the existing at grade intersection would be improved. The intersection scheme developed from the traffic analysis is a traffic actuated multi-phased signalized scheme with exclusive left turn lanes. Please refer to Plate 4 for the number of lanes required at the intersection.

The existing traffic rotary, just east of Kanoelehua Avenue, will be eliminated. Traffic currently using the rotary will have access through the use of Keaa Street (off Alignment A) and of Hualani Street (off Kanoelehua Avenue).

Manono Street intersection presented a similar problem but to a lesser degree. A grade separation (Manono Street crosses under the proposed highway) would severely affect the golf course to the northeast since on and off ramps would be required. Relocation of the golf green, located on the southwest corner of the course, to the east would shorten the fairway length to an extent where the golf course owner claims it will seriously compromise the course layout.

The intersection scheme developed from traffic analysis is a traffic actuated multi-phased signalized scheme with exclusive left turn lanes. Both facilities were elevated to improve the vertical alignments of the intersection. Please refer to Plate 5 for the number of lanes required at the intersection.

A new bridge structure is planned to replace the existing Wailoa River bridge. The proposed bridge span (150±') is an increase from the existing span (80'). The present vertical clearance of 11 feet from mean sea level will be maintained. PLease see Plate 6 for bridge cross section.

A space provision for a bike way have been provided for the segment of the alignment between Kanoelehua Avenue and the Kalanianaole/Silva Street junction and for the Wailoa Bridge crossing. Coordination already established with the Statewide Bikeway Master Plan will be continued throughout the development of this project.

4. Cost Estimates:

The preliminary costs are estimated as follows:

Construction Cost	$4,276,000.00
Preliminary Engineering	$ 268,000.00
Right-of-Way	$1,729,900.00
	$6,273,900.00

5. Construction Phasing:

The construction of the highway improvement in this corridor will present some degree of inconvenience, as major alteration will be made to the existing Kamehameha Avenue and Kalanianaole Avenue. Traffic presently crossing the existing Wailoa River bridge will be either detoured around the Waiakea Pond area or will cross via a temporary structure. Construction will be phased to minimize inconvenience to the highway users, pedestrians, adjoining property owners, and park users.

6. Time of Completion:

Preparation of plans, specifications, and estimates should be completed in 1978. Designated schedule for right-of-way acquisition is 1979. Completion of construction is estimated to be in 1980.

III. DESCRIPTION OF SURROUNDING ENVIRONS

A. Topography and Geology:

The topography of the area is relatively flat, having no major significant land forms or features. Except for the Wailoa River at the western end of the corridor, streams, surface culverts, drainage ditches, and rivers do not exist within the area. The porous structure of the soil allows drainage such that no surface erosion or gullying is apparent. Some subsurface drainage reappears in the form of springs in the area of Reeds Bay. The dense vegetative growth of the undeveloped areas also helps to reduce erosion by holding decomposing organic materials and inorganic "fines". The soil, consisting of a porous "aa" and pahoehoe pumice, is rich in nutrients. The heavy rainfall and high humidity aid in the rapid breakdown of organic materials, providing a natural composting effect.

B. Climate:

Generally, the Island of Hawaii is climatically subtropical, with local variations influenced by orographic conditions.

1. Rainfall:

The average rainfall within the city of Hilo ranges from 130 inches near the shore, to as much as 200 inches in the mountain sections. Although rains are very frequent, falling on about 280 days of the year, severe weather conditions seldom exist. During the winter, cold fronts or cyclonic storms of subtropical origin (Kona Storms) assail from a southwesterly direction.

2. Temperature:

The Hilo area is typical of island localities near sea level with average daily temperatures ranging between 65° and 82° F. throughout the year.

3. Wind:

The northeasterly tradewinds prevail throughout the year, and have a profound influence on the climate.

Wind velocity frequency data throughout the years 1949-1966, compiled by the U.S. Dept. of Commerce, is as follows:

	0	to	3.45 MPH	= 14.4%	-	
	3.45	to	6.9 MPH	= 36.7%	-	51.1%
*	6.9	to	13.8 MPH	= 33.2%	-	84.3%
	13.8	to	18.42 MPH	= 10.5%	-	94.8%
	19.58	to	31.09 MPH	= 1.2%	-	96.0%
	31.09	to	52.9 MPH	= 4.0%	-	100.0%

*Example: Wind velocity within the 6.9-13.8 MPH range has occurred 33.2% of the time during the period of data collection. Wind velocities of less than 13.8 MPH have been recorded 84.3% of the time for this same period.

C. Wildlife:

Birds nesting and feeding within the area include the following: mynah (Acridotheres tristic), dove (Streptopelia chinensis), sparrow (Passer domesticus), cardinal (Richmondena cardinalis), and Japanese "white eye" (Zosterops palpebrosus japonicus). Hawaiian coots (Fulica americana alai) are sometimes seen in the area of Reeds Bay which serves as a limited sanctuary for the less timid waterfowl. The Hawaiian coot is on the list of endangered fauna (The Endangered Species Act of 1973).

Near Reed's Bay, lava outcroppings have formed tidal pools where many of the smaller forms of marine life may be seen and which, although overgrown with grasses, may still be regarded as an attractive area. Feral life within the area is limited to field mice, rats and mongoose.

D. Vegetation:

The high rainfall and good soil conditions contribute to a unique landscape management problem, that of controlling plant growth rather than fostering it. In the areas where vegetation has been allowed to grow uncontrolled (refer to Plate 7; Area #14, #16), natural stands exist which are visually and physically almost impenetrable. Although the existing stands of trees have no major economic, historic, or botanic value, some are significant enough in height, such that their removal would result in a considerable visual impact upon the surrounding area. This would be particularly true of the ironwood trees, which at heights of approximately 100 feet, are the tallest elements on the skyline (refer to Plate 7, Area #9).

The following flora, consisting primarily of introduced species, are not included in the Department of Interior, Fish and Wildlife Service proposed list of endangered or threatened plants (Federal Register, June 16, 1976).

1. Trees:

Coconut Palms (Cocos nucifera)
Ironwoods (Casuarine equisetifolia)
Silk Oak (Grevillea robusta)
Monkeypod (Samanea saman)
Trema (Trema orientalis)
Mango (Mangifera sp.)
Melochia (Melochia umbellata)
African Tulip (Spathodea campanulata)
False Kamani (Terminalia catappa)
Alexandra Palms (Archontophoenis Alexandrae)
Date Palms (Phoenix dactylifera)
Royal Palms (Roystonea regia)
*Hala (Pandanus odorastissimus)
Avocado (Persea americana)
Brassaia (Brassaia actinophylla)
Eucalyptus (Eucalyptus citriodora)
Formosan Koa (Acacia Corfusa)
Java Plum (Eugenia cuminii)
Banana (Musa sp.)
Poinciana (Delonix regia)
Swamp Mahogany (Eucalyptus robusta)
Chinese Banyan (Ficus retusa)

Macaranga (Macaranga grandifolia)
Sausage Tree (Kigelia pinnata)
Guava (psidium guajava)
Wi (Spordias dulcis)

2. Shrubs:

Pluchea (Pluchea indica)
Ti (Cordyline terminalis)

3. Ground Covers & Vines:

Johnson Grass (Brachiaria mutica)
Bermuda Grass (Cynodon dactylon)
Hila-hila (Mimosa pudica)
Sword Ferns (Nephrolepis biserrata)
Hilo Grass (Paspalum conjugatum)
Oxalis (Oxalis corniculata)
Pothos Vine (Scindapsus aureus)
Morning Glory (Ipomoea reptans)
Philippine Violet (Barleria cristata)
Hono hono Grass (Commelina diffusa)

* Indigenous

Field Survey of Trees or Vegetative Masses:

The following is a survey of significant trees or vegetative masses which are keyed to area numbers on Plate 7.

(1) Golf Course: Mowed grass with banyan and 3 large mangoes.

(2) Open Field: Mowed lawn with widely spaced trees (2 African tulips and 2 Avocados).

(3) Cleared Area: Scrub guava, Alexandra palms (60' - 70' tall, Avocados, pluchea, and Johnson grass).

(4) Cleared Area: Scrub guava, tremas, 1 large Wi (Spondias dulcis), Johnson grass.

(5) Golf Course: Mowed lawn with widely spaced trees (1 Silk oak, 2 lychee, 7 palms, 1 large mango).

(6) Cleared Area: Jacaranda tree with scattered papayas, but primarily Johnson grass.

(7) Golf Course: Large banyan, several large monkey-pods, scattered coconuts, mowed lawn.

(8) Cleared Area: Mowed lawn, 1 medium banyan.

(9) Undeveloped Area: Scrub guava and Johnson grass.

(10) Reed's Bay: Johnson grass with African tulip tree (35' tall).

(11) Residential: Scattered African tulip trees, mangos, Melochia (Melochia umbellata).

(12) Residential: Medium sized mango, False Kamani, and 1 sausage tree (Kigelia pinnata), which is relatively uncommon and a botanical curiosity.

(13) Cleared Area: Johnson grass, medium mango, Tremas, and scrub guava.

(14) Undeveloped Area: Tall stand of (60' - 70' tall) swamp mahogany, Silk oak, and Eucalyptus citriodora, with scrub guava, bananas, Johnson grass, and morning glory below. This stand of trees is one of two tall tree masses along the stretch of highway between the Kanoelehua junction and the Harbor entry. Much of the lower tree and shrub growth within this area is covered with either the morning glory or the pothos vine. The effect is generally that of a secondary rain forest.

(15) Screen Planting of African Tulip Trees: This is a fairly recent planting, as the tallest of the trees is approximately 12' tall.

(16) Undeveloped Area: Tall stand of Silk oak, and date palms with scattered coconut palms and Alexandra palms. This is an extension of the area described under Item #14, and it reflects the same general conditions.

(17) Cleared Area: Primarily Johnson grass with one mango tree and a few scattered small to medium sized ironwoods.

(18) Undeveloped Area: Scrub guava, macaranga, halas, ironwoods, mangoes, and one medium sized poinciana with pluchea and Johnson grass below. Much of the lower growth in this area is overgrown with morning glory and pothos vine.

(19) Semicleared Area: Johnson grass, halas, macaranga and Formosan koa (Acacia corfusa).

E. Land Use, Existing and Proposed (Plate 8):

The existing land uses within the project area are mixed and varied. With the exception of the manufacturing plant and the existing streets, the area around the Wailoa River is used for recreational purposes. Using the intersection of Kamehameha Avenue and Manono Street as a reference, the southwest quadrant is the Waiakea Pond Park. The northwest quadrant is considered (no official proposal has been made to date, but it is commonly referred to as Hilo Bayfront Park) as open space area. The Northeast quadrant is occupied by the Banyan Drive Golf Course. The Southeast quadrant remains vacant, but Hawaii County's Preliminary Master Development Plan Studies, Hoolulu Park - Panaewa Recreational Sports Complex recommends that this area be used as a buffer zone between Hoolulu Park and the existing Kamehameha Avenue.

Within the area encompassing the Kanoelehua Avenue Intersection, the land use is primarily low density commercial and low density industrial. Near the eastern project limit, along Kalanianaole Avenue, the land use is primarily low density industrial.

The eastern end of Kamehameha Avenue is straddled by General Lyman Field Airport on the south side and by a generally undeveloped area on the north side. The land use along Silva Street is a mixture of residential, low density commercial, and low density industrial use.

F. Economic Factor:

1. Employment:

The unemployment rate for the labor force in the project area varied from 2.3% to 3.6% in August 1972. According to a preliminary Labor Forces estimate made by the Research and Statistics Office in July 1974, the unemployment rate for the County of Hawaii (Island of Hawaii) was estimated to be 10.5% of the labor force.

Generally, the principal employers in the project area are engaged in the retail trade or service oriented business and the occupational classes are clerical, service, craftsmen and foremen, operatives, and technical. The median family income in the area varies from $10,804 to $11,444.

(Source: Department of Labor and Industrial Relations, Research and Statistics Office, Selected Manpower Indicators for the County of Hawaii, August 1972.)

2. Tax:

The project area does not constitute any significant portion of any public service districts (water, sewer, power, telephone). The properties within the project area are a part of the County of Hawaii's real estate tax structure.

3. Utilities:

The existing Kamehameha/Kalanianaole Avenues right-of-ways contain various utility facilities, such as water mains, a sewer forced main, a gas line, fuel lines, and overhead power and telephone lines. A telephone substation adjoins the Kamehameha Avenue right-of-way.

4. Other:

The properties affected by the highway proposal are not disproportionate to any one racial or ethnic group. A look at the ethnic distribution within the project area indicates that the Caucasian, Hawaiian, and Japanese are the major ethnic groups in the area.

G. Section 4(f) Lands (Plate 1):

Section 4(f) Land is a publicly owned land such as a park, recreation area, or wildlife and waterfowl refuge of National, State, or local significance as determined by the Federal, State, or local official having jurisdiction thereof, or land from historic sites of national, State, or local significance as so determined by such official. The following is a brief description of Section 4(f) Lands within the project area. For a detailed description, please refer to Section 4(f) Statement.

1. Hoolulu Park:

Hoolulu Park is located between Manono Street and Kalanikoa and south of the proposed project. The park is comprised of approximately 52.3 acres. The park has facilities for baseball, football, basketball, swimming, tennis, and jogging.

2. Banyan Drive Golf Course:

The golf course is bordered by the proposed highway improvement, Banyan Drive, and Lihiwai Street. The acreage of the course is approximately 62.25 acres. The facilities include a golf course, driving range, and a golf shop/restaurant complex.

3. Hilo Bay Open Area (Unofficial Name):

The open area is located west of the Wailoa River and north of the proposed project. The activities available at this open area include picnicking, swimming, and canoe racing.

IV. SUMMARY OF LAND USE PLANS, POLICIES, AND CONTROLS FOR THE PROJECT AREA AS IT RELATES TO THE PROJECT

A. The General Plan, County of Hawaii:

The General Plan, County of Hawaii, is a policy document for long range comprehensive development of the County of Hawaii.

Regarding thoroughfares and streets, the plan states the following goals:

> "Provide a system of thoroughfares and streets for the safe, efficient and comfortable movement of people and goods between and within the various sections of the County.
>
> Provide an integrated State and County system so that new major routes will complement and encourage proposed land use."

Facilities map of The General Plan, County of Hawaii, indicates the Kamehameha-Kalanianaole Avenue corridor as a primary arterial (120 feet minimum right-of-way) by improvement.

B. Hilo Community Development Plan - County of Hawaii:

The Hilo Community Development Plan is a short term (10 years) planning tool to implement the goals, policies, and standards developed by The General Plan, County of Hawaii.

Regarding the development program for the thoroughfares and streets, the Hilo Community Development Plan does recommend the improvement of the Kamehameha-Kalanianaole Avenue corridor between the limits of the Wailoa River and Kuhio Wharf.

However, the Plan goes further to state that the Bayfront Highway between Pauahi Street and the Wailoa River (a segment outside the study limit of this project) be closed to allow for a larger area of the Hilo Bay Waterfront to be opened for recreational purposes.

V. THE PROBABLE IMPACT OF THE PROPOSED IMPROVEMENT

A. Primary:

1. Natural, Ecological, Cultural, or Scenic Resources of State or Local Significance:

Based on the consultation with the State Department of Land and Natural Resources and with County of Hawaii Department of Parks and Recreation, no significant impact on any resources is anticipated. Clearance and related correspondences are included in the Appendix D.

In addition, conservation requirements and control are contained in the State's Standard Specification for Road and Bridge Construction. Section 107.17 provides for the protection of rivers, streams, impoundments, forests and archaeological and paleontological findings. Section 639 provides for temporary project water pollution control. These sections will be strictly adhered to during the construction of this project.

During the construction of the highway improvement vegetation found along the alignment will be removed; however, the impact should not be significant as the plants, with the exception of the halas and hau, are all introduced species. None of the plants noted in the survey have any major economic, historic or botanic value.

There should not be significant impact to the wildlife found in the project area. The Hawaiian coot should not be affected as the area in which they were noted (Reeds Bay) will be outside the construction zone. Plates 1 and 12 delineate the relationship of Reeds Bay to the proposed project.

2. Relocation of Businesses:

Enclosed in the Appendix B is a revised Conceptual Stage Relocation Program Plan, together with other pertinent data. The revised Conceptual Stage Relocation Plan basically forecasts the probably feasibility of the various alternative alignments from a relocation standpoint. The Plan also evaluates

the probable impact on various businesses and residences along the various alternative alignments. The following is a tabular summary of probable impact to the various businesses adjoining the proposed project:

Number of Business Establishments Affected	16
Number of Businesses Displaced	12
Number of Full Time Employees Affected	27
Number of Part Time Employees Affected	11

The plan indicates that there are limited suitable commercial and industrial building facilities or zoned sites in the Hilo area to which the displaced businesses may be relocated to. These businesses and their employees, therefore, will be adversely affected.

Adverse effect on the Hilo community as a whole is not anticipated because similar types of businesses are found at the three shopping areas in Hilo. The Hilo Shopping Center and the Kaiko'o Mall are located one mile southwest of the project area. Downtown Hilo is one and a half miles west of the project area.

3. Effects on the County of Hawaii's Real Estate Tax Structure:

The assessed valuations determined by the Department of Taxation, State of Hawaii, of the lands and improvements affected by the highway project and the County established tax rates serve as the basis in computing the tax revenue loss. Tax revenue loss is derived by applying the tax rate to each $1,000 of net taxable assessed valuation. An estimated $20,500 in tax revenue loss is anticipated from property acquisitions for the project.

4. Utilities:

Underground lines (water, sewer, gas, and fuel) should not be affected except where they exist at the Manono Street intersection and at the Wailoa River crossing. The overhead power and telephone lines will be relocated within the new right-of-way to accommodate the widening. Relocation or temporary rerouting of utilities will be accomplished in phases such that disruption to utility services will be kept to a minimum.

5. Social Factors:

a. Segregation of disadvantaged minority groups is not anticipated.

b. Displacement or termination of certain business and services will occur.

c. Employees of businesses to be displaced may lose their jobs if the businesses are not able to relocate.

d. There are no schools or churches within the project area.

6. Noise Pollution:

The Federal Highway Administration (FHWA) has selected the ten percentile (L_{10}) as the maximum quantitative noise standard. The L_{10} level is defined as the sound level which is exceeded 10% of the time. This level indicates the most noise at a point, representing generally the noisiest vehicles in a traffic flow mix.

Ambient sound levels (L_{10}) were measured by a general purpose sound level meter at the following locations (Plate 1):

a. Center of golf green - 63 dBA at 115 feet from pavement edge.

b. Hukilau Hotel - 77 dBA at 90 feet from pavement edge.

A preliminary noise level assessment was conducted by Wilson Okamoto & Associates following the methodology contained in Report No. DOT-TSC-FHWA-72-2, Manual For Highway Noise Prediction.

In the preliminary assessments, several simplifying assumptions were made. For example, sound attenuation was based on dirt or short grass surfaces. Where roadside landscaping is planned, the prediction will be on the conservative side.

The following is a summary of the projected noise levels:

Location (Plate 1)	1994 Traffic Level
Hilo Bay Open Area	
Water Edge - 260 feet from pavement edge	71 dBA
80 Feet from pavement edge	79 dBA

(cont.)

Location (Plate 1)	1994 Traffic Level
Area Adjoining Banyan Drive Golf Course	
Center of Golf Green - 115 feet from pavement edge	71 dBA
Hukilau Hotel (Near Reeds Bay)	
90 Feet from pavement edge	78 dBA

The preliminary assessments of potential noise indicate that there will be an increase in noise levels. The noise levels predicted for the 1994 traffic volumes will be equal to or in excess of the FHWA noise level standards for the various land uses involved; therefore, waiver of noise levels must be approved by the FHWA prior to construction.

Measures for noise abatement, such as noise barriers, depressed or elevated highway sections, and landscaped buffer zones were considered, but with the exception of the already planned buffer zone between Hoolulu Park and the proposed project, these measures are not in the best overall public interest for the following reasons:

a. Noise Barriers:

   (1) Requirement for additional rights-of-way will increase land use impact and project cost.

   (2) Will create access problems for adjoining properties.

   (3) Visually, not compatible with the area.

   (4) Estimated cost: $600,000.00.

b. Depressed or Elevated Highway Sections:

   (1) Requirements for additional rights-of-way will increase land use impact and project cost.

   (2) Depressed section will be uneconomical due to groundwater levels and due to tsunami threats.

   (3) Will create access problems for adjoining properties.

(4) Visually, not compatible with the developed areas.

(5) Estimated Costs:

(a) Depressed highway: $9,800,000.00

(b) Elevated highway: $19,800,000.00.

c. Buffer Zones:

(1) Requirements for additional rights-of-way will increase land use impact and project cost.

(2) Estimated Cost: $3,100,000.00.

Other factors contributing to the noise level in the project area is the intermittent aircraft noise generated by landing and take off operations at the nearby General Lyman Field. If landing on Runway 8 is a predominant pattern used by the aircrafts, the aircraft noise generated will exceed the predicted highway noise levels by 4 to 38 dBA. Please see Plate 9.

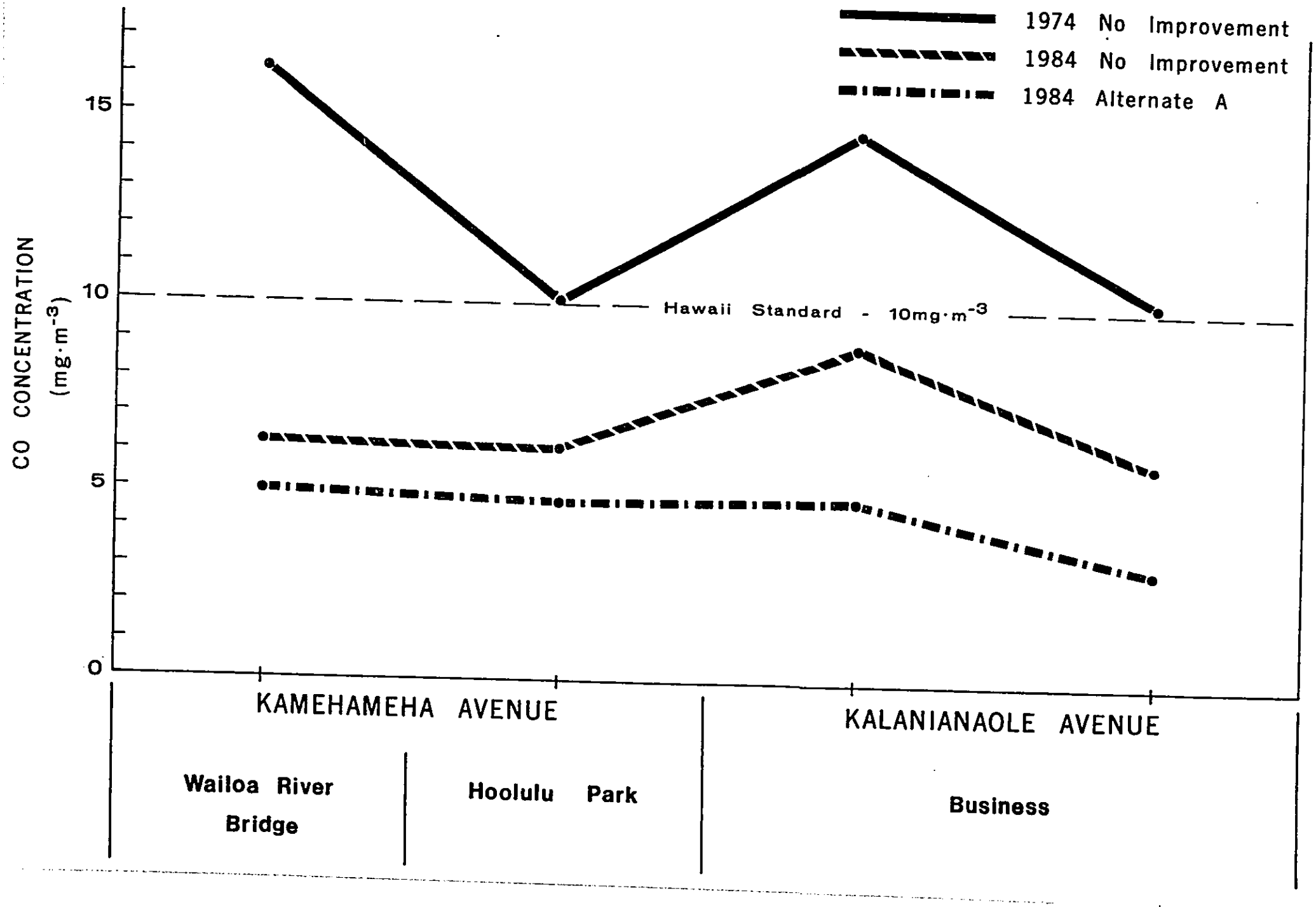
7. Air Pollution:

The proposed highway improvement is not expected to have any adverse impact on the local air quality. The area will be cleared and grubbed for highway construction; however, measures such as watering, and the use of dust palliatives will be taken to minimize dust problems during construction. The State Highways' Standard Specification for Road and Bridge Construction does not allow any burning of rubbish, trees, etc., at the project site.

Air pollution from vehicle emissions will decrease following the construction of the facility due primarily to improved emission control devices and higher speeds. Projections of vehicle emissions (Appendix C) were made and are based on the assumption that improved vehicle emission control devices will be in common use by 1984.

The U.S. Environmental Protection Agency's "HIWAY" computerized Gaussian model was used to determine the projected carbon monoxide (CO) levels resulting from vehicular traffic. The results of the CO calculations under the worst meteorological conditions at various receptor locations line are shown on Figure 2.

HIGHEST LEVEL OF CO CONCENTRATION



The chart shows a downward trend in CO concentrations. The highest CO concentration of approximately sixteen milligrams per cubic meter that occurred in 1974 exceeded the Hawaii State standards of 10 mg/M^3 per hour at the Wailoa River Bridge, but is expected to drop to about six milligrams per cubic meter by 1984. The CO concentrations along the remainder of the highway follow the same trend. With the improved highway, the CO concentration would drop further to about five milligrams per cubic meter at the bridge and to about three milligrams at the Kuhio Wharf.

Another projection of the vehicle mass emissions of air pollutants, consisting of carbon monoxide, hydrocarbons, and nitrogen oxide, was also made utilizing a burden analysis proposed by the State Department of Health.

The results are tabulated as follows:

PROJECTED VEHICLE MASS EMISSIONS OF AIR POLLUTANTS

1974 EMISSION LEVEL (g/day)

	Carbon Monoxide	Hydrocarbon	Nitrogen Oxide
No Highway Improvement	968,055	138,295	123,101

1984 EMISSION LEVEL (g/day)

	Carbon Monoxide	Hydrocarbon	Nitrogen Oxide
No Highway Improvement	689,947	82,917	78,952
Line A Improvement	352,042	61,505	101,573

According to these projections, under 1984 conditions with no improvement, construction of Alternate A would result in approximate mass emission reductions of 49 percent in carbon monoxide, 26 percent in hydrocarbons but an increase of 29 percent in nitrogen oxides.

An independent study was also conducted by the American Lung Association as part of their review of the draft EIS. Their findings also suggest a

downward trend of the major automotive pollutants. A copy of this study is contained in Section XIII.

With the expected decrease in emission levels after construction of this project, and with no change in the ambient levels, design year pollutant levels should not exceed State and Federal air quality standards. The State Department of Health has determined that this project is consistent with the control strategy as specified in Hawaii's State Implementation Plan. See Appendix E for Department of Health's letter, dated September 25, 1975. Coordination with the Department of Health will be a continuing activity.

8. Water Pollution:

The drainage system planned for this corridor will convey the storm water to Reeds Bay and to the Wailoa River. The waters in Reeds Bay are classified as Class "A" waters under the State Water Quality Standards. The outfall pipe to Reeds Bay will discharge surface runoff (approximately 60 cfs) collected from the road pavement and from properties to the south of the alignment. Preliminary studies indicate the following:

a. The soils insitu, comprised of pahoehoe and aa, are relatively erosion resistant.

b. Present storm flow in the vicinity of the project area is practically free from all suspended solids. This fact is substantiated in the area of the Kamehameha/Kanoelehua Avenue intersection where surface flows pond prior to seeping into the ground. After many years of runoff, the intersection is remarkably free of sediment build up.

West of Kanoelehua Avenue, the runoff will be collected and conveyed to the Wailoa River drainage outfall. The Wailoa River outfall was constructed in 1976 under the Kanoelehua Avenue Widening Project, F-RF-011-2(13).

Some surface runoff may be expected during construction, but should be minimal and temporary of nature. The contractor will be required to comply with Sections 107.17 "Protective of Rivers, Streams, Impoundments, Forests, and Archaeological And Paleontological Findings," Section 639 "Temporary Project Water Pollution Control (Soil Erosion)" and Section 641 "Slope Control Planting" of the Standard

Specifications for Road and Bridge Construction, State of Hawaii.

Coordination has been effected with the Pollution Technical Review branch of the State Department of Health regarding possible impacts to the water areas within the project. Project implementation is not anticipated to affect State Water Quality Standards.

Contamination of the public water supply system is not anticipated. The nearest well or intake for the Hilo water system is located 3.4 miles to the South of the project area.

9. Coastal Zone Management:

Until a general coastal zone management program can be developed and implemented, the coastal zones of the County of Hawaii are considered Special Management Areas and are defined and regulated by the "Rules and Regulations Relating to Environmental Shoreline Protection of the County of Hawaii."

In accordance with the delineation by the said Rules and Regulations, the proposed highway improvement is within the Special Management Area of the County of Hawaii.

In applying the significance criteria of the said Rules and Regulations, the following are the potential environmental effects:

a. Increase in ambient noise level.

b. Proposed improvement is in a tsunami zone.

During the design stage of the project development, an application for a use permit will be made to the Planning Department of the County of Hawaii in accordance with the Rules and Regulations.

10. Flood Zone Areas:

Based on the "Map of Flood-prone Areas" prepared by the U.S. Department of the Interior, Geological Survey, the project area is within the inundation limits for 100 year tsunami. These limits are delineated on Plate 1. The project area, however, is outside of the flood prone area subjected to overland flows.

11. Historical Sites:

There are no sites or properties within the project limits included or eligible for inclusion to the National Register of Historic Places.

The Richardson Memorial Clock, which is located adjacent to Kamehameha Avenue in the area of the Banyan Drive golf course (formerly the Old Waiakea Settlement), will be affected by the proposed project. It is not likely that the Hawaii Historic Place Review Board will nominate the clock to the National Register of Historic Places. The State Historic Preservation Officer has determined relocation of the clock will not have an adverse effect on its historic value. The letter from the State Historic Preservation Officer, dated July 8, 1975, is included in Appendix D.

12. Section 4(f) Land: (See Section 4(f) Statement)

a. Hoolulu Park:

(1) 0.83 acre of the park will be acquired for the proposed project.

(2) The proposed improvement will not affect any park facility (existing or master planned), nor should it affect the park patronage (character or number); however, the proposed buffer zone (per Hawaii County's preliminary Master Development Plan Studies, Hoolulu Park - Panaewa Recreational Sports Complex) will be reduced in size. The reduction will not reduce the effectiveness of the proposed buffer zone.

(3) The nearest facility to the proposed highway improvement is the baseball pavilion at the corner of Kuawa and Manono Streets. Any noise should be effectively screened out by the proposed buffer zone. Even without the proposed buffer zone, preliminary assessment of potential noise at the edge of the baseball field for the 1994 traffic volume indicates the FHWA noise level Standard (L_{10} = 70 dBA) will not be exceeded.

(4) Pedestrian and vehicular access to the park will not be adversely affected.

b. Banyan Drive Golf Course:

(1) 0.52 acre of the course will be acquired for the proposed project.

The elevated approach to the new Wailoa River Bridge will result in having part of the highway embankment encroach upon the golf course. A construction easement (0.56± acre) will be obtained in lieu of property acquisition. Contour grading, with fill slope ratio approximately 6:1 (horizontal to vertical), will be used to make the slope compatible with the golf course.

(2) Preliminary assessment of noise level at the westerly golf green for the 1994 traffic volume indicates the FHWA noise level standard (L_{10} = 70 dBA) will be exceeded by one (1) dBA. As previously mentioned in Section V.A.6., no mitigative measures are proposed.

(3) Effects on Access:

No adverse effect on pedestrian and vehicular access to the golf course is anticipated.

c. Hilo Bay Open Area (Not Official Name):

(1) The area to be acquired by the proposed highway improvements is 0.91 acre.

(2) There are no (existing or proposed) facilities to be affected by the proposed improvement.

(3) Effect on Land Users:

Preliminary assessment of potential noise at the water edge indicates the 1994 noise level will exceed the FHWA noise level standard (L_{10} = 70) by one (1) dBA. In the area immediate to the highway, 50 feet from the proposed highway right-of-way line, the predicted noise level for the 1994 traffic volumes exceeds the FHWA standard by nine (9) dBA. As previously mentioned in Section V.A.6., no mitigative measures are proposed.

(4) Effect on Access:

Pedestrian and vehicular access to the area may be temporarily affected during construction of the project but no permanent adverse effects are anticipated.

d. Specific Statement that there is no Feasible and Prudent Alternative:

The project area, delineated on Figure 1, is located east of the Hilo central business district and to the north of the City's industrial area. The facility proposed for improvements once served as a major street for Waiakea town, which prior to the devastating tsunami of 1960, occupied much of the lands presently designated as Banyon Drive Golf Course, Hoolulu Park, and Hilo Bay Open area.

The highway proposed for improvements currently serves as an important arterial highway for persons with origins and destinations in the Keaukaha (east), South Hilo, Hilo central business district (west), the Hamakua Coast (north) and the Waiakea Peninsula (north).

The existing highway right-of-way cannot accomodate the proposed improvement. In areas of impacts to Section 4(f) land, the existing highway is bounded by section 4(f) land on both sides. Proximal locations of Hilo central business district, General Lyman Field Airport, and Kuhio Wharf necessitates the maintenance of the highway in the present location.

A determination that there is no possible or prudent alternative to the proposed highway improvement was based on studies and evaluations of alternatives, and on consultation with the appropriate agencies. The Section 4(f) Statement prepared for this project contains the Section 4(f) considerations.

Alternatives considered are described in Section VIII. Studies revealed that impacts attributable to the alternatives were equal to or greater than the impacts anticipated by implementing the proposed highway improvement.

(1) For Alignments B-1, C and D, the impacts were greater.

(2) For Alignment B, the impacts are equal.

(3) Under the "do nothing" alternative the existing Wailoa Bridge will have to be replaced eventually because both abutments are undermined. An improved Manono intersection scheme will be similar to those of Alignments A or B. Retaining walls could be used to contain the approach fill, but when compared to relatively flat landscaped fill slopes encroaching onto the Section 4(f) lands, the visual impact of the walls would be greater. Plate 1 shows the typical sections for the proposed improvements. Acquisition of construction easements is planned in lieu of real property acquisition.

Alternatives circumventing Hoolulu Park, Banyan Drive Golf Course, and the Hilo Bay Open area will result in community disruption of extraordinary magnitude due to the physical controls imposed by the Wailoa River and Hilo Bay shoreline.

B. Secondary Impacts:

1. Land Use:

With the exception of the area adjacent to Kalanianaole Avenue, an increase in urbanization due to the implementation of this project is not anticipated. West of Kanoelehua Avenue, the immediate areas are zoned for open use. Tsunami threats serve as a natural deterrent. East of Kanoelehua, the airport serves as a major constraint to future urbanization of the south side of the proposed highway improvement. Along Kalanianaole Avenue, urbanization has already begun. The presence of both the Kuhio wharf and docks complex, and the General Lyman Field (Hilo Airport) in the proximity of the proposed project, are deciding factors for the location of tourist and industrial developments.

The proposed highway improvement is in conformance with The General Plan, County of Hawaii. The plan indicates that Kamehameha and Kalanianaole Avenues are recommended for improvements. Coordination has been effected with the County of Hawaii with respect to the proposed action (Appendix D).

2. Economic Factor:

Acquisition of right of way for the proposed highway improvement will alter the economic character of the project area. Property acquisition will result in real estate tax revenue loss of $20,500.00 per year. Moreover, sales and other tax revenue may be affected if the businesses affected are not able to relocate.

The proposed highway improvement should provide better services to the highway users. Businesses not affected by the property acquisition should not be hindered in their growth as the intent of the proposed project is in accordance with The General Plan, County of Hawaii.

3. Social Factor:

In general, no adverse effects are anticipated. Although the highway will have developments on both sides, it will not serve as a barrier. The highway is a facility with no control on access, and therefore will provide access to all adjoining properties.

a. The proposal will not cause school redistricting problems or a displacement of a congregation from its church.

b. The project should not increase the long term cost of providing adequate fire and police services.

VI. MITIGATION MEASURES FOR UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

A. Erosion Control:

1. Procedural and standard measures contained in the State's Standard Specifications for Road and Bridge Construction will insure the minimization of soil erosion and water pollution during construction.

2. Measures such as watering, use of dust palliatives, restricting the area of operation, paving of construction lanes and curtailing of activities during dry and/or strong wind conditions will be taken to minimize dust problems during construction.

B. Borrow Pit Screening or Rehabilitation:

If a borrow site is required, it will be carefully screened to avoid any adverse environmental effects.

After completion of work, the borrow pit will be graded to provide adequate drainage and planted to minimize soil erosions.

C. Relocation Assistance:

The State's relocation assistance program and relocation payments will materially mitigate financial hardship. The "Relocation Advisory Assistance and Relocation Payment" brochure, prepared by the Highways Division, describes this program.

D. Minimization of Right-of-Way Acquisition:

Wherever possible, slope and construction easements will be used to minimize the right-of-way acquisition.

E. Minimization of Impacts on Section 4(f) Land:

1. A consulting architect will be utilized during the design phase of the Wailoa River Bridge structure and other highway appurtenances to improve their appearance and to ensure that they are compatible with their environs.

2. Grading and landscaping of the highway, particularly along parks, will be designed to be compatible with the adjoining landscape.

3. Pedestrian walkways and bikeways will be considered to provide functional access to Section 4(f) lands.

VII. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECT WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

A. Business Displacement:

Twelve businesses will be displaced by the proposed project. Of the twelve businesses to be displaced by the proposed project, it is anticipated that seven of the businesses could find suitable replacement sites and relocate thereto, while the other five businesses would presumably go out of business and claim for in-lieu payments for their closure. Twenty-seven full time and eleven part time employees will be affected.

The Conceptual Stage Relocation Program Plan, (Appendix B) developed for the anticipated relocation indicates that there are limited suitable commercial and industrial building facilities or zoned sites in the Hilo area to which the displaced businesses may be relocated.

B. Noise Impact:

Preliminary assessments of potential noise at selected points, as described in Section V.A.6., indicate that predicted noise levels will exceed the Federal Highways Administration's standards for the various land uses.

VIII. ALTERNATIVES TO THE PROPOSED ACTION

Five corridor alignments were initially considered. Alignments B-1, C, and D were dropped from further consideration at various stages of the study as their shortcomings became apparent. Revised Alignments A and B were studied in detail and presented along with a "do nothing" alternative at a combined Corridor and Design Public Hearing held for the project, on May 6, 1976.

A. Right-of-Way Acquisition Alternatives:

For the revised Alignment A (Kamehameha Avenue-Kalanianaole Corridor), there were five other alternatives in terms of right-of-way acquisition. These are delineated on Plates 10, 11, and 12. Estimated right-of-way acquisition costs are tabulated on Plate 15. Particular social impacts such as the number of parcels affected, the number of businesses affected, and the number of businesses displaced are tabulated on Plate 14.

B. Corridor Alignment Alternatives:

1. Revised Alignment B (Plate 13):

Beginning west of the Wailoa River, the revised Alignment B generally follows the existing Kamehameha Avenue alignment to Kanoelehua Avenue. East of Kanoelehua Avenue, the alignment crosses in front of General Lyman Field's Runway 8-26. With a left curve it closely follows the existing Silva Street alignment. It then terminates at the Kalanianaole Avenue/Silva Street/Kuhio Street intersection.

The alignment meets all vertical air/highway clearance regulations set forth by the Federal Aviation Administration (FAA); however, the alignment does penetrate Runway 8-26 clear zone. The clear zone is a provision set forth by the FAA for safety reasons.

This alignment was dropped due to aircraft safety concerns expressed by the FAA. Pertinent data regarding this alignment are tabulated on Plates 14 and 15.

2. Alignment B-1 (Plate 13):

This alignment (Kamehameha/Silva) starts west of the Wailoa River bridge, proceeds east along Kamehameha Avenue and north along Silva Street. This alignment corridor was dropped since a portion of Kamehameha Avenue is within the airport runway's primary surface; a condition which violates the Federal Aviation Administration's air/highway clearance regulations.

3. Alignment C (Plate 13):

This alignment (Kamehameha/Reed's Bay/Kalanianaole) starts west of the Wailoa River, runs diagonally across the golf course, crosses over Reed's Bay, then proceeds east along Kalanianaole Avenue. This corridor was studied very briefly but was dropped of potentially adverse obvious impacts to Section 4(f) lands.

4. Alignment D (Plate 13):

This alignment begins west of the Wailoa River. The east bound lanes curve to the southeast and follow the existing Kuawa Street alignment up to Kanoelehua Avenue. East of Kanoelehua, it skirts the front of Runway 8-26 and merges into a common alignment with the west bound lanes. East of the merge point, the alignment is identical to Alignment B. From the merge point (heading west), the west bound lanes skirt some private parcels, then coincides with the existing Kamehameha alignment.

This alignment was dropped because it impacts the Department of Health's facilities on Kuawa Street and because it poses a safety hazard to the takeoff and landing operations on Runway 8-26. The east bound lanes (on Kuawa Street) are in line with the runway's centerline; therefore, vehicular headlights may cause confusion to the pilots in their takeoff and landing operations.

C. Alternative Action:

"Do Nothing" Alternative:

Should the status quo be maintained, the present level of service will drop as traffic volumes increase. Increased traffic congestion, a structurally inadequate bridge, and flooded road conditions will jeopardize the motorists' safety. Congestion will increase travel time between points and will undoubtedly hinder free and

easy access to commercial and industrial establishments, thus resulting in some economic loss.

The existing bridge will eventually have to be replaced. Any attempt to correct the deficiencies at the Manono Street intersection will result in an intersection scheme similar to those of Revised Alignment A or B. Impact on Section 4(f) lands will occur.

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

A. Short-Term Uses:

1. Construction:

The existing Kamehameha-Kalanianaole Avenues serve as the only route for drivers with origins or destinations in Keaukaha (east) and the Waiakea Peninsula. This route also serves as an arterial for drivers with origins or destinations in north, south, and west Hilo.

As a consequence, there will be some degree of hardship borne by the highway user. Construction must be phased to provide minimum inconvenience to highway users as well as to pedestrians and adjoining property owners. The cost of construction phasing is reflected in the construction cost for each alignment.

2. Change in Traffic Pattern:

As previously mentioned, the existing facility is part of the island's FAP system and its major function is to serve as an arterial highway. The function will remain the same after implementation of the proposal. There is no other facility in the immediate area with a similar function. Therefore, there should not be a significant shift of traffic.

3. Taking of Natural and Manmade Features:

With the exception of the halas and occasional clumps of hau, all of the plants within the project area are introduced species. A listing of the vegetation found in the project area is covered by Section III.D.

B. Long-Term Effects:

1. Effect on Land Use:

There are a number of businesses which will be affected by the proposed action. Acquisition of land for highway use will have a long term effect on those lands as well as on parcels reduced to unusable proportions.

The proposed project is in accordance with The General Plan, County of Hawaii. Upon completion of the highway project, the facility will provide better services to highway users and traffic congestion should be greatly reduced. Highway safety will definitely improve.

X. ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

The highway when implemented will serve as an arterial (through traffic). It is not anticipated that the highway will act as a catalyst for industrial, commercial, or residential development of the area, nor will it provide access to previously inaccessible areas.

In the event of future abandonment of the project area, the land could be put to other uses.

The construction material used in the project is probably irretrievable but might be used for land fill, revetment construction, etc.

Labor expended on the project would be wholly irretrievable.

XI. CONCLUSION

On the balance, this project will have a beneficial environmental impact for the entire Hilo area and to the outlying districts.

The positive impacts are:

1. Increase in highway user's and pedestrian's safety and welfare.
2. Increase in highway capacity.
3. Improved access to and from seaport and airport.
4. Complements the upgrading of Kanoelehua Avenue for which construction was started in 1975.

5. Conducive to long term economic growth.

6. Intent of improvement is in accordance with the County of Hawaii General Plan and the Hilo Community Development Plan.

The negative impacts are:

1. Inconvenience during construction.

2. Replacement of plant life with pavement.

3. Taking of private and public lands for highway use.

4. Displacement of businesses.

5. Effects on 4(f) Lands

6. Increase in present highway traffic noise levels which are generally in excess of FHWA noise level standard for the particular land use.

Since this project is an improvement of an existing facility whose usage is established, the impact on the human environment will be one of long term benefit for the City of Hilo as well as its outlying districts.

REFERENCES

1. Belt, Collins and Associates, Ltd., Hilo Community Development Plan, 1974, Planning Department, County of Hawaii.

2. Planning Department, The General Plan, County of Hawaii, January 1971, County of Hawaii.

3. Planning Department, "Rule No. 9, Rules and Regulations Relating to Environmental Shoreline Protection", Rules Relating to Administrative Procedures, December 1976, County of Hawaii.

4. State Department of Health, Public Health Regulation, "Chapter 37-A, Water Quality Standards", May 1974, State of Hawaii.

5. State Department of Labor and Industrial Relations, Research and Statistics Office, "Selected Manpower Indications for the County of Hawaii", August 1972.

6. State Department of Transportation, "Intersections with Three or More Accidents, Hawaii County", 1975, and "Most Dangerous Intersections, Hawaii County", 1966 - 175, Traffic Section, Highways Division.

7. State Department of Transportation, "Traffic Assignment Project TA 76-20, Hilo Bayfront Highway, October 1976, Highway Planning Branch, Highways Division.

8. State Department of Transportation, "Traffic Assignment Project TA 71-32, Hilo Bayfront Highway, Wailuku Bridge to Hilo Wharf", May 1972, Highway Planning Branch, Highways Division.

9. State Department of Transportation, Standard Specifications for Road and Bridge Construction, 1976, Highways Division.

10. State Department of Transportation, "Relocation Advisory Assistance and Relocation Payment", Highways Division.

11. Sunn, Low, Tom and Hara, Inc., and H. Mogi, Bikeplan Hawaii, March 1977, A State of Hawaii Master Plan, State Department of Transportation.

12. U.S. Department of Commerce, "Local Climatological Data Annual Summary with Comparative Data", 1971, National Oceanic and Atmospheric Administration Environmental Service.

13. U.S. Department of Interior, "Endangered and Threatened Plant Species", Federal Register Vol. 41, No. 117 Part 4, June 16, 1976, Fish and Wildlife Service.

14. U.S. Department of the Interior, United States List of Endangered Fauna, May 1974, Fish and Wildlife Service.

15. U.S. Department of the Interior, "Map of Flood-Prone Area, Hilo, Hawaii", 1975, Geological Survey.

16. U.S. Department of Transportation, "Environmental Impact and Related Statements", V.7.7.2, Federal Aid Highway Program Manual, December 1974, Federal Highways Administration.

17. U.S. Department of Transportation, Final Environmental Impact Statement New Passenger Terminal, General Lyman Field, Hilo, Hawaii, May 1973, Federal Aviation Administration, Pacific-Asia Region.

18. Walters, Kimura and Associates, Inc., "Survey of Existing Vegetation and Flora", (unpublished report), February 1973, Wilson Okamoto & Associates, Inc.

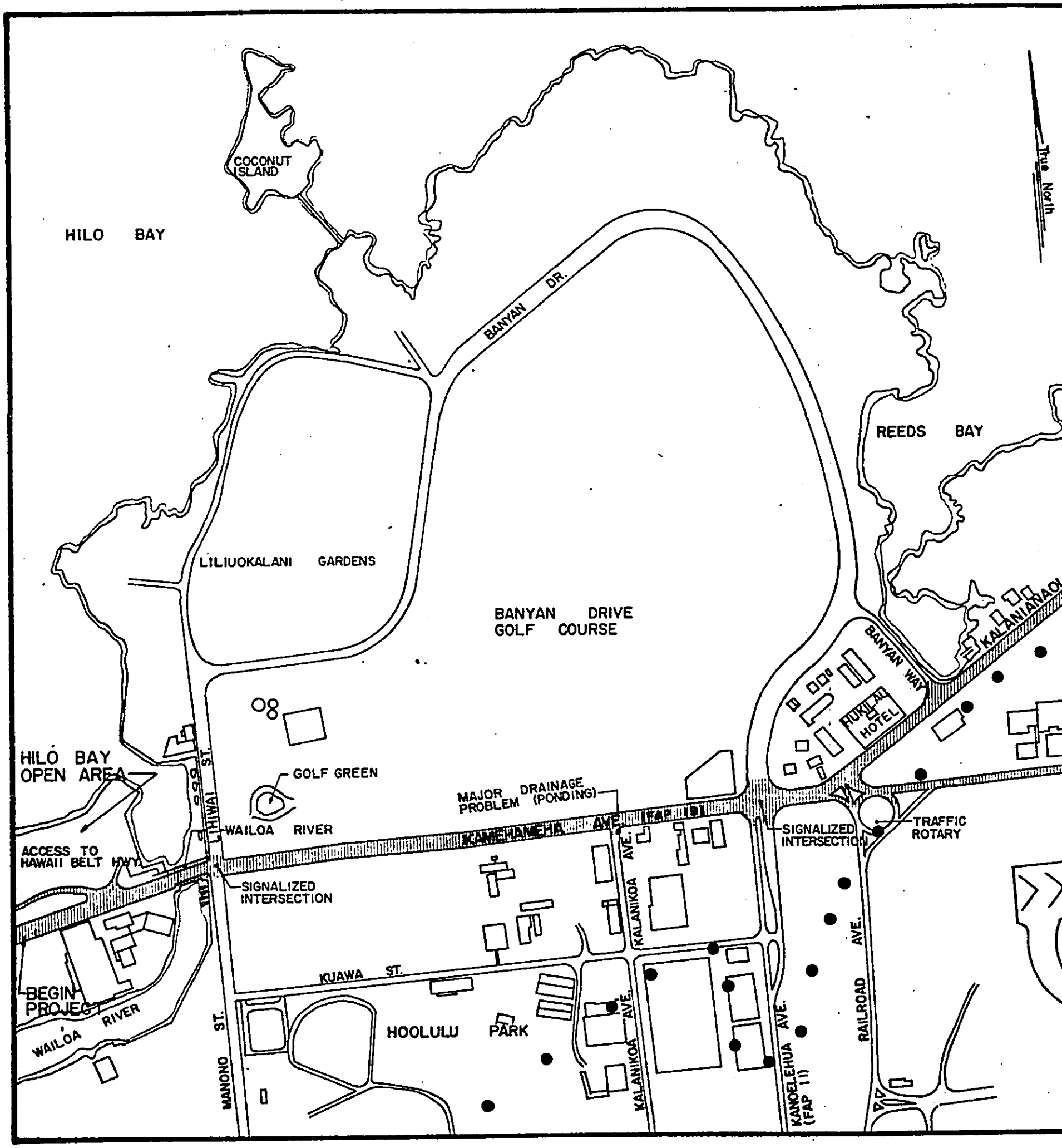
19. Wesler, J.E., Manual for Highway Noise Prediction (Short Version), March 1972, Federal Highway Administration, U.S. Department of Transportation.

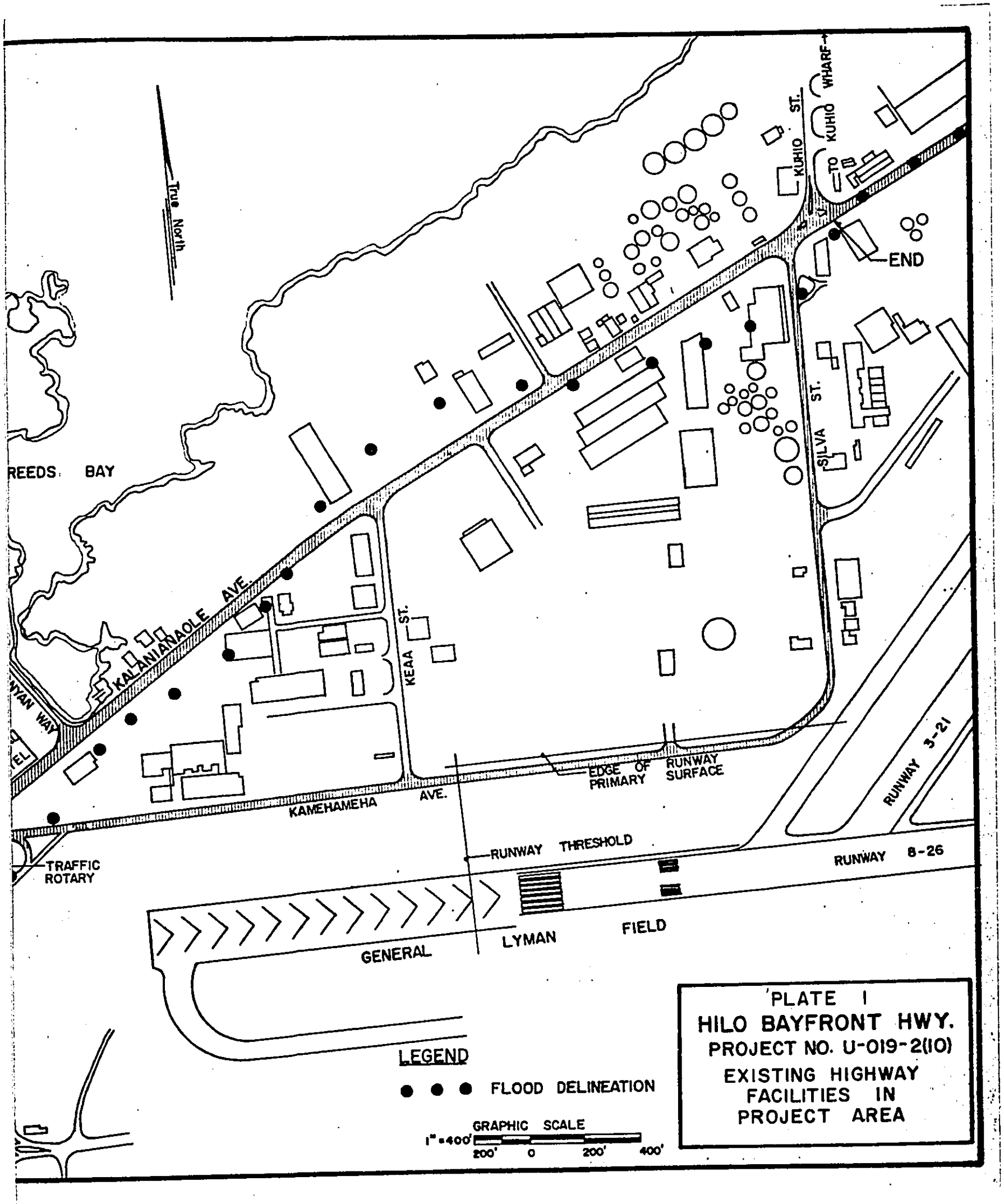
20. Wilson Okamoto & Associates, "Preliminary Noise Level Assessment", (unpublished report), 1974, Highways Division, State Department of Transportation.

21. Wilson Okamoto and Associates, Master Development Plan Studies Hoolulu Park - Panaewa Recreational Sport Complex, April 1973, Department of Parks and Recreation, County of Hawaii.

APPENDIX A PLATES

Plate No.	Description
1	Existing Highway Facility in Project Area
2	1974 and 1994 24-Hours Traffic
3	Typical Roadway Sections
4	Kanoelehua Avenue Intersection
5	Manono Street Intersection
6	Section of Bridge Structure at Wailoa River
7	Vegetation and Flora Along Proposed Alignment
8	Zoning in Project Area
9	Noise Contours (PHdB) Oversea DC-8
10	Alternative A-1 and A-2
11	Alternative A-3 and A-4
12	Alternative A-5 and A-6
13	Other Alternative Alignment Considered
14	Social Effects
15	Comparison of Schemes

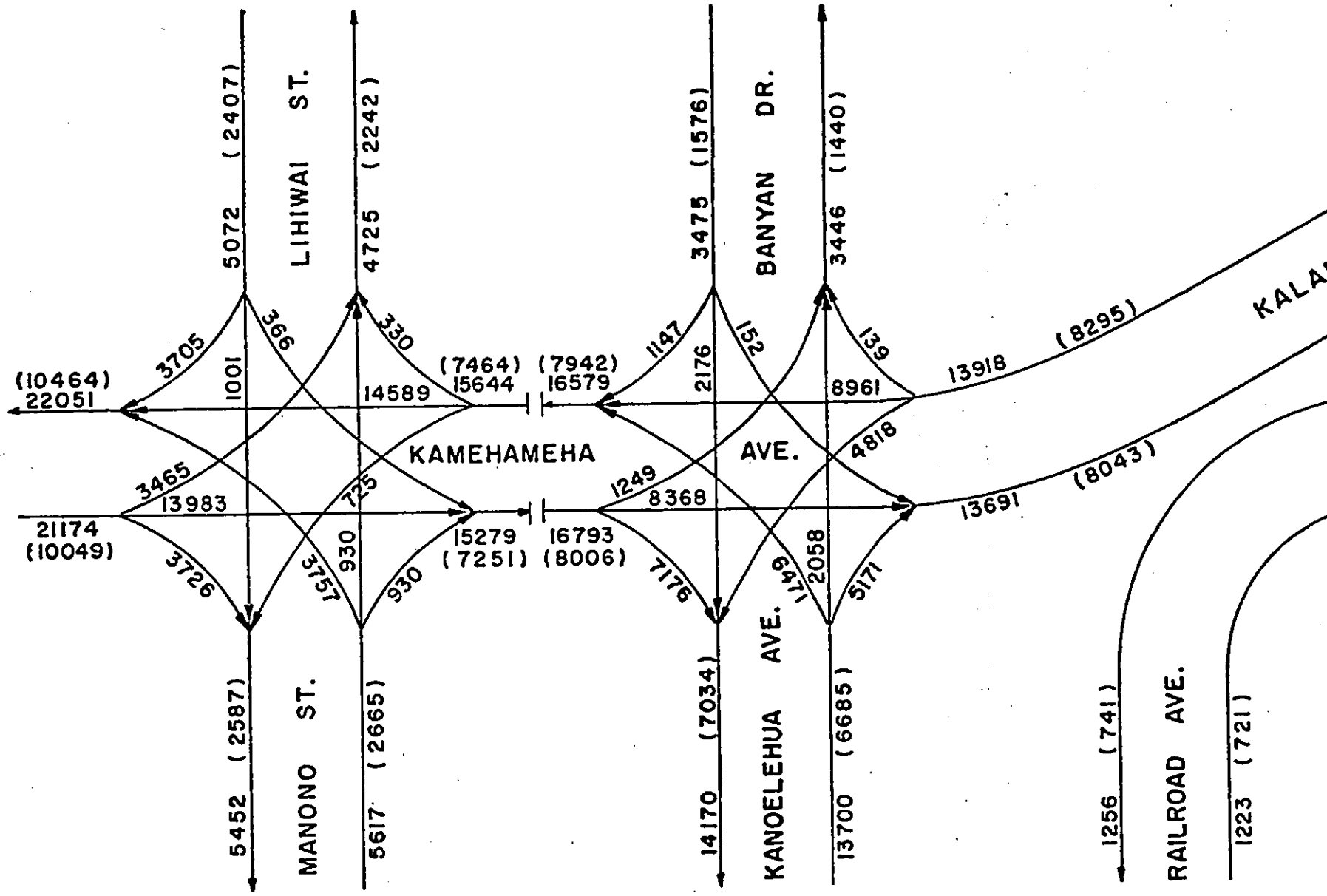

HILO BAY
COCONUT ISLAND
BANYAN DR.
REEDS BAY
True North
LILIUOKALANI GARDENS
BANYAN DRIVE GOLF COURSE
BANYAN WAY
HUKILAU HOTEL
KALANIANAOLE
HILO BAY OPEN AREA
GOLF GREEN
MAJOR DRAINAGE PROBLEM (PONDING)
WAILOA RIVER
KAMEHAMEHA AVE. (FAP 19)
SIGNALIZED INTERSECTION
TRAFFIC ROTARY
ACCESS TO HAWAII BELT HWY.
SIGNALIZED INTERSECTION
KALANIKOA AVE.
KUAWA ST.
BEGIN PROJECT
WAILOA RIVER
HOOLULU PARK
MANONO ST.
KALANIKOA AVE.
KANOELEHUA AVE. (FAP 11)
RAILROAD AVE.

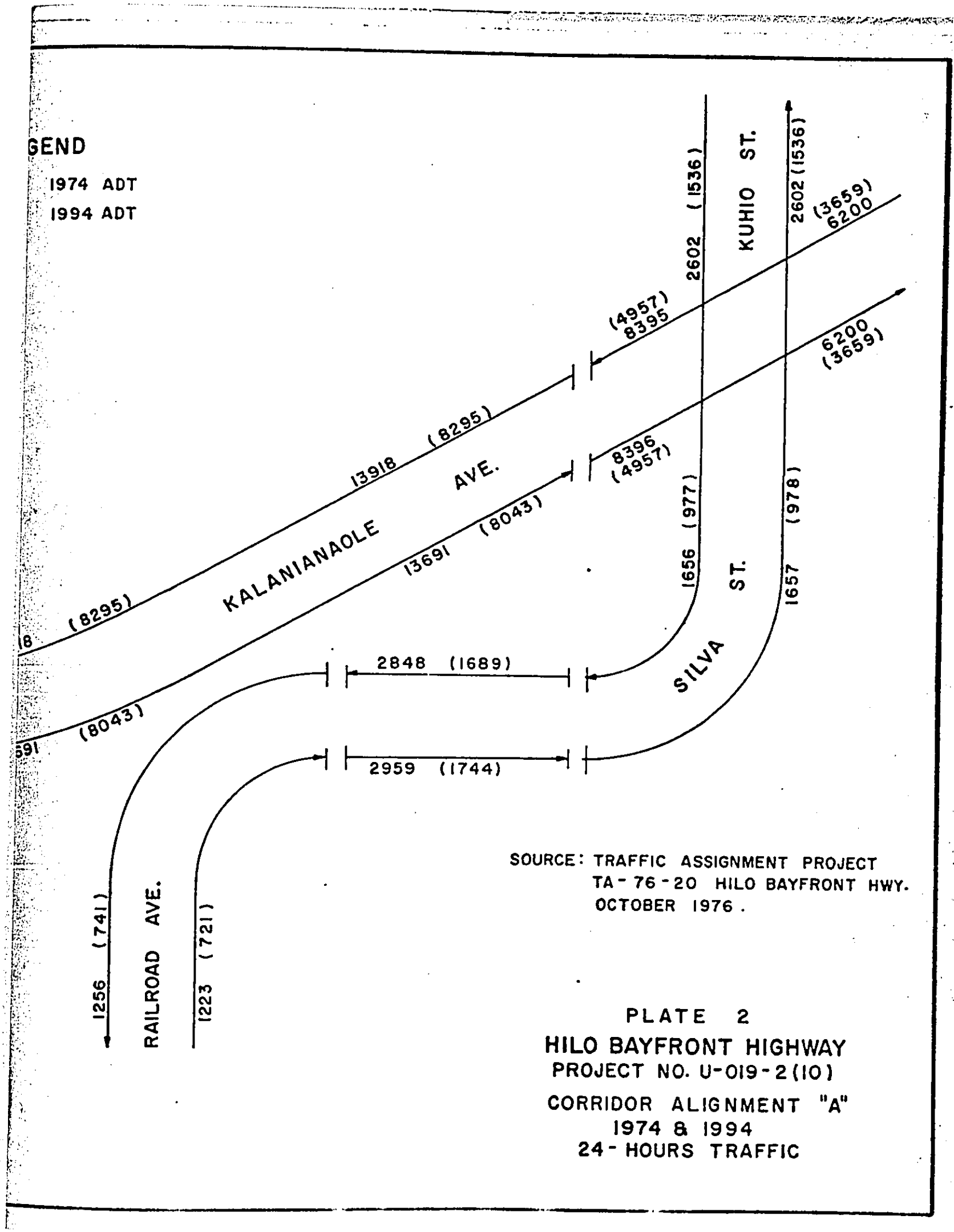

True North
REEDS BAY
KUHIO ST.
KUHIO WHARF
TO
END
SILVA ST.
KALANIANAOLE AVE.
KEAA ST.
NYAN WAY
EL
EDGE OF RUNWAY PRIMARY SURFACE
RUNWAY 3-21
KAMEHAMEHA AVE.
RUNWAY THRESHOLD
RUNWAY 8-26
TRAFFIC ROTARY
GENERAL LYMAN FIELD
LEGEND
FLOOD DELINEATION
GRAPHIC SCALE
1" = 400'
200' 0 200' 400'
PLATE I
HILO BAYFRONT HWY.
PROJECT NO. U-019-2(10)
EXISTING HIGHWAY FACILITIES IN PROJECT AREA

LEGEND

(1576) 1974 ADT

3475 1994 ADT



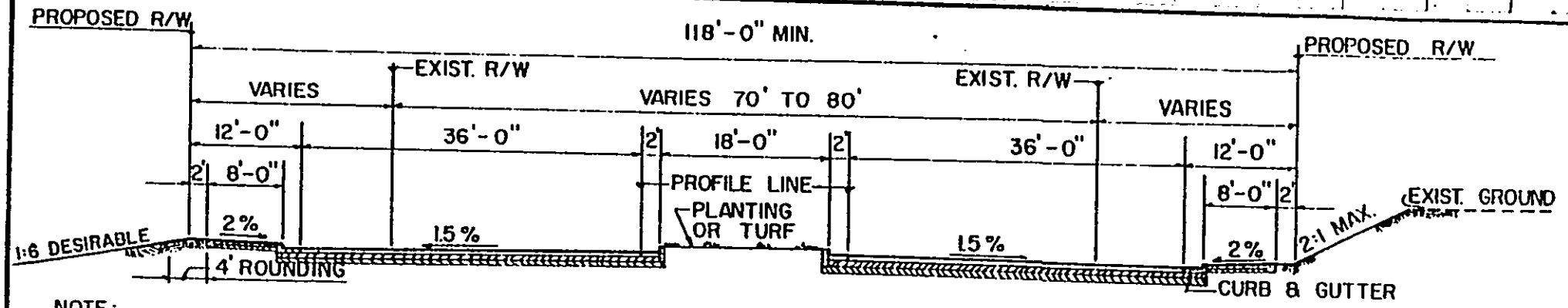


SOURCE: TRAFFIC ASSIGNMENT PROJECT
TA-76-20 HILO BAYFRONT HWY.
OCTOBER 1976.

PLATE 2

HILO BAYFRONT HIGHWAY
PROJECT NO. U-019-2(10)

CORRIDOR ALIGNMENT "A"
1974 & 1994
24-HOURS TRAFFIC



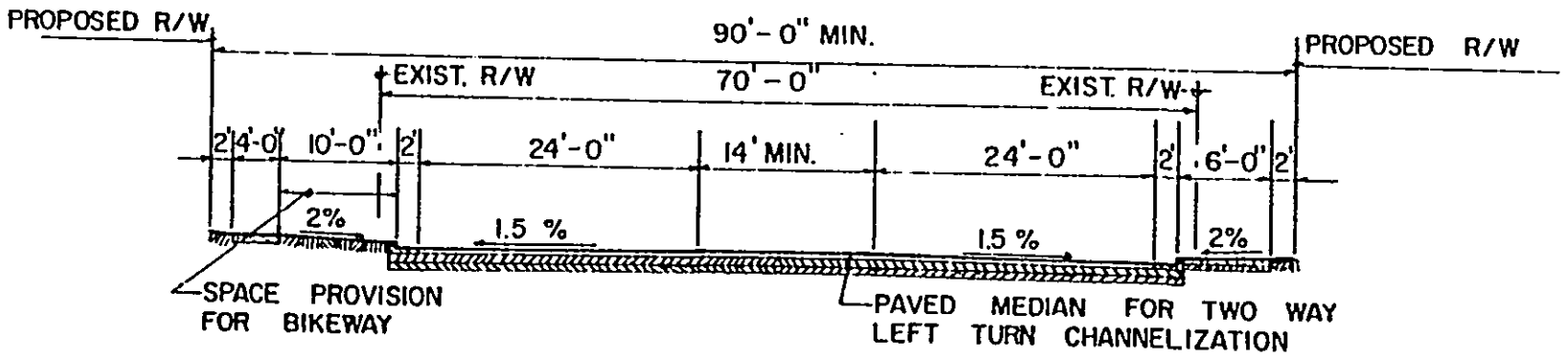
NOTE:

USE OF A CONSTRUCTION EASEMENT IS PLANNED IN LIEU OF PROPERTY ACQUISITION TO ACCOMODATE CUT & FILL SLOPE IN GOLF COURSE AREA.
STA. 70+00 TO 75+00.

TYPICAL SECTION – MANONO ST. TO KANOELEHUA AVE.

NOTE:

USE OF A CONSTRUCTION EASEMENT IS PLANNED IN LIEU OF PROPERTY ACQUISITION TO ACCOMODATE CUT & FILL SLOPE IN THE FUTURE BUFFER ZONE FOR HOOLULU PARK.
STA. 70+00 TO STA. 75+00



TYPICAL SECTION – KANOELEHUA AVE. TO KAL / SILVA JUNCTION

GRAPHIC SCALE

1/16"=1'-0"

8' 4' 0 8' 16'

PLATE 3

HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

ALIGNMENT A

TYPICAL ROADWAY SECTIONS

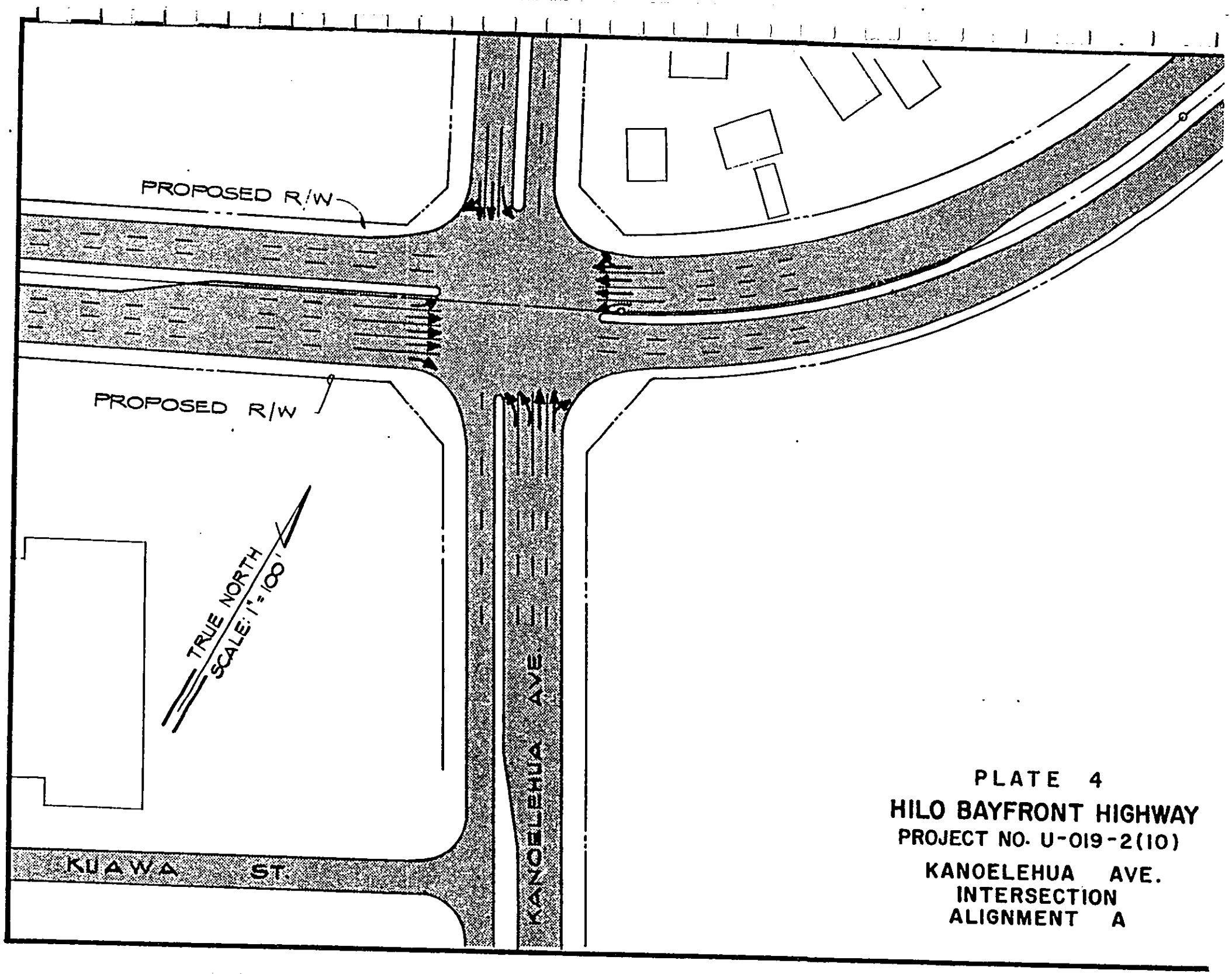


PLATE 4

HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

KANOELEHUA AVE.
INTERSECTION
ALIGNMENT A

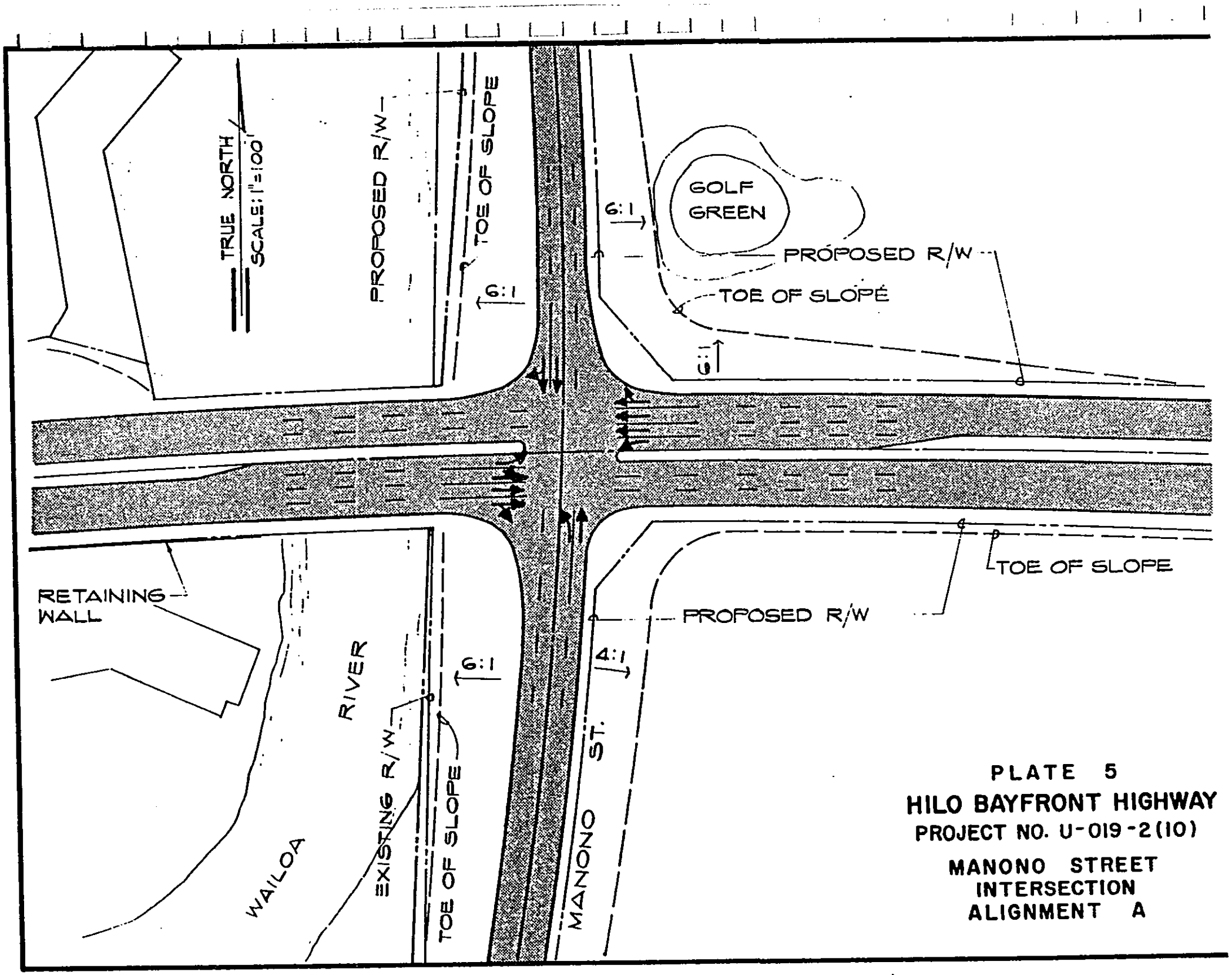
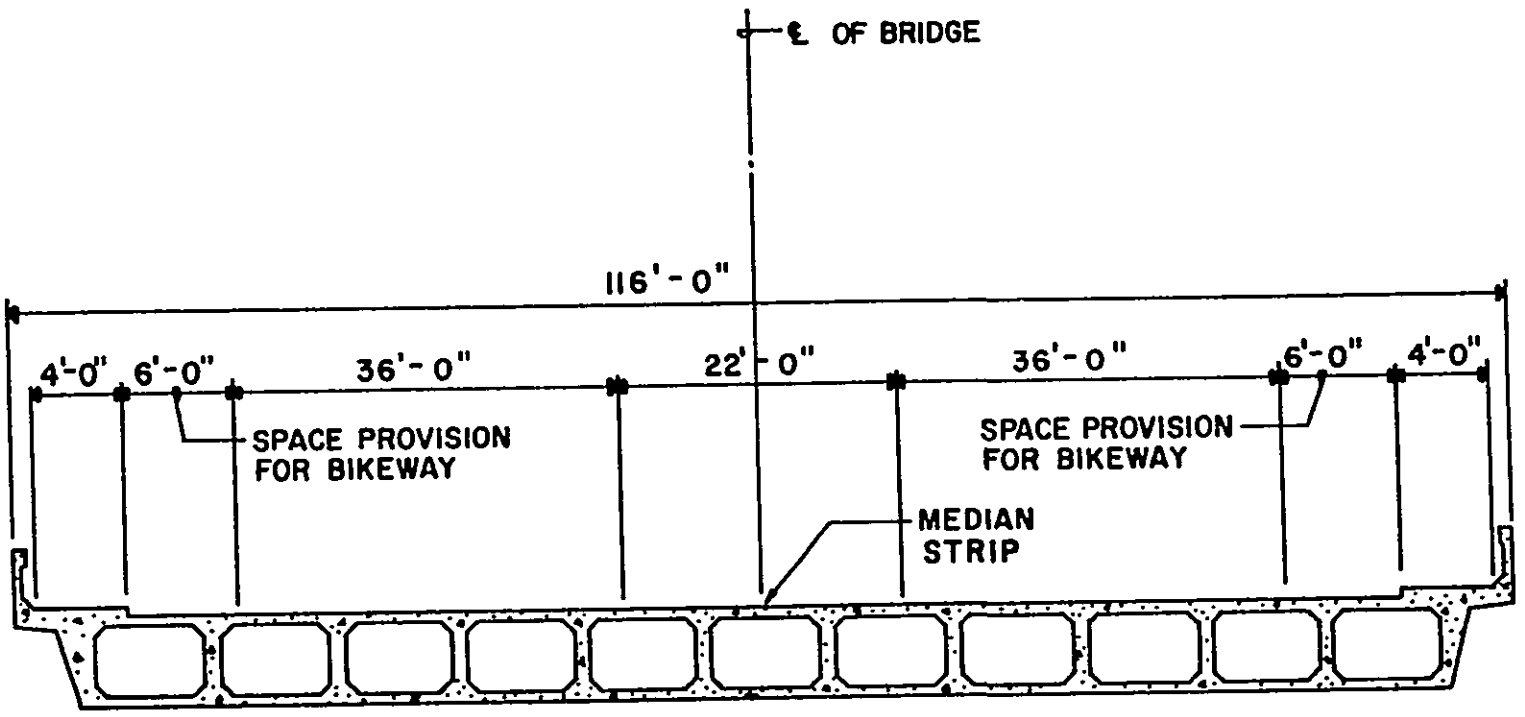


PLATE 5

HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

MANONO STREET
INTERSECTION
ALIGNMENT A

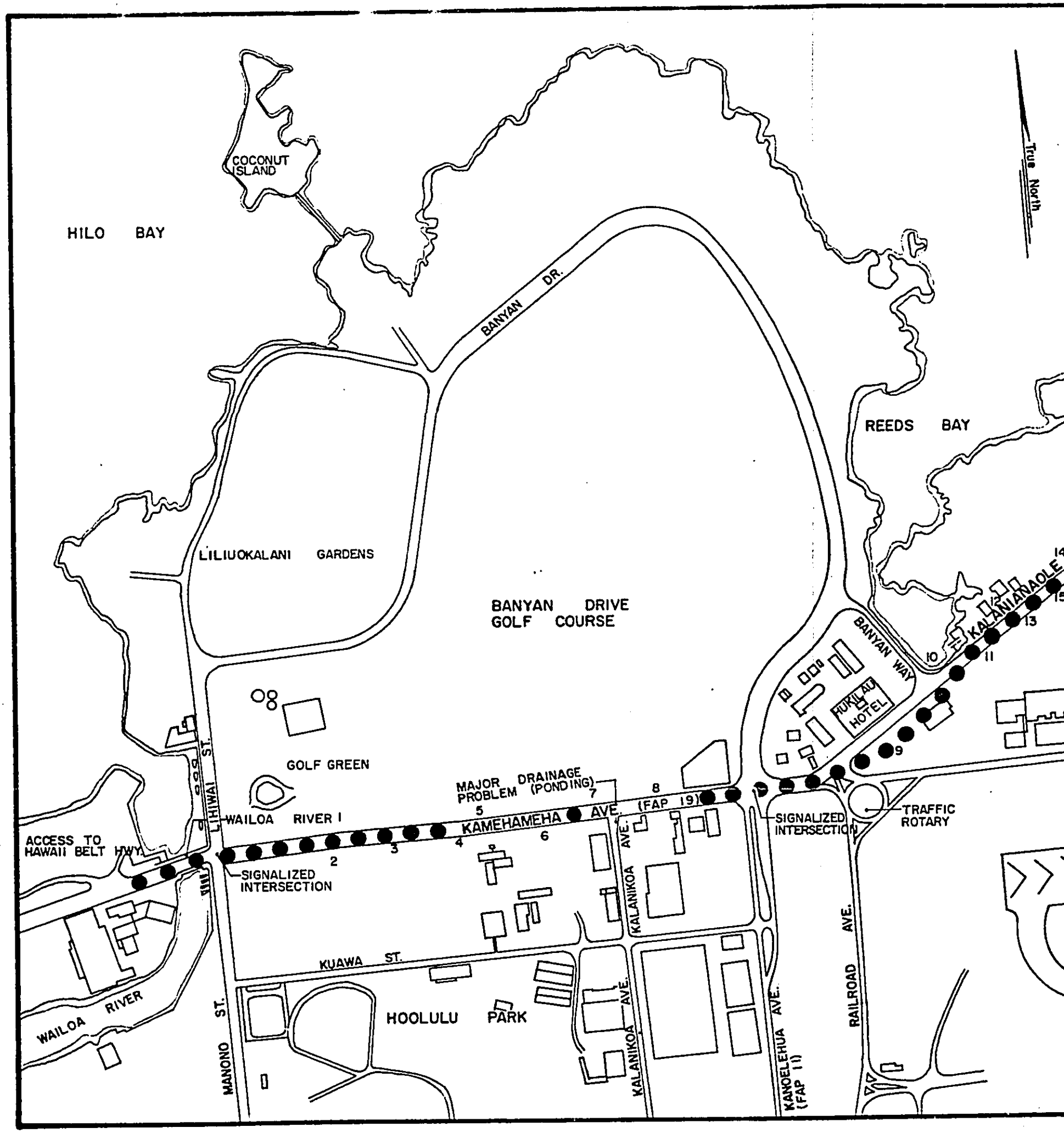


BRIDGE - ALIGNMENT A

PLATE 6

HILO BAYFRONT HIGHWAY
PROJECT NO. U-019-2(10)

SECTION OF
BRIDGE STRUCTURE
AT WAILOA RIVER


HILO BAY
COCONUT ISLAND
BANYAN DR.
True North
REEDS BAY
LILIUOKALANI GARDENS
BANYAN DRIVE GOLF COURSE
BANYAN WAY
KALANIANAOLE
HUKILAU HOTEL
GOLF GREEN
LIHIWAI ST.
MAJOR DRAINAGE PROBLEM (PONDING)
WAILOA RIVER I
KAMEHAMEHA AVE. (FAP 19)
SIGNALIZED INTERSECTION
TRAFFIC ROTARY
ACCESS TO HAWAII BELT HWY.
SIGNALIZED INTERSECTION
KALANIKOA AVE.
KUAWA ST.
WAILOA RIVER
MANONO ST.
HOOLULU PARK
KALANIKOA AVE.
KANOELEHUA AVE. (FAP 11)
RAILROAD AVE.

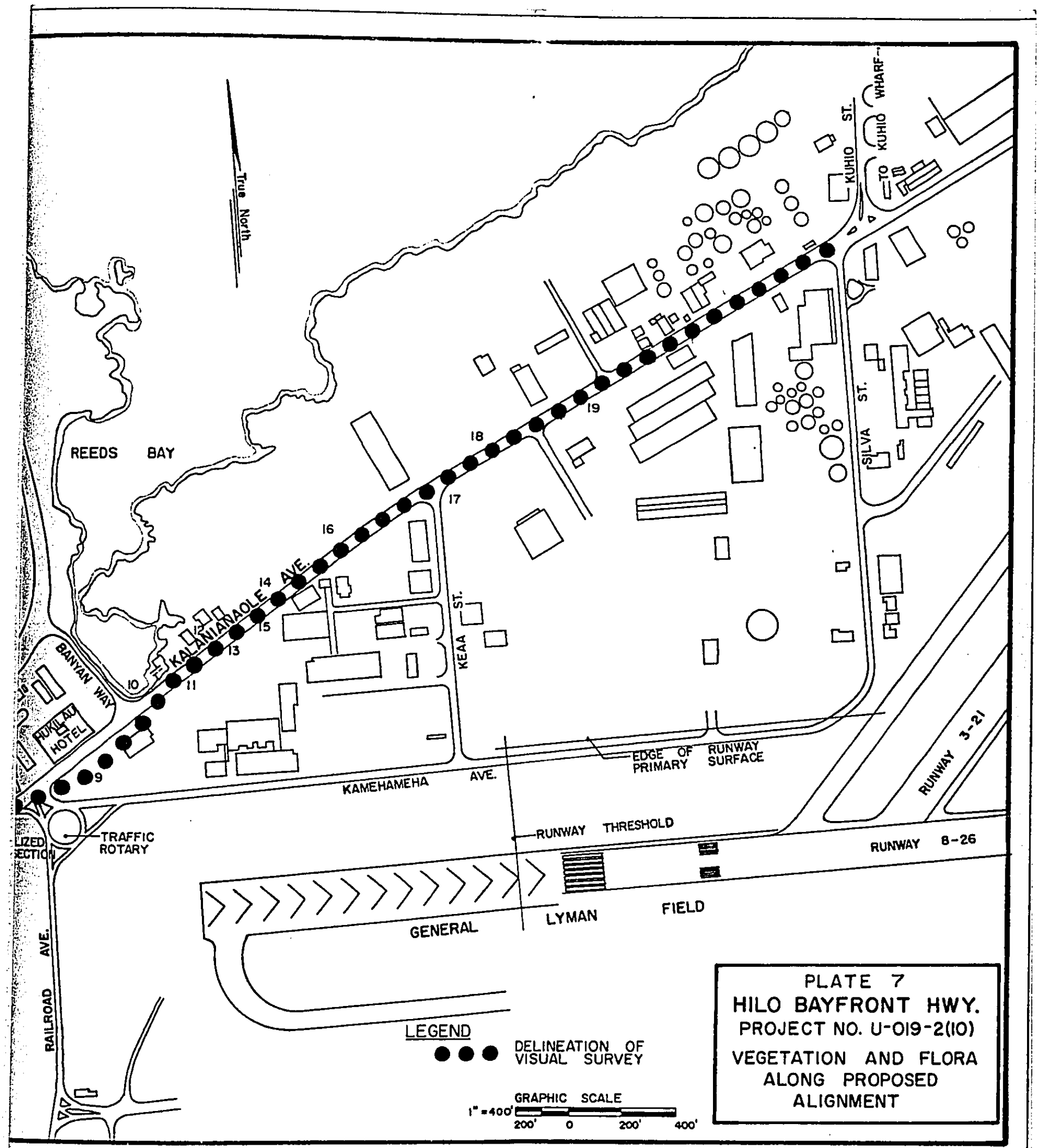
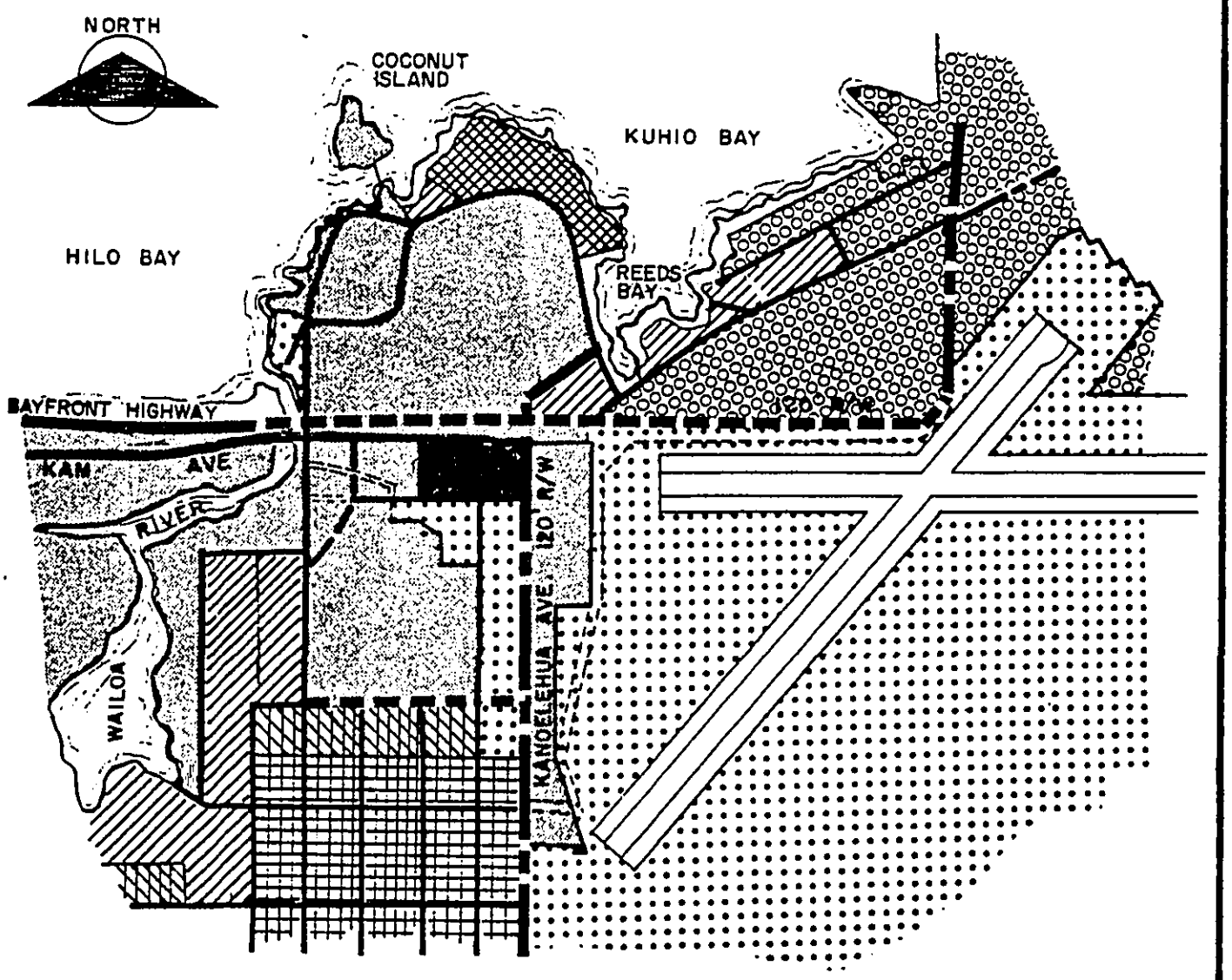


PLATE 7

HILO BAYFRONT HWY.

PROJECT NO. U-019-2(10)

VEGETATION AND FLORA ALONG PROPOSED ALIGNMENT



CIRCULATION

	EXISTING	WIDEN	PROPOSED
PRIMARY ARTERIAL	▬▬▬▬	▬ ▬ ▬	▪ ▬ ▪ ▬ ▪ ▬ ▪
SECONDARY ARTERIAL	▬▬▬▬	▬ ▬ ▬	▬ ▪ ▬ ▪ ▬ ▪ ▬
COLLECTOR STREET	▬▬▬▬		
VACATE RIGHT-OF-WAY	= = = = = = = =		

NOTE: ALL SECONDARY ARTERIALS & COLLECTOR STREETS 60' RIGHT-OF-WAY UNLESS OTHERWISE NOTED. MINOR STREETS MINIMUM 50' RIGHT-OF-WAY.

ZONING

RESIDENTIAL

RS-10 SINGLE-FAMILY, 10,000 SQ.FT.

COMMERCIAL

VH-S-75 RESORT-HOTEL, SAFETY 750 SQ.FT./UNIT

V-S-75 RESORT-HOTEL, SAFETY 750 SQ.FT/UNIT

CN-10 NEIGHBORHOOD-COMM., 10,000 SQ. FT.

CG-75 GENERAL COMMERCIAL, 7,500 SQ. FT.

INDUSTRIAL

ML-20 LIMITED INDUSTRIAL, 20,000 SQ. FT.

MG-1a GENERAL INDUSTRIAL, 1 acre

OPEN

O OPEN, PARK & RECREATION

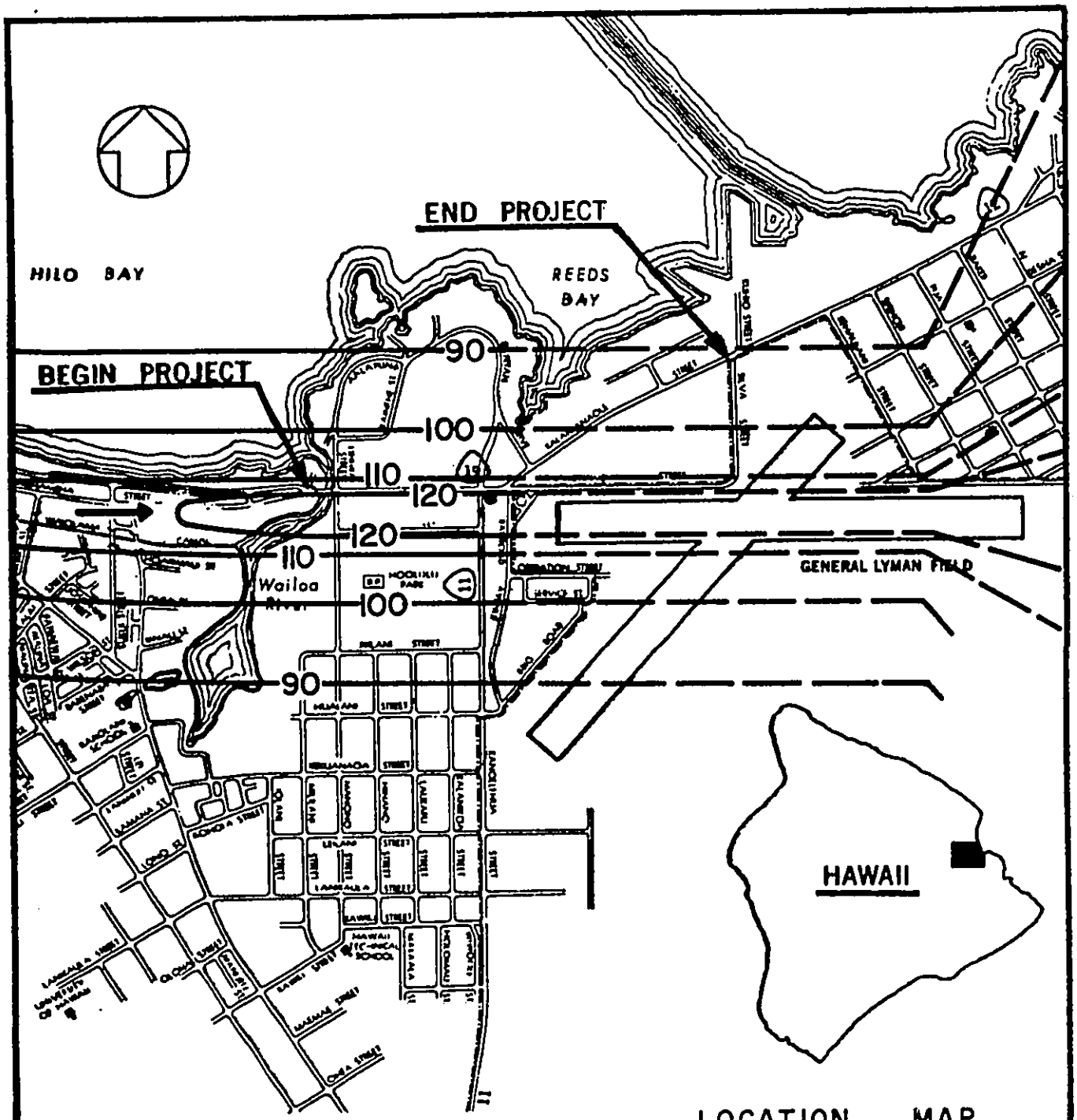
SOURCE: ROAD ALIGNMENTS, RIGHTS-OF-WAY FLOOD HAZARD AREAS AND ZONING PORTION OF ORD. NO. 187

PLATE 8

HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

ZONING IN PROJECT AREA



LOCATION MAP

NOTE: PNdB - 12 = dBA

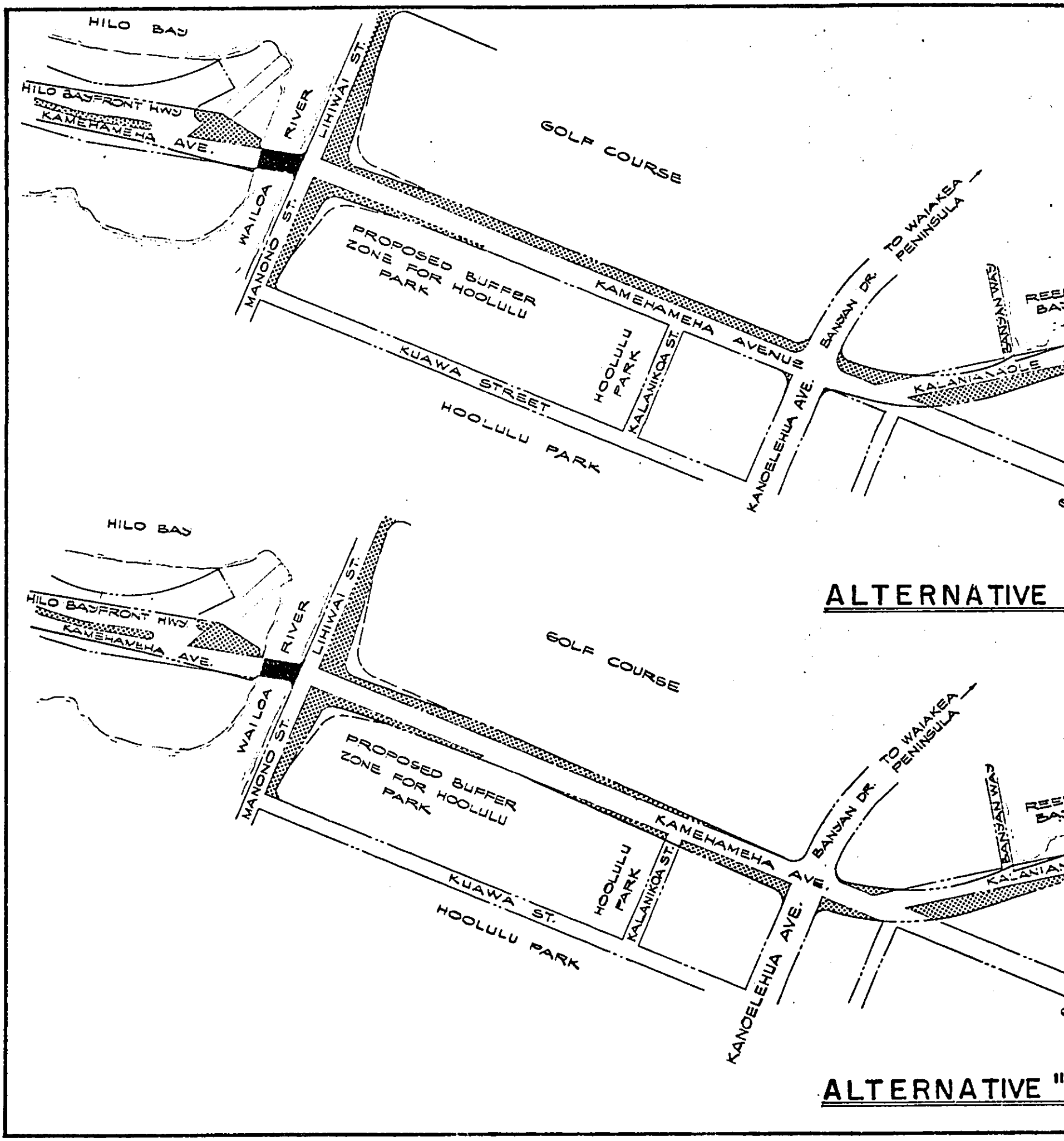
SOURCE: FINAL ENVIRONMENTAL IMPACT STATEMENT GENERAL LYMAN FIELD STATE PROJECT NO. H-91, DATE 6/15/72

PLATE 9

HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

NOISE CONTOURS (PNdB)
OVERSEAS DC - 8
GENERAL LYMAN FIELD


HILO BAY
HILO BAYFRONT HWY
KAMEHAMEHA AVE.
WAILOA RIVER
LIHIWAI ST.
GOLF COURSE
MANONO ST.
PROPOSED BUFFER ZONE FOR HOOLULU PARK
KUAWA STREET
HOOLULU PARK
KALANIKOA ST.
KAMEHAMEHA AVENUE
BANYAN DR.
TO WAIAKEA PENINSULA
KANOELEHUA AVE.
ALTERNATIVE
HILO BAY
HILO BAYFRONT HWY
KAMEHAMEHA AVE.
WAILOA RIVER
LIHIWAI ST.
GOLF COURSE
MANONO ST.
PROPOSED BUFFER ZONE FOR HOOLULU PARK
KUAWA ST.
HOOLULU PARK
KALANIKOA ST.
KAMEHAMEHA AVE.
BANYAN DR.
TO WAIAKEA PENINSULA
KANOELEHUA AVE.
ALTERNATIVE

NORTH

TO WAIAKEA PENINSULA

KANOAN DR.

KANOAN WAY

REEDS BAY

LIANA ST.

HUIPO ST.

KAMAU ST.

KUHIO ST.

TO KUHIO WHARF

KALANIANAOLE AVE.

KEAA ST.

SILVA ST.

GENERAL LYMAN FIELD

ALTERNATIVE "A1"

TO WAIAKEA PENINSULA

KANOAN DR.

KANOAN WAY

REEDS BAY

LIANA ST.

HUIPO ST.

KAMAO ST.

KUHIO ST.

TO KUHIO WHARF

KALANIANAOLE AVE.

KEAA ST.

SILVA ST.

GENERAL LYMAN FIELD

2 1 0 1 2 3

SCALE : 1" = 400'

ALTERNATIVE "A2"

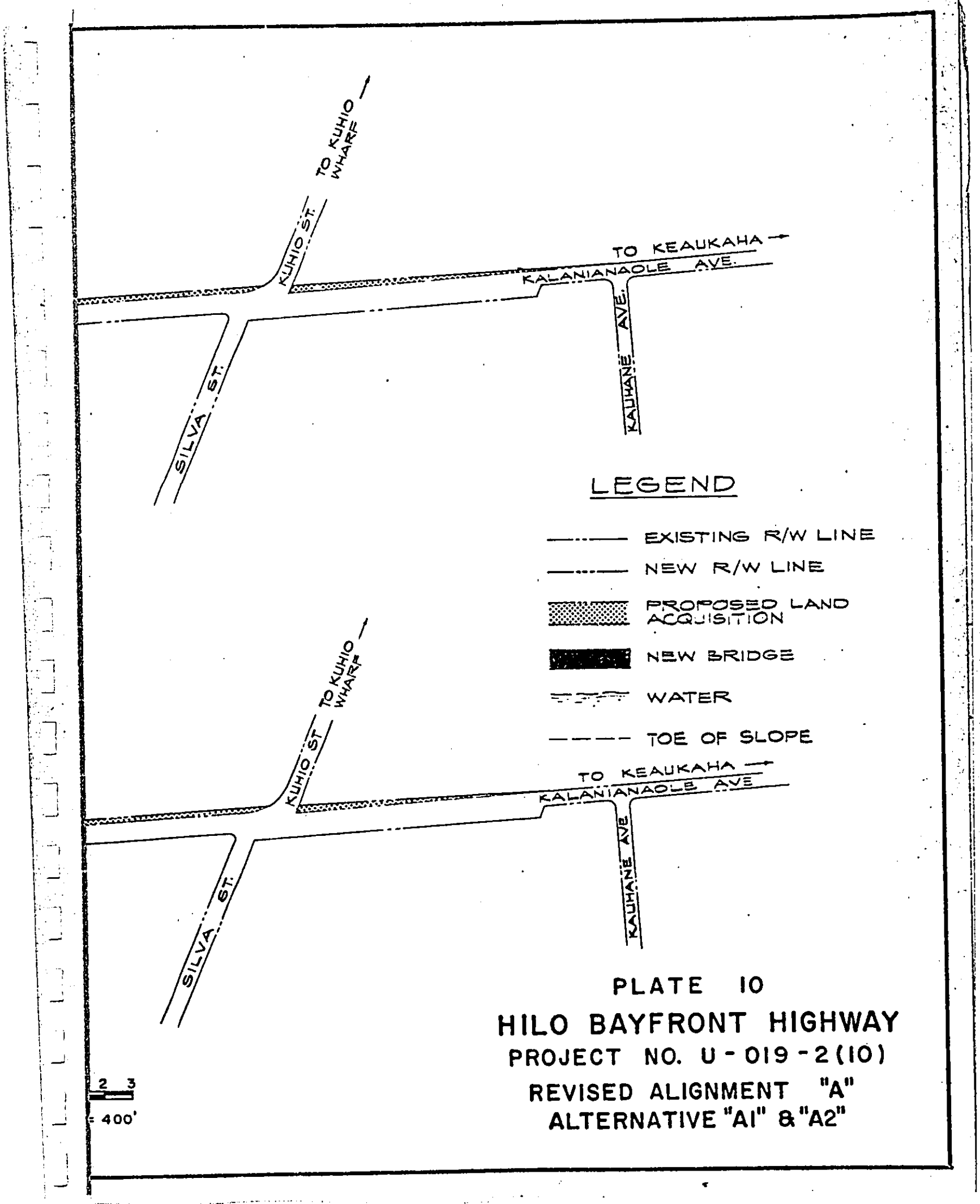


PLATE 10

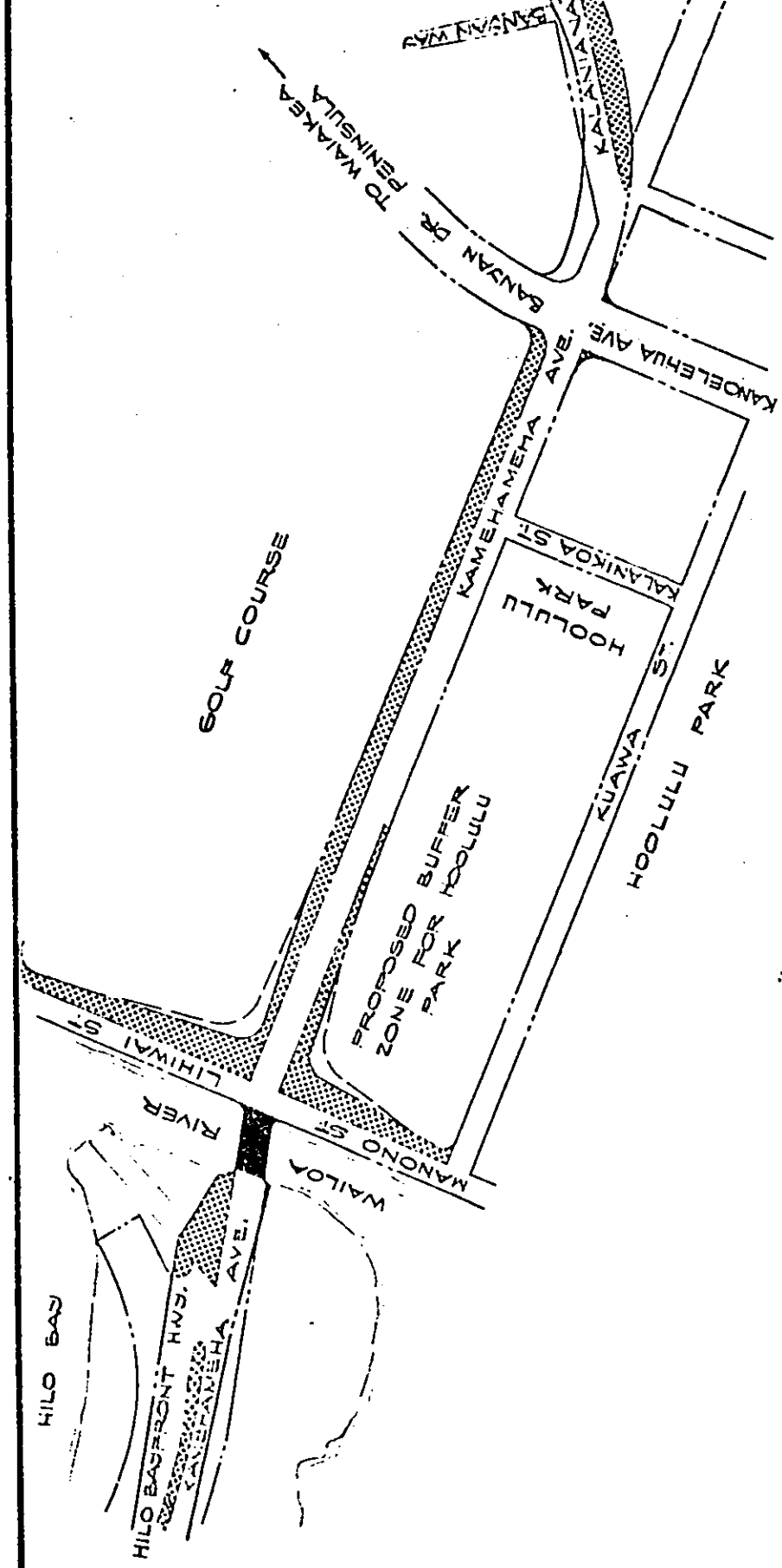
HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

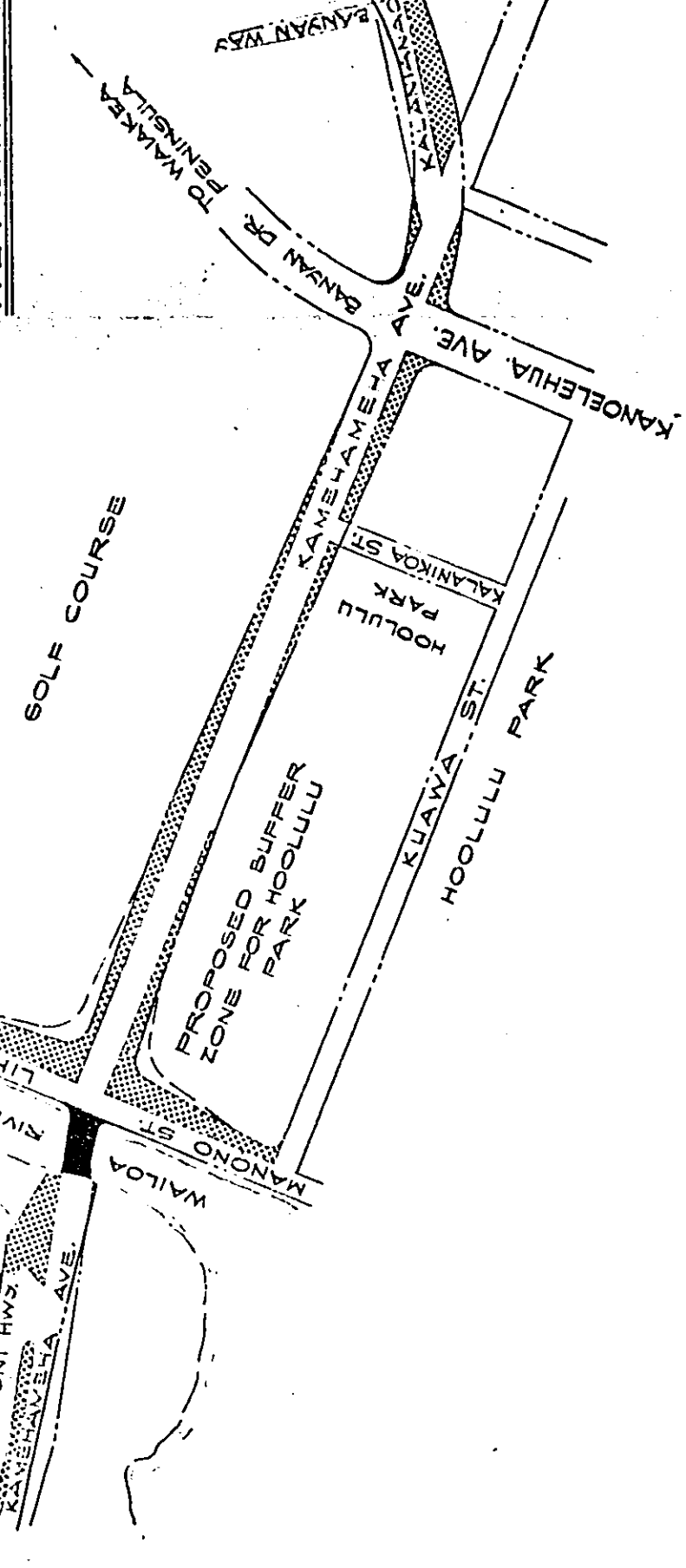
REVISED ALIGNMENT "A"

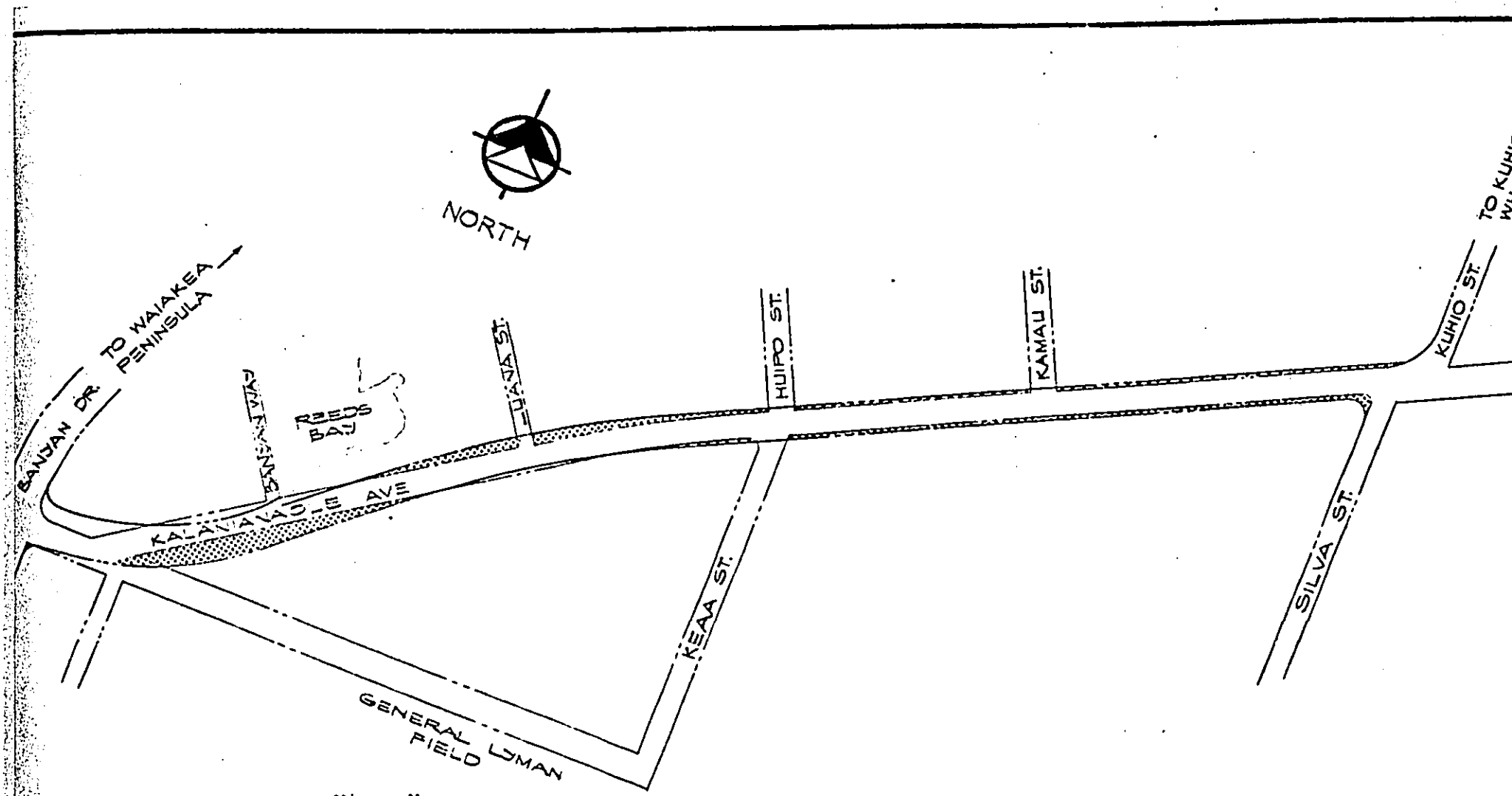
ALTERNATIVE "A1" & "A2"

ALTERNATIVE 1

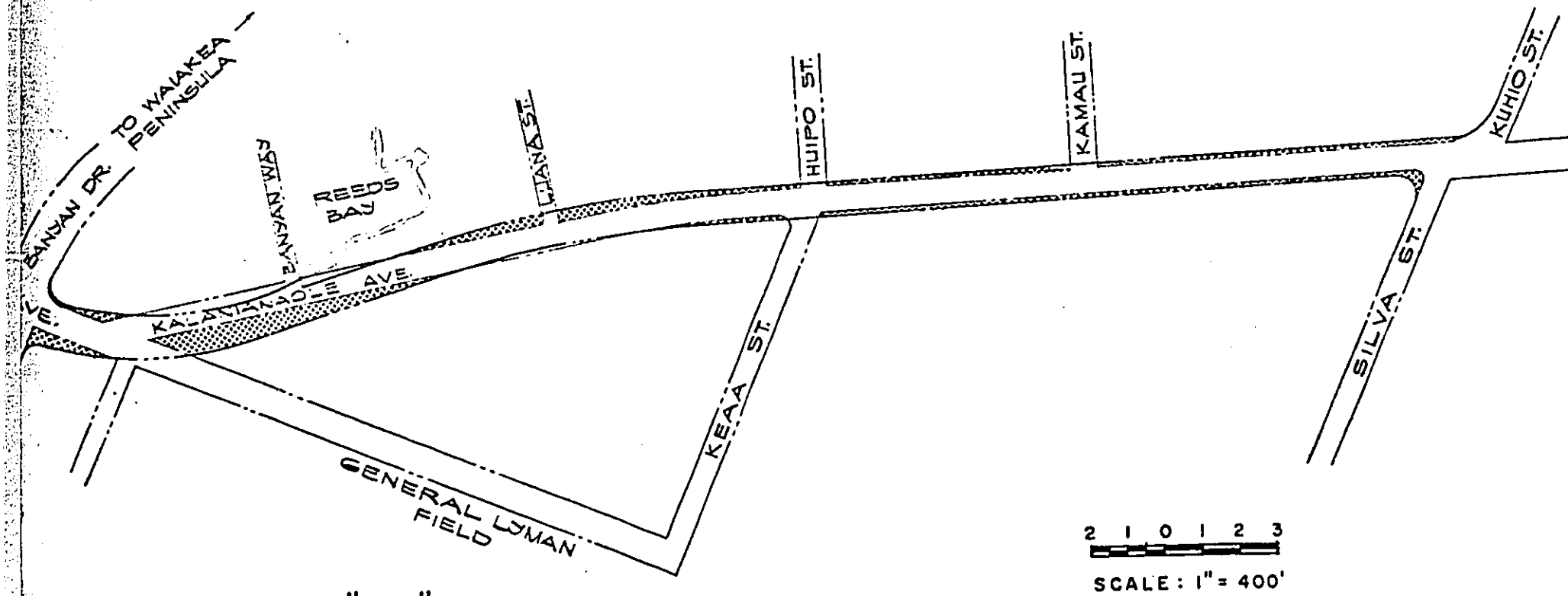


ALTERNATIVE 2





ALTERNATIVE "A3"



ALTERNATIVE "A4"

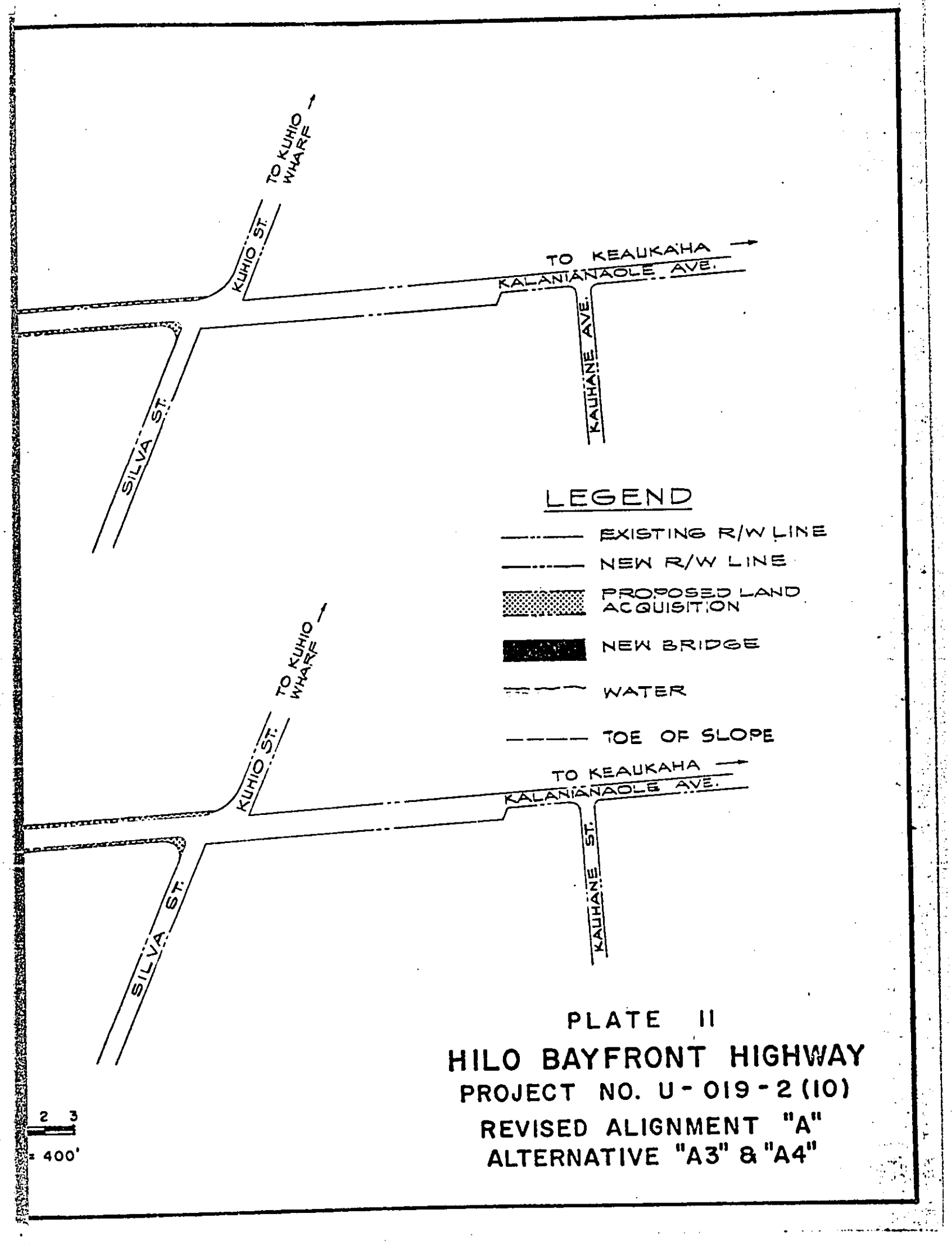


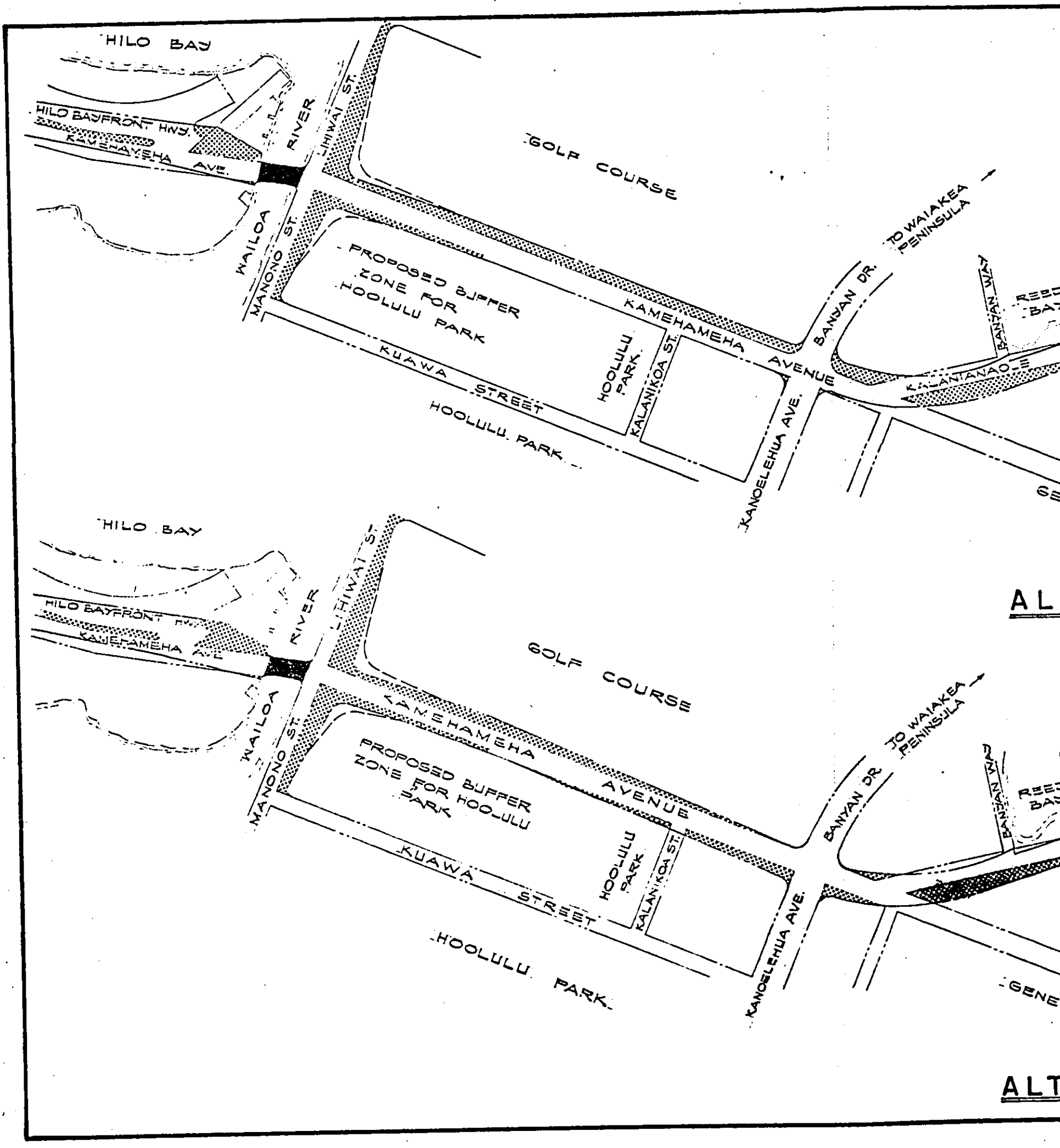
PLATE II

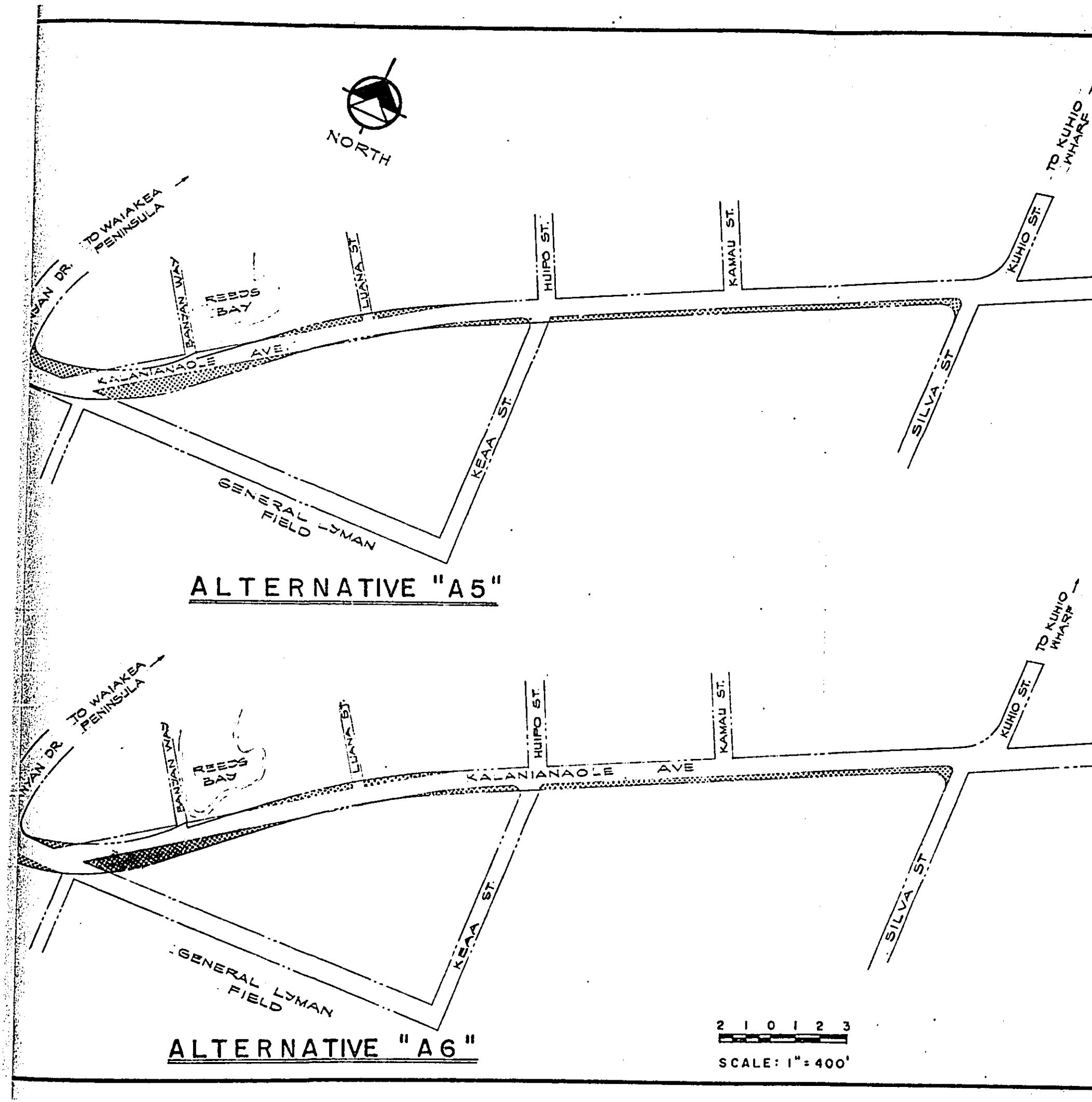
HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

REVISED ALIGNMENT "A"

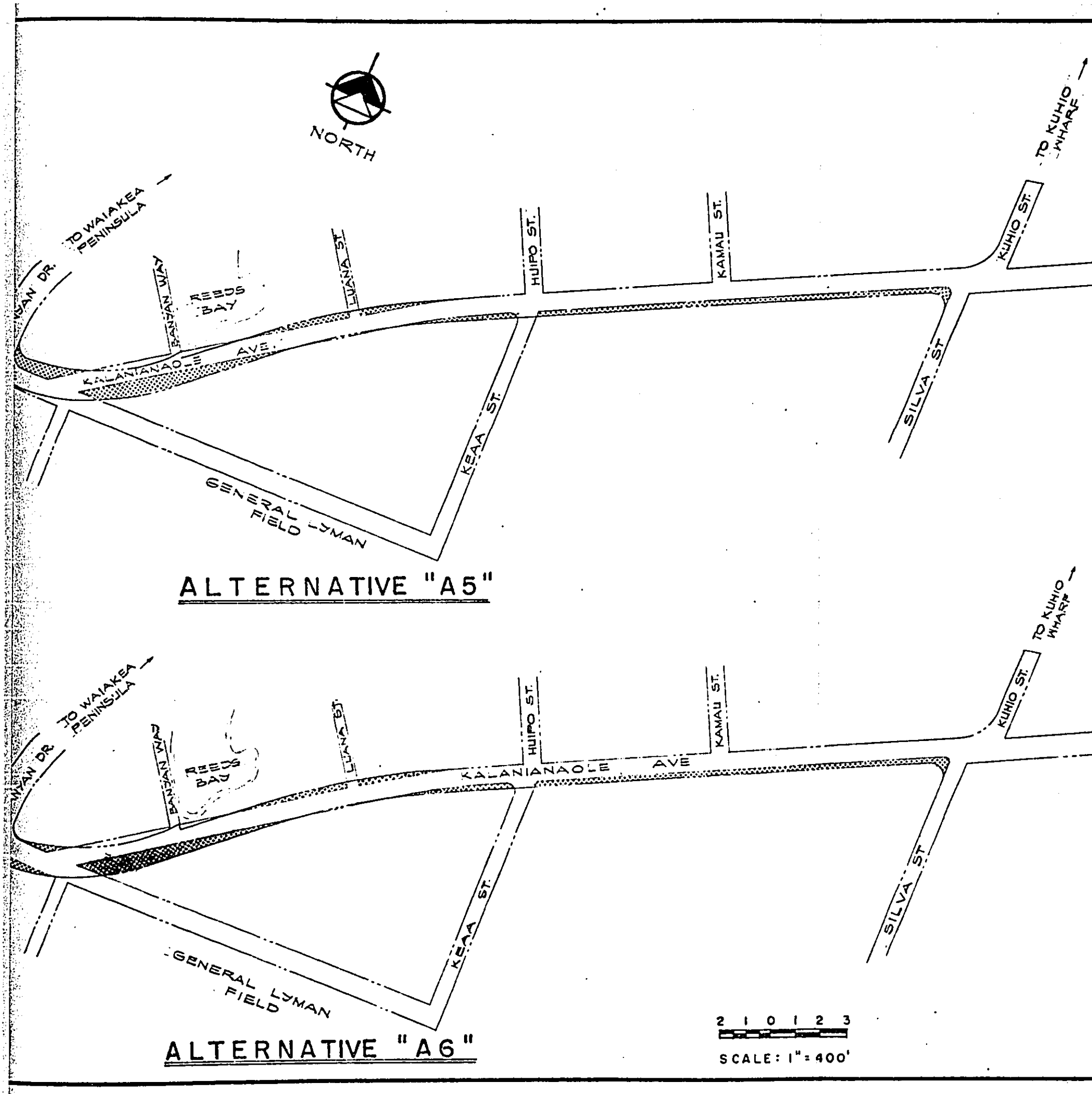
ALTERNATIVE "A3" & "A4"


HILO BAY
HILO BAYFRONT HWY.
KAUEHAVEHA AVE.
WAILOA RIVER
MANONO ST.
LIHIWAI ST.
GOLF COURSE
PROPOSED BUFFER ZONE FOR HOOLULU PARK
KUAWA STREET
HOOLULU PARK
HOOLULU PARK
KALANIKOA ST.
KAMEHAMEHA AVENUE
BANYAN DR.
TO WAIAKEA PENINSULA
BANYAN WAY
KANOELEHUA AVE.
HILO BAY
HILO BAYFRONT HWY.
KAUEHAMEHA AVE.
WAILOA RIVER
LIHIWAI ST.
GOLF COURSE
KAMEHAMEHA AVENUE
MANONO ST.
PROPOSED BUFFER ZONE FOR HOOLULU PARK
KUAWA STREET
HOOLULU PARK
HOOLULU PARK
KALANIKOA ST.
BANYAN DR.
TO WAIAKEA PENINSULA
BANYAN WAY
KANOELEHUA AVE.
HOOLULU PARK


NORTH
TO WAIAKEA PENINSULA
BANYAN DR.
BANYAN WAY
REEDS BAY
LUANA ST.
HUIPO ST.
KAMAU ST.
KUHIO ST.
TO KUHIO WHARF
KALANIANAOLE AVE.
KEAA ST.
SILVA ST.
GENERAL LYMAN FIELD
ALTERNATIVE "A5"
TO WAIAKEA PENINSULA
BANYAN DR.
BANYAN WAY
REEDS BAY
LUANA ST.
HUIPO ST.
KAMAU ST.
KUHIO ST.
TO KUHIO WHARF
KALANIANAOLE AVE
KEAA ST.
SILVA ST.
GENERAL LYMAN FIELD
ALTERNATIVE "A6"
2 1 0 1 2 3
SCALE: 1" = 400'

CORRECTION

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



ALTERNATIVE "A5"

ALTERNATIVE "A6"

2 1 0 1 2 3

SCALE: 1" = 400'

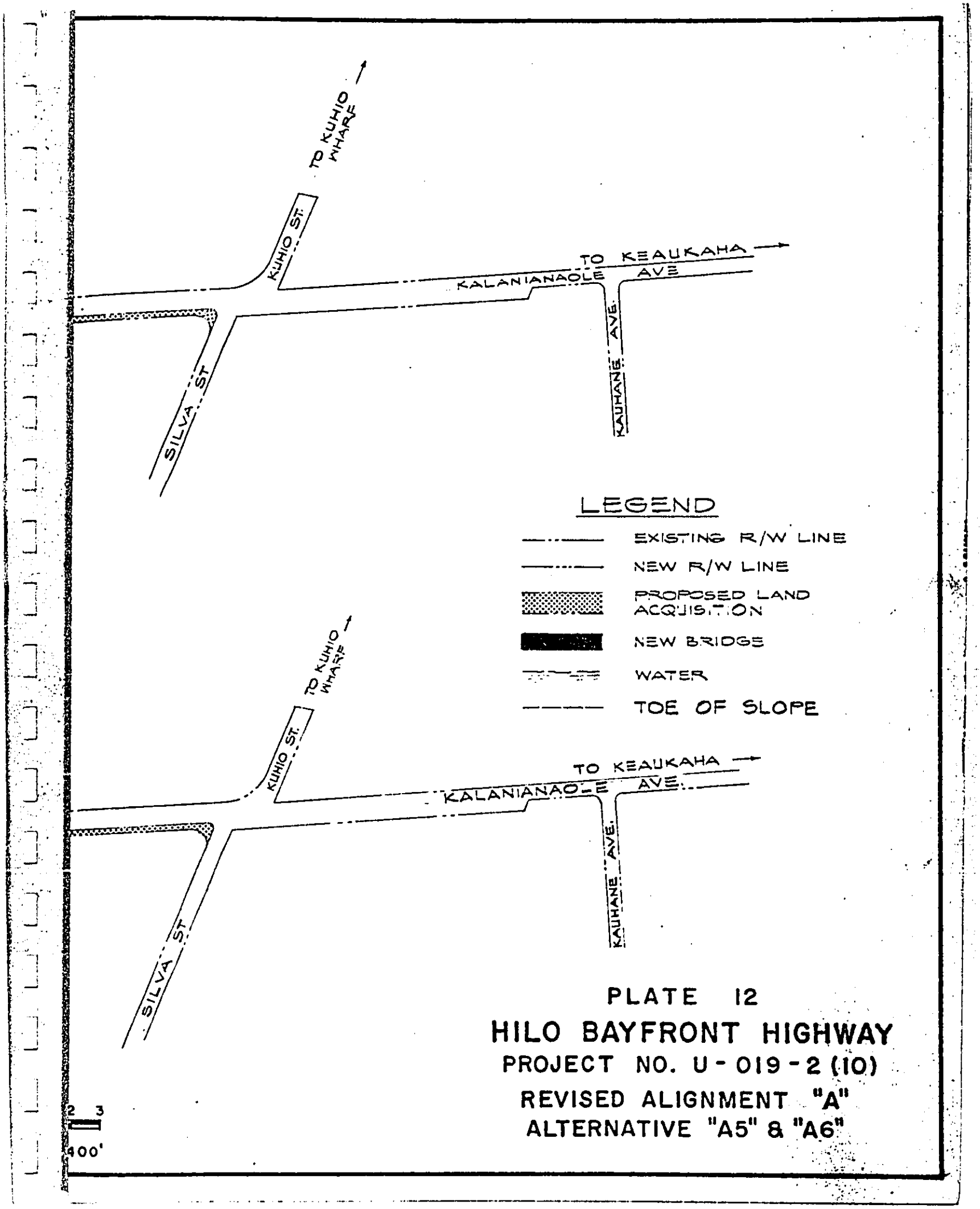


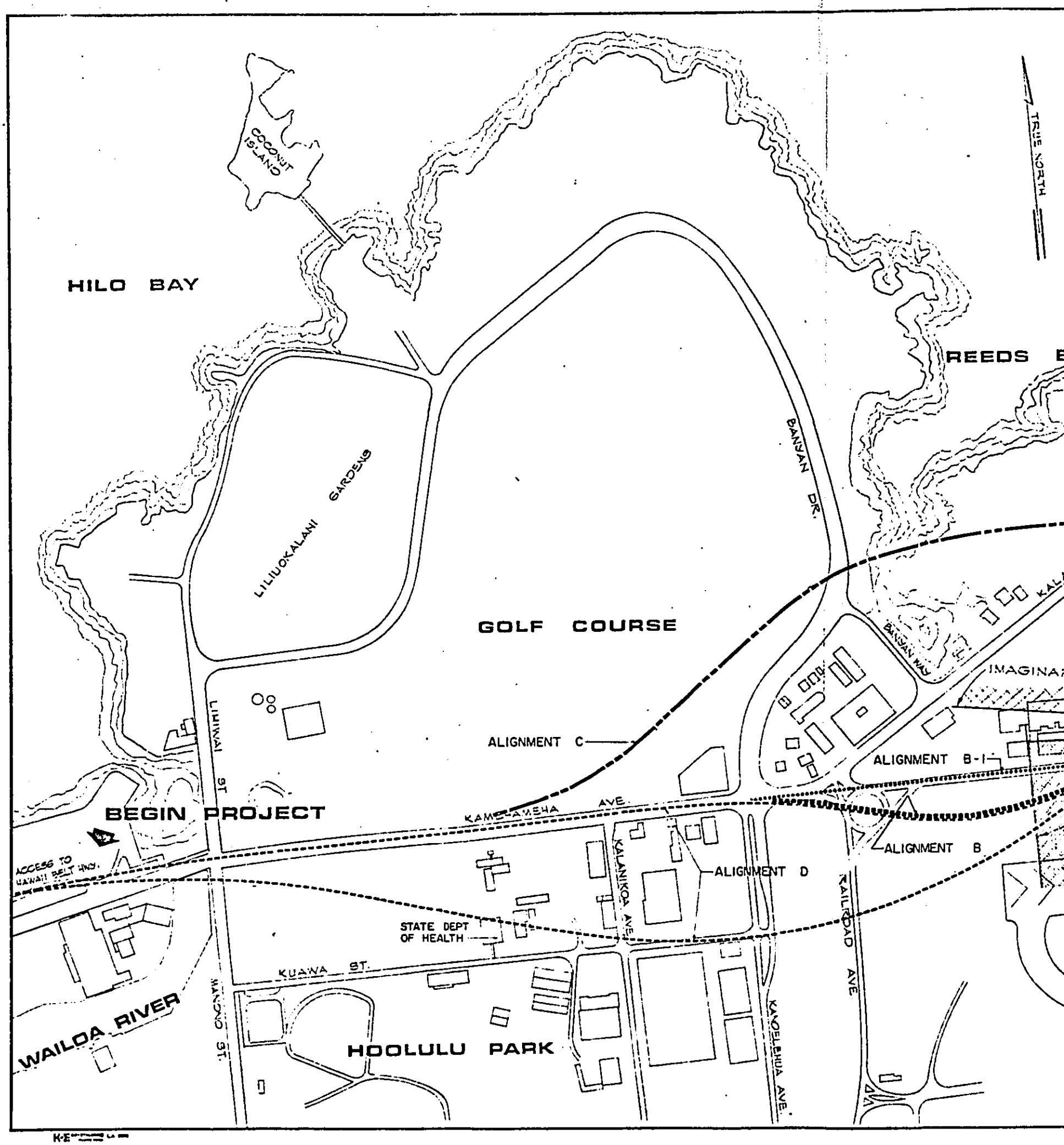
PLATE 12

HILO BAYFRONT HIGHWAY

PROJECT NO. U-019-2(10)

REVISED ALIGNMENT "A"

ALTERNATIVE "A5" & "A6"


TRUE NORTH
HILO BAY
COCONUT ISLAND
LILIUOKALANI GARDENS
BANYAN DR.
REEDS B
GOLF COURSE
BANYAN WAY
IMAGINA
LIHINAI ST.
ALIGNMENT C
ALIGNMENT B-1
BEGIN PROJECT
KAMEHAMEHA AVE.
ALIGNMENT B
ACCESS TO HAWAII BELT HWY.
KALANIKOA AVE.
ALIGNMENT D
RAILROAD AVE
STATE DEPT OF HEALTH
KUAWA ST.
WAILOA RIVER
MAKAHO ST.
HOOLULU PARK
KAMOELEHUA AVE.

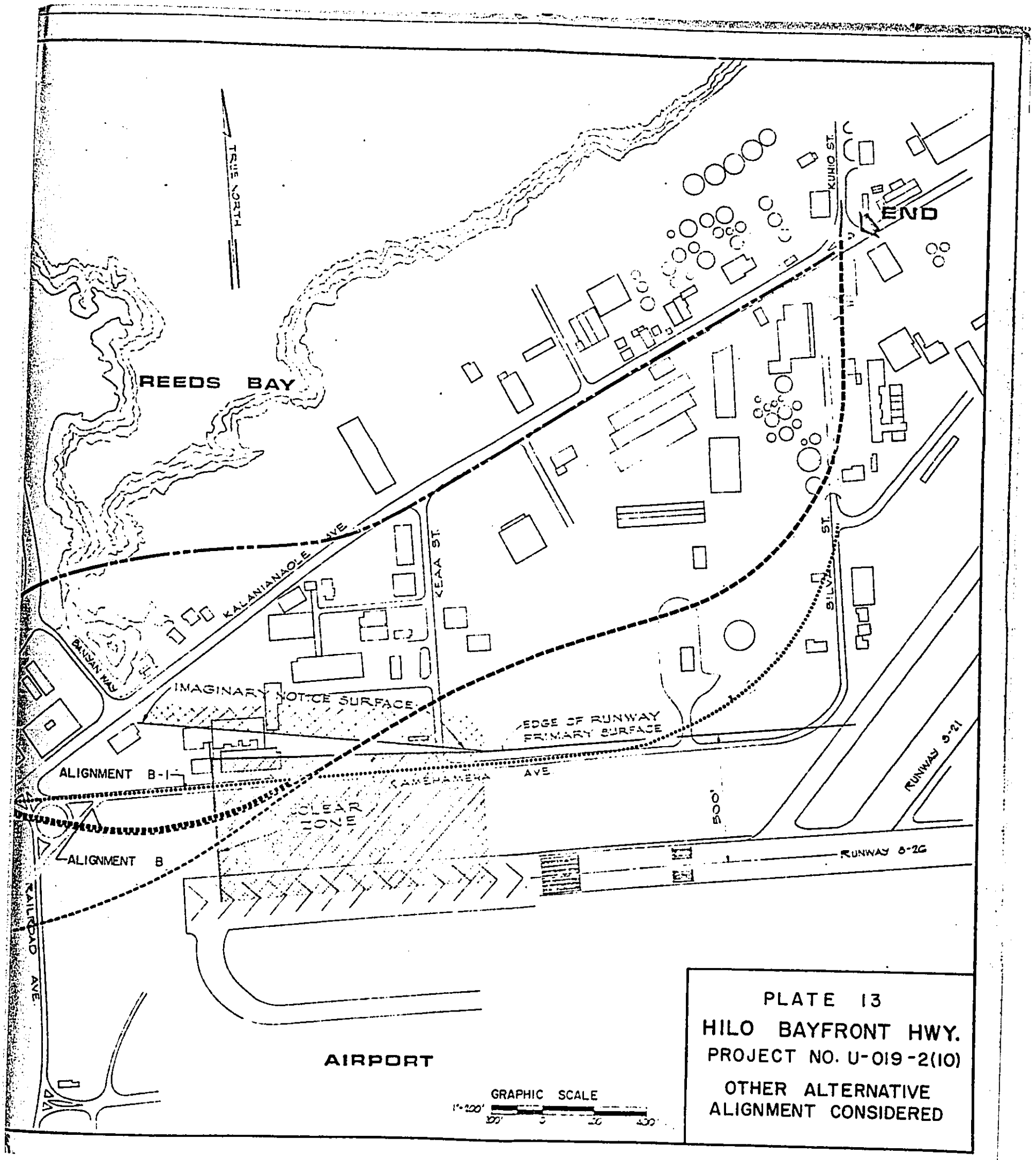


PLATE 13

HILO BAYFRONT HWY.

PROJECT NO. U-019-2(10)

OTHER ALTERNATIVE ALIGNMENT CONSIDERED

Item	Revised A-1	Revised A-2	Revised A-3	Revised A-4	Revised A-5	Revised A-6	Revised B
No. of Private Parcels Affected	30	30	35	37	21	20	22
Area of Private Parcels (Acres)	2.5	2.79	2.12	2.06	1.81	1.71	2.79
No. of Governmental Parcels Affected	24	28	26	28	25	30	18
Area of Governmental Parcels (Acres)	4.36	4.34	4.4	4.24	4.63	4.62	10.24
No. of Business Establishments Affected	18	22	20	24	16	20	17
Total Displacement of Business	13	17	13	17	12	16	15
No. of Employees Affected - Full Time	28	58	28	58	27	57	56
No. of Employees Affected - Part Time	11	24	10	24	11	27	22
Real Estate Tax Revenue Loss	$25,000	$26,200	$24,400	$25,400	$20,500	$22,400	$25,200
No. of Residences Affected	0	0	0	0	0	0	1
Total Displacement of Residences	0	0	0	0	0	0	1
Other (Churches, schools, etc.)	0	0	0	0	0	0	0

PLATE 14
HILO BAYFRONT HWY.
SOCIAL EFFECT.

Description	Revised A-1	Revised A-2	Revised A-3	Revised A-4	Revised A-5	Revised A-6	Revised B
Design Feature							
A. Design Speed MPH	40	40	40	40	40	40	40
B. Maximum Grade	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Affected Rights of Way							
Area (Acres)	6.86	7.13	6.52	6.29	6.44	6.33	13.03
No. of Parcels	54	58	61	65	46	50	40
Cost Estimates							
Construction Cost	4,276,000	4,276,000	4,276,000	4,276,000	4,276,000	4,276,000	4,790,000
Preliminary Engineering	268,000	268,000	268,000	268,000	268,000	268,000	300,000
Right of Way	1,984,800	2,153,500	2,233,000	2,367,500	1,729,900	1,976,900	1,784,500
Total Cost	6,528,800	6,697,500	6,777,000	6,911,500	6,273,900	6,520,900	6,874,500
Annual Cost (7% CRF)	492,400	505,000	511,000	521,100	473,300	491,800	502,400
Annual Road User Cost	3,654,500	3,654,500	3,654,500	3,654,500	3,654,500	3,654,500	3,655,800
Basic Condition (4,959,900)	4,959,900	4,959,900	4,959,900	4,959,900	4,959,900	4,959,900	4,959,900
Annual Road User Saving	1,305,500	1,305,500	1,305,500	1,305,500	1,305,500	1,305,500	1,304,100
Benefit Cost Ratio	2.78	2.70	2.67	2.62	2.90	2.78	2.72

PLATE 15
HILO BAYFRONT HWY.
COMPARISON OF SCHEMES

APPENDIX B REVISED CONCEPTUAL STAGE RELOCATION PROGRAM PLAN

DOT 1027
(Rev. 11/68)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

MEMORANDUM

HWY-RM 3.39834

DATE: 6 -

TO: HWY-PA

FROM: HWY-R

SUBJECT: REVISED CONCEPTUAL STAGE RELOCATION PROGRAM PLAN
HILO BAYFRONT HIGHWAY, PROJECT NO. 19M-01-69

This revised relocation program plan at the conceptual stage, together with attachments (commercial, office, industrial and housing availability survey data), is submitted as requested in your memorandum (HWY-PA 2.17707) of August 14, 1974.

The reasonable validity of this conceptual stage relocation program plan can only be based on the limiting conditions under which the study was made and information obtained. (See Attachment 1). A discussion of our findings and the indications presented thereby, inclusive of relocation problems, if any, and their probable solutions, are presented as follows for each of the various routes under consideration for the subject project:

General Location and Description of the Project Impact Area:

The presently proposed Hilo Bayfront Highway, Project No. 19M-01-69, presents seven (7) alternate route locations situated at Hilo City, South Hilo District, County and Island of Hawaii. More specifically, the project is located within Census Tracts 205 and 206 of the South Hilo District and travels the vicinity of Wailoa Bridge to Kuhio Wharf.

Hilo is the County seat and fourth largest city in the State. Census Tracts 205 and 206 of the South Hilo District, of which Hilo City is a part and within which the project impact area is located, had a combined population of 7,593 and a total of 1,711 families as of April 1, 1970. The median family incomes for Census Tract 205 with 1,104 families and Census Tract 206 with 607 families were $10,804 and $11,444, respectively, as compared to $10,013 for the South Hilo District. Of the total families within Census Tract 205, 86 families (7.8%) had incomes below the poverty level and 14 families (1.3%) had public assistance incomes. There were 47 families (7.7%) with incomes below the poverty level and 8 families (1.3%) with public assistance incomes of the total families within Census Tract 206. In ethnic distribution, the Caucasian, Hawaiian and Japanese groups comprised the largest proportion within Census Tracts 205 and 206. (For population and Ethnic Distribution, see Attachments 2 and 4).

The 1970 Census data for Hawaii County indicated that 25,774 persons, or 60.5% of the population 16 years and over, were in the civilian labor force. Of this total, 2.8% (709 persons) were unemployed. Within the

County, the unemployment rate for the South Hilo District was 2.6% (371 persons), with rates of 3.6% (73 persons) and 2.3% (28 persons) for Census Tracts 205 and 206, respectively. According to the Labor Market Information for Selected Census Tract Combinations, 1973, the civilian labor force (1973 annual average) for South Hilo was 15,000 persons (rounded) of which 13,880 were employed and 1,120 were unemployed, or an unemployment rate of 7.5%. As of July, 1974 (preliminary) the civilian labor force for Hawaii County was 33,300 of which 3,500 persons (10.5%) were unemployed. (For Employment/Unemployment see Attachments 3 and 4).

Based on the 1970 Census, of the 1,930 and 1,181 total workers in Census Tracts 205 and 206, respectively, 73.7% and 69.0% were wage and salaried workers. Of the 1,930 workers in Census Tract 205, the Retail Trade (26.0%), Construction (11.3%), Wholesale Trade (9.2%), and the Personal Services (7.6%) industries employed 54.1% of the total workers, while the leading occupational classes were clerical (21.2%), service (17.1%), craftsmen and foremen (13.4%), operatives (10.6%), and professional and technical (10.4%) workers comprising 72.7% of the workers. Of the 1,181 total workers in Census Tract 206, the Retail Trade (15.2%), Construction (13.8%), Manufacturing (10.4%), Public Administration (9.3%), and Personal Services (8.8%) industries employed 57.5% of all workers, while the leading occupational classes were Service (19.3%), Operatives (15.0%), Clerical (15.6%), and craftsmen and foremen (14.4%) comprising 64.3% of the workers.

Retail Trade, as a single industry, dominated the industry profile in Census Tracts 205 and 206, while Construction, Manufacturing, Personal Services, and Wholesale Trade also had high percentages of workers. Both Census Tracts had high proportions of clerical, service, craftsmen and foremen, operatives, professional and technical, and also, managerial and administrative workers. (For Industry and Occupation, see Attachment 3).

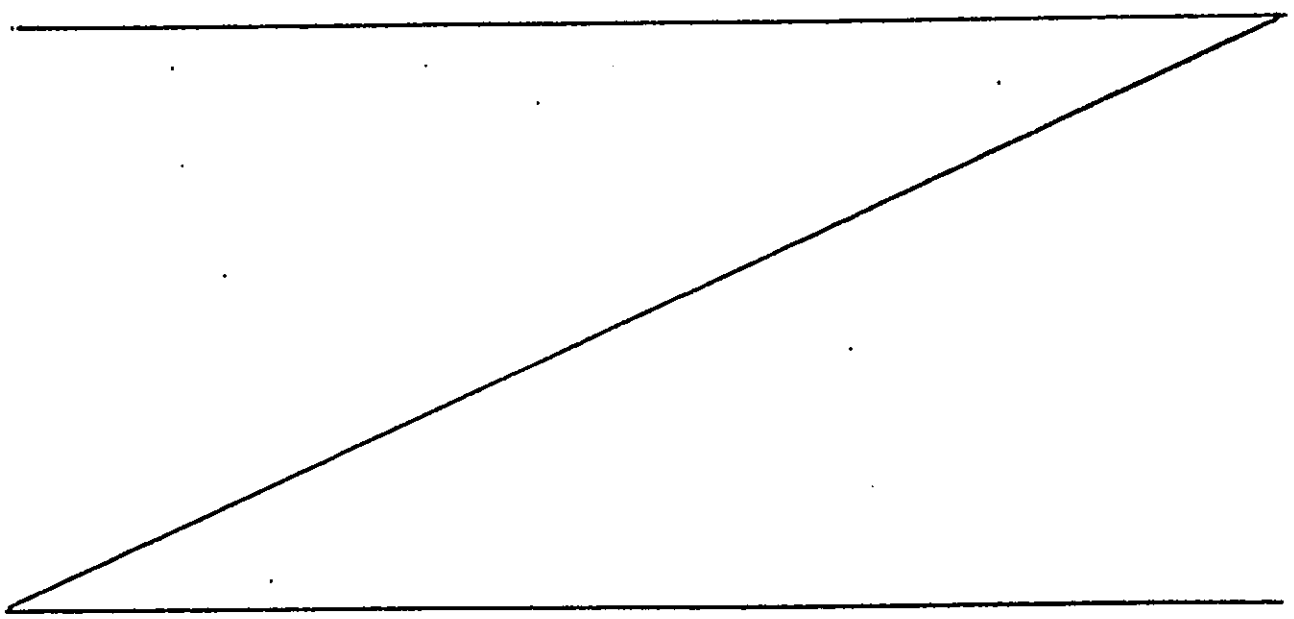
According to the U.S. Census of Housing, 1970, the availability of housing in Hawaii County was 447 vacant, available units (for sales or rent) of 18,972 total housing units. The total housing units in the South Hilo District numbered 7,764 of which 7,525 were all occupied units and 4,768 were owner-occupied units. A housing vacancy survey in Hilo, conducted in the first two months of 1973 by the U.S. Department of Housing and Urban Development, showed a 3.3% vacancy rate, but the survey is not similar to and less accurate than those taken by the Bureau of Census. (For Availability of Housing, see Attachment 5).

Alternates A-1, A-2, A-3, A-4, A-5, and A-6:

General:

Alternates A-1 through A-6 follow a common route from the vicinity of Wailoa Bridge, traveling along Kamehaméha and Kalanianaole Avenue, to Kuhio Wharf. In essence, these six (6) alternate routes will involve the "widening" of either one or both sides along the common, existing corridor (Kamehameha and Kalanianaole Avenues) and will, therefore, have common and/or identical effects on the various business operations along the route. Of the estimated 26 business operations (including 2 rental operations) affected by all the alternates combined, Alternates A-1 through A-6 have identical effects on 11 business operations. The major impact of all alternates will be on the Retail and Service Trade industries.

Alternates A-1, A-2, A-3, A-4, A-5 and A-6 involve the whole- or partial-taking of 54, 58, 61, 65, 46, and 50 parcels of land, respectively, on which an estimated 18, 22, 20, 24, 16, and 20 business operations (including rental operations) are anticipated to be either totally (total displacement) or partially (affected, but presumed that business operation may still continue on site) affected. These alternate routes are not anticipated to displace any individual(s) and/or family(ies), nor any farm operation(s) or nonprofit organization(s). The following list shows the number of parcels, by zoning, affected by either whole- or partial-taking for each alternate route:



ZONING AND NO. OF PARCELS AFFECTED

Alternate	Zoning and Property Taking															Property Taking		
	VS Taking			CN Taking			ML Taking			MG Taking			O Taking			*Whole	*Part	Total No. of Parcels
	Whole	Part	Tot.	Whole	Part	Tot.	Whole	Part	Tot.	Whole	Part	Tot.	Whole	Part	Tot.			
A-1	7	20	27	1	5	6	0	1	1	1	10	11	0	9	9	9	45	54
A-2	4	22	26	6	4	10	0	1	1	1	10	11	0	10	10	11	47	58
A-3	7	20	27	1	5	6	0	1	1	1	17	18	0	9	9	9	52	61
A-4	4	22	26	6	4	10	0	1	1	1	17	18	0	10	10	11	54	65
A-5	7	15	22	1	5	6	0	1	1	0	8	8	0	9	9	8	38	46
A-6	4	17	21	6	4	10	0	1	1	0	8	8	0	10	10	10	40	50
B	0	1	1	6	4	10	0	1	1	8	11	19	0	9	9	14	26	40

Note: * These totals do not correspond with those tallied by the Appraisal Section. The HWY-RM figures includes property, with improvements thereon, affected by the right-of-way and resulting in whole-taking of the improvement and displacement of business, although the property as a whole was not a whole-taking.

LEGEND:

HAWAII COUNTY ZONING ORDINANCE

DISTRICT DESIGNATION	DISTRICT	PERMITTED USES	HEIGHT LIMIT	MINIMUM BUILDING SITE AREA	MINIMUM BUILDING SITE WIDTH	MINIMUM YARDS	OTHER REGULATIONS
V	RESORT-HOTEL						
CO	COMMERCIAL-OFFICE						
CN	NEIGHBORHOOD COMMERCIAL						
CG	GENERAL COMMERCIAL						
CV	VILLAGE COMMERCIAL						
ML	LIMITED INDUSTRIAL						
MG	GENERAL INDUSTRIAL						
O	OPEN		NONE — AS SPECIFIED	NONE — AS PLAN	NONE — APPROVAL OR	NONE — USE PERMIT	

EFFECT ON BUSINESS OPERATIONS

Alternates	Total Displacement or Effect	Partial impact (part of business operation displaced), but presumed business will continue operating on site	Affected, but presumed business activity can continue	Open Storage Area
A-1	13	2	2	1
A-2	17	2	2	1
A-3	13	3	2	2
A-4	17	3	2	2
A-5	12	1	1	2
A-6	16	1		

As presented by the above lists, 13 business operations are anticipated to be displaced from their present site of business activities by Alternates A-1 and A-3, 17 by A-2 and A-4, 12 by A-5, and 16 by A-6. It is our opinion that although a whole or portion of the business activity (such as the taking of a whole or portion of a warehouse, storage structure or office, or a portion of the structure where all or part of the business is conducted) will be affected, 4 business operations along Alternates A-1 and A-2 will be able to continue their operation after the partial-taking, 5 along A-3 and A-4, and 2 along A-5 and A-6. A portion of open storage areas (such as lumber, equipment, and/or auto display and parking areas) of 1 business will be affected by Alternates A-1 and A-2, and 2 businesses by A-3 through A-6, but it is anticipated that the impact will be so minimal as to only cause the shifting of business inventory from within the proposed right-of-way onto the remainder of the business property.

Alternate A-1:

This alternate route involves 54 parcels of land of which 8 are by whole-taking and 46 by partial-taking. An estimated 18 business operations (including 1 rental operation) are anticipated to be affected by this alternate. Of these 18 businesses, 13 business operations are anticipated to be displaced from their present site of business activities, whole or portion of business activity of 4 businesses are affected, but presumed that business activity can continue within present site, and 1 will be required to shift their business inventory within their business properties.

Alternate A-1 will primarily affect Retail and Service Trade concerns causing an anticipated total displacement of 10 such businesses - 5 retail and 5 service concerns. Of the remaining 3 business operations affected by

total impact, 1 transportation service firm, 1 wholesale trade concern and 1 rental operation are anticipated to be displaced. Generally, it is thought that the totally displaced retail and service concerns, aside from being conveniently located and servicing the nearby Waiakea Houselcts, Airport, Waiakea Peninsula hotel and Keaukaha areas, will not have adverse effects upon the Hilo community. This is because similar types of businesses are found at the three shopping areas (Hilo Shopping Center, Kaiko'o Mall, and Downtown Hilo) located in Hilo, which are within 2 miles or 5 minutes drive from the project impact area. Although we do not anticipate adverse effects on the community by the displacement of the 3 remaining business operations, we are inclined to believe that adverse effects will be caused on the businesses themselves, including the retail and service concerns, and probable economic hardship placed on all their employees due to their resultant unemployment, since our survey showed that replacement sites for businesses are very limited. Due to the limited availability of business replacement sites, the relocation and reestablishment of businesses affected will be problematic. With dim hopes of successfully relocating all displaced businesses, the present situation is anticipated to cause the discontinuance of the majority, or all, the displaced businesses.

Of the 4 affected businesses presumed to be able to continue their operation on their present, remainder sites after property acquisition, three are gas and oil storage and distributor companies (Miller Petroleum Company, Union Oil Company of California and Armour Oil Hawaii, Ltd.). Preliminary studies made by Phillips Petroleum Company (see attached letter) reports that they would be unable to relocate their existing facilities on the remainder of their property after a 17 or 33 feet right-of-way acquisition. Either property taking would necessitate the construction of a new warehouse, dock and loading racks more adaptable to the available, remainder property contingent on meeting Federal, State and local regulations and set-back ordinances governing this type of operation, including such factors and restrictions as new street elevations, possible ingress and egress and approach restrictions.

From the contents of Phillips Petroleum Company's preliminary study, it is believed that Miller Petroleum, and the other two gas and oil companies, can continue their operations on their present site (remainder after the taking), although new replacement facilities must be constructed. Although we do not anticipate adverse effects upon the community, we are inclined to believe that some adverse effect will be placed on the three gas and oil companies by the 20-foot property taking as the construction of new facilities would be necessary. However, unless continuous operation can be maintained by these companies during the acquisition and construction phases of the project, there may be a slight adverse effect on the community through the chain of events, from the autoing public (consumer) to service

stations (as businesses, competitors and suppliers of gas) to the petroleum companies (as business competitors and suppliers), occurring from the temporary shutdown of operations of one, some or all the companies.

Brewer Chemical Corporation is the fourth business operation presumed to be able to continue their operation on the remainder area after property acquisition, as this alternate route will only affect warehouse and storage areas. However, from our visual inspection of the premises one year ago, it is our belief that Brewer Chemical is presently obtaining the highest and best use of their property and this alternate route will adversely affect the company itself from the standpoint of a lack of available space within their property to relocate, or construct, the warehouse and storage structures affected by this alternate.

Alternate A-2:

This alternate route involves 58 parcels of land of which 8 are by whole-taking and 50 by partial-taking. An estimated 22 business operations (including 2 rental operations) are anticipated to be affected by this alternate. Of these 22 businesses, 17 business operations are anticipated to be displaced from their present site of business activities, 4 will have a portion of their business operation or activity either displaced or affected, but presumed that the business operation or activity will be able to continue within present, remainder site, and 1 will be required to shift their business inventory from the proposed right-of-way onto and within their remainder business properties.

Alternate A-2 will primarily affect Retail and Service Trade concerns causing an anticipated total displacement of 13 such businesses - 7 retail and 6 service concerns. Generally, it is thought that the totally displaced retail and service concerns, aside from being conveniently located and servicing the nearby Waiakea Houselots, Airport, Waiakea Peninsula hotel and Keaukaha areas will not have adverse effects upon the Hilo community. This is because similar types of businesses are found at the three shopping areas (Hilo Shopping Center, Kaiko'o Mall, and Downtown Hilo) located in Hilo, which are within 2 miles or 5 minutes drive from the project impact area.

Of the remaining 4 business operations affected by total impact, 1 transportation service firm, 1 wholesale trade concern and 2 rental operations are anticipated to be displaced. Although we do not anticipate adverse effects on the community by the displacement of these 4 remaining business operations, we are inclined to believe that adverse effects will be placed upon the businesses themselves, including the retail and service

concerns, and probable economic hardship placed on all their employees due to their resultant unemployment, since our survey showed that replacement sites for businesses are very limited. Due to the limited availability of business replacement sites, the relocation and reestablishment of businesses affected will be problematic. With dim hopes of successfully relocating all displaced businesses, the present situation is anticipated to cause the discontinuance of the majority, or all, the displaced businesses.

Of the 4 affected businesses presumed to be able to continue their operation on their present, remainder sites after property acquisition, three are gas and oil storage and distributor companies (Miller Petroleum Company, Union Oil Company of California and Armour Oil Hawaii, Ltd.). Preliminary studies made by Phillips Petroleum Company (see attached letter) reports that they would be unable to relocate their existing facilities on the remainder of their property after a 17 or 33 feet right-of-way acquisition. Either property taking would necessitate the construction of a new warehouse, dock and loading racks more adaptable to the available, remainder property contingent on meeting Federal, State and local regulations and set-back ordinances governing this type of operation, including such factors and restrictions as new street elevations, possible ingress and egress and approach restrictions.

From the contents of Phillips Petroleum Company's preliminary study, it is believed that Miller Petroleum, and the other two gas and oil companies, can continue their operations on their present site (remainder after the taking), although new replacement facilities must be constructed. Although we do not anticipate adverse effects upon the community, we are inclined to believe that some adverse effect will be placed on the three gas and oil companies by the 20-foot property taking as the construction of new faciliites would be necessary. However, unless continuous operation can be maintained by these companies during the acquisition and construction phases of the project, there may be a slight adverse effect on the community through the chain of events, from the autoing public (consumer) to service stations (as businesses, competitors and suppliers of gas) to the petroleum companies (as business competitors and suppliers), occurring from the temporary shutdown of operations of one, some or all the companies.

Brewer Chemical Corporation is the fourth business operation presumed to be able to continue their operation on the remainder area after property acquisition, as this alternate route will only affect warehouse and storage areas. However, from our visual inspection of the premises one year ago, it is our belief that Brewer Chemical is presently obtaining the highest and best use of their property and this alternate route will adversely affect the company itself from the standpoint of a lack of available space within their property to relocate, or construct, the warehouse and storage structures affected by this alternate.

Alternate A-3:

This alternate route involves 61 parcels of land of which 8 are by whole-taking and 53 by partial-taking. An estimated 20 business operations (including 1 rental operation) are anticipated to be affected by this alternate. Of these 20 businesses, 13 business operations are anticipated to be displaced from their present site of business activities, 5 will have a portion of their business operation or activity either displaced or affected, but presumed that the business operation or activity will be able to continue within present, remainder site, and 2 will be required to shift their business inventory from the proposed right-of-way onto and within their remainder business properties.

Alternate A-3 will primarily affect Retail and Service Trade concerns causing an anticipated total displacement of 10 such businesses - 5 retail and 5 service concerns. Generally, it is thought that the totally displaced retail and service concerns, aside from being conveniently located and servicing the nearby Waiakea Houselots, Airport, Waiakea Peninsula hotel and Keaukaha areas will not have adverse effects upon the Hilo community. This is because similar types of businesses are found at the three shopping areas (Hilo Shopping Center, Kaiko'o Mall, and Downtown Hilo) located in Hilo, which are within 2 miles or 5 minutes drive from the project impact area.

Of the remaining 3 business operations affected by total impact, 1 transportation service firm, 1 wholesale trade concern and 1 rental operation are anticipated to be displaced. Although we do not anticipate adverse effects on the community by the displacement of these 3 remaining business operations, we are inclined to believe that adverse effects will be placed upon the businesses themselves, including the retail and service concerns, and probable economic hardship placed on all their employees due to the resultant unemployment, since our survey showed that replacement sites for businesses are very limited. Due to the limited availability of business replacement sites, the relocation and reestablishemnt of businesses affected will be problematic. With dim hopes of successfully relocating all displaced businesses, the present situation is anticipated to cause the discontinuance of the majority, or all, the displaced businesses.

Of the 5 affected businesses presumed to be able to continue their operation on their present, remainder sites after property acquisition, three are gas and oil storage and distributor companies (Union Oil Company of California, Armour Oil Hawaii, Ltd. and Standard Oil Company of California). As best determined, Alternate A-3's 10-foot property taking is anticipated to affect loading racks of two companies (Union Oil and Standard Oil) and a

combination office and warehouse (Armour Oil). It is believed that the three gas and oil companies can continue their operations on their present site (remainder after the taking), although replacement facilities must be constructed. However, the construction of replacement facilities more adaptable to the available, remainder property would be contingent on meeting Federal, State and local regulations and set-back ordinances governing this type of operation, including such factors and restrictions as new street elevations, possible ingress and egress and approach restrictions.

Although we do not anticipate adverse effects upon the community, we are inclined to believe that some adverse effect will be placed on the three gas and oil companies by the 10-foot property taking as the construction of new facilities would be necessary. However, unless continuous operation can be maintained by these companies during the acquisition and construction phases of the project, there may be a resultant adverse effect on the community through the chain of events, from the autoing public (consumer) to service stations (as businesses, competitors and suppliers of gas) to the petroleum companies (as business competitors and suppliers), occurring from the temporary shutdown of operation of one, some or all the companies.

Brewer Chemical Corporation is the fourth business operation presumed to be able to continue their operation on the remainder area after property acquisition, as this alternate route will only affect warehouse and storage areas. However, from our visual inspection of the premises one year ago, it is our belief that Brewer Chemical is presently obtaining the highest and best use of their property and this alternate route will adversely affect the company itself from the standpoint of a lack of available space within their property to relocate, or construct, the warehouse and storage structures affected by this alternate.

Island Marketing Inc., a subsidiary of Theo. H. Davis & Co., Ltd., is the remaining business operation presumed to be able to continue its operation on the remainder area after property acquisition. This alternate route will cause the displacement of a portion of the business operation (a combination office and warehouse building), but it appears that Island Marketing will be able to relocate, or construct, the same facility elsewhere on its expansive property.

Alternate A-4:

This alternate route involves 65 parcels of land of which 8 are by whole-taking and 57 by partial-taking. An estimated 24 business operations (including 2 rental operations) are anticipated to be affected by this alternate. Of these 24 businesses, 17 business operations are anticipated

to be displaced from their present site of business activities, 5 will have a portion of their business operation or activity either displaced or affected, but presumed that the business operation or activity will be able to continue within present, remainder site, and 2 will be required to shift their business inventory from the proposed right-of-way onto and within their remainder business properties.

Alternate A-4 will primarily affect Retail and Service Trade concerns causing an anticipated total displacement of 13 such businesses - 7 retail and 6 service concerns. Generally, it is thought that the totally displaced retail and service concerns, aside from being conveniently located and servicing the nearby Waiakea Houselots, Airport, Waiakea Peninsula hotel and Keaukaha areas will not have adverse effects upon the Hilo community. This is because similar types of businesses are found at the three shopping areas (Hilo Shopping Center, Kaiko'o Mall, and Downtown Hilo) located in Hilo, which are within 2 miles or 5 minutes drive from the project impact area.

Of the remaining 4 business operations affected by total impact, 1 transportation service firm, 1 wholesale trade concern and 2 rental operations are anticipated to be displaced. Although we do not anticipate adverse effects on the community by the displacement of these 4 remaining business operations, we are inclined to believe that adverse effects will be placed upon the businesses themselves, including the retail and service concerns, and probable economic hardship placed on all their employees due to the resultant unemployment, since our survey showed that replacement sites for businesses are very limited. Due to the limited availability of business replacement sites, the relocation and reestablishment of businesses affected will be problematic. With dim hopes of successfully relocating all displaced businesses, the present situation is anticipated to cause the discontinuance of the majority, or all, the displaced businesses.

Of the 5 affected businesses presumed to be able to continue their operation on their present, remainder sites after property acquisition, three are gas and oil storage and distributor companies (Union Oil Company of California, Armour Oil Hawaii, Ltd. and Standard Oil Company of California). As best determined, Alternate A-4's 10-foot property taking is anticipated to affect loading racks of two companies (Union Oil and Standard Oil) and a combination office and warehouse (Armour Oil). It is believed that the three gas and oil companies can continue their operations on their present site (remainder after the taking), although replacement facilities must be constructed. However, the construction of replacement facilities more adaptable to the available, remainder property would be contingent on meeting Federal, State and local regulations and set-back ordinances governing this type of operation, including such factors and restrictions as new street elevations, possible ingress and egress and approach restrictions.

Although we do not anticipate adverse effects upon the community, we are inclined to believe that some adverse effect will be placed on the three gas and oil companies by the 10-foot property taking as the construction of new facilities would be necessary. However, unless continuous operation can be maintained by these companies during the acquisition and construction phases of the project, there may be a resultant adverse effect on the community through the chain of events, from the autoing public (consumer) to service stations (as businesses, competitors and suppliers of gas) to the petroleum companies (as business competitors and suppliers), occuring from the temporary shutdown of operation of one, some or all the companies.

Brewer Chemical Corporation is the fourth business operation presumed to be able to continue their operation on the remainder area after property acquisition, as this alternate route will only affect warehouse and storage areas. However, from our visual inspection of the premises one year ago, it is our belief that Brewer Chemical is presently obtaining the highest and best use of their property and this alternate route will adversely affect the company itself from the standpoint of a lack of available space within their property to relocate, or construct, the warehouse and storage structures affected by this alternate.

Island Marketing Inc., a subsidiary of Theo. H. Davis & Co., Ltd., is the remaining business operation presumed to be able to continue its operation on the remainder area after property acquisition. This alternate route will cause the displacement of a portion of the business operation (a combination office and warehouse building), but it appears that Island Marketing will be able to relocate, or construct, the same facility elsewhere on its expansive property.

Alternate A-5:

This alternate route involves 46 parcels of land of which 7 are by whole-taking and 39 by partial-taking. An estimated 16 business operations (including 1 rental operation) are anticipated to be affected by this alternate. Of these 16 businesses, 12 business operations are anticipated to be displaced from their present site of business activities, 2 will have a portion of their business operation or activity either displaced or affected, but presumed that the business operation or activity will be able to continue within present, remainder site, and 2 will be required to shift their business inventory from the proposed right-of-way onto and within their remainder business properties.

Alternate A-5 will primarily affect Retail and Service Trade concerns causing an anticipated total displacement of 9 such businesses - 5 retail and 4 service concerns. Generally, it is thought that the totally displaced retail and service concerns, aside from being conveniently located and

servicing the nearby Waiakea Houselots, Airport, Waiakea Peninsula hotel and Keaukaha areas will not have adverse effects upon the Hilo community. This is because similar types of businesses are found at the three shopping areas (Hilo Shopping Center, Kaiko'o Mall, and Downtown Hilo) located in Hilo, which are within 2 miles or 5 minutes drive from the project impact area.

Of the remaining 3 business operations affected by total impact, 1 transportation service firm, 1 wholesale trade concern and 1 rental operation are anticipated to be displaced. Although we do not anticipate adverse effects on the community by the displacement of these 3 remaining business operations, we are inclined to believe that adverse effects will be placed upon the businesses themselves, including the retail and service concerns, and probable economic hardship placed on all their employees due to the resultant unemployment, since our survey showed that replacement sites for businesses are very limited. Due to the limited availability of business replacement sites, the relocation and reestablishment of businesses affected will be problematic. With dim hopes of successfully relocating all displaced businesses, the present situation is anticipated to cause the discontinuance of the majority, or all, the displaced businesses.

Of the 2 affected businesses presumed to be able to continue their operation on their present, remainder sites after property acquisition, one is a gas and oil storage and distributor company (Standard Oil Company of California). As best determined, Alternate A-5's 20-foot property taking is anticipated to affect only the loading racks of Standard Oil. It is believed that Standard Oil can continue its operation on its present site (remainder after the taking), although replacement facilities must be constructed. However, the construction of replacement facilities more adaptable to the available, remainder property would be contingent on meeting Federal, State and local regulations and set-back ordinances governing this type of operation, including such factors and restrictions as new street elevations, possible ingress and egress and approach restrictions.

Inasmuch as this alternate route will affect only one gas and oil company, we do not anticipate any adverse effect on the community. However, unless Standard Oil can maintain continuous operation during the acquisition and construction phases of the project, and during its construction of replacement facilities, the company may be placed at a disadvantage in competing with the other three gas and oil companies and supplying its service stations, and the autoing public with fuel.

Island Marketing Inc., a subsidiary of Theo. H. Davis & Co., Ltd., is the remaining business operation presumed to be able to continue its operation on the remainder area after property acquisition. This alternate route

will cause the displacement of a portion of the business operation (a combination office and warehouse building), but it appears that Island Marketing will be able to relocate, or construct, the same facility elsewhere on its expansive property.

Alternate A-6:

This alternate route involves 50 parcels of land of which 7 are by whole-taking and 43 by partial-taking. An estimated 20 business operations (including 2 rental operations) are anticipated to be affected by this alternate. Of these 20 businesses, 16 business operations are anticipated to be displaced from their present site of business activities, 2 will have a portion of their business operation or activity either displaced or affected, but presumed that the business operation or activity will be able to continue within present, remainder site, and 2 will be required to shift their business inventory from the proposed right-of-way onto and within their remainder business properties.

Alternate A-6 will primarily affect Retail and Service Trade concerns causing an anticipated total displacement of 12 such businesses - 7 retail and 5 service concerns. Generally, it is thought that the totally displaced retail and service concerns, aside from being conveniently located and servicing the nearby Waiakea Houselots, Airport, Waiakea Peninsula hotel and Keaukaha areas will not have adverse effects upon the Hilo community. This is because similar types of businesses are found at the three shopping areas (Hilo Shopping Center, Kaiko'o Mall, and Downtown Hilo) located in Hilo, which are within 2 miles or 5 minutes drive from the project impact area.

Of the remaining 4 business operations affected by total impact, 1 transportation service, 1 wholesale trade concern and 2 rental operations are anticipated to be displaced. Although we do not anticipate adverse effects on the community by the displacement of these 4 remaining business operations, we are inclined to believe that adverse effects will be placed upon the businesses themselves, including the retail and service concerns, and probable economic hardship placed on all their employees due to the resultant unemployment, since our survey showed that replacement sites for businesses are very limited. Due to the limited availability of business replacement sites, the relocation and reestablishment of businesses affected will be problematic. With dim hopes of successfully relocating all displaced businesses, the present situation is anticipated to cause the discontinuance of the majority, or all, the displaced businesses.

Of the 2 affected businesses presumed to be able to continue their operation on their present, remainder sites after property acquisition, one is a gas and oil storage and distributor company (Standard Oil Company of California). As best determined, Alternate A-6's 20-foot property taking is anticipated to affect only the loading racks of Standard Oil. It is

believed that Standard Oil can continue its operation on its present site (remainder after the taking), although replacement facilities must be constructed. However, the construction of replacement facilities more adaptable to the available, remainder property would be contingent on meeting Federal, State and local regulations and set-back ordinances governing this type of operation, including such factors and restrictions as new street elevations, possible ingress and egress and approach restrictions.

Inasmuch as this alternate route will affect only one gas and oil company, we do not anticipate any adverse effect on the community. However, unless Standard Oil can maintain continuous operation during the acquisition and construction phases of the project, and during its construction of replacement facilities, the company may be placed at a disadvantage in competing with the other three gas and oil companies and supplying its service stations, and the autoing public with fuel.

Island Marketing Inc., a subsidiary of Theo. H. Davis & Co., Ltd., is the remaining business operation presumed to be able to continue its operation on the remainder area after property acquisition. This alternate route will cause the displacement of a portion of the business operation (a combination office and warehouse building), but it appears that Island Marketing will be able to relocate, or construct, the same facility elsewhere on its expansive property.

Alternate B:

Alternate B, as with Alternates A-1 through A-6, extends from the vicinity of Wailoa Bridge to Kuhio Wharf, but the route location of this alternate creates a new corridor, different from that of the other alternates. Alternate B extends from the vicinity of Wailoa Bridge, traveling along Kamehameha Avenue and Silva Street, to Kuhio Wharf.

This alternate route involves the whole- or partial-taking of 11 and 29 parcels of land, respectively, on which an estimated 17 business operations (including rental operations) are anticipated to be either totally (total displacement) or partially (affected, but presumed that business operation or activity may still continue on site) affected. Alternate B is also anticipated to displace four (4) unrelated individuals (tenant-occupants) occupying the one (1) single family dwelling affected by this alternate route. No family(ies), farm operation(s) or nonprofit organization(s) are anticipated to be displaced by this alternate.

An estimated 4 individuals (unrelated, tenant-occupants) and 17 business operations (including 3 rental operations) are anticipated to be affected by this alternate route. Of the 21 individuals and businesses affected by Alternate B, the 4 individuals and 15 businesses (including 3 rental operations) are anticipated to be displaced from their residence or present site of business activities. Open storage areas of the remaining 2 business properties will require the shifting of business inventory from the proposed right-of-way onto and within their remainder business properties.

This alternate route will primarily affect Retail and Service Trade concerns causing the total displacement of 10 such businesses - 6 retail and 4 service concerns. Generally, it is thought that the totally displaced retail and service concerns, aside from being conveniently located and servicing the nearby Waiakea Houselots, Airport, Waiakea Peninsula hotel and Keaukaha areas, will not have adverse effects upon the Hilo community. This is because similar types of businesses are found at the three shopping areas (Hilo Shopping Center, Kaiko'o Mall, and Downtown Hilo) located in Hilo, which are within 2 miles or 5 minutes drive from the project impact area.

Of the remaining 5 business operations affected by total impact, 1 transportation service firm, 1 wholesale trade concern and 3 rental operations are anticipated to be displaced. Although we do not anticipate adverse effects on the community by the displacement of these 5 remaining business operations, we are inclined to believe that adverse effects will be placed upon the businesses themselves, including the retail and service concerns, and probable economic hardship placed on all employees due to their resultant unemployment, since our survey showed that replacement sites for businesses are very limited. Due to the limited availability of business replacement sites, the relocation and reestablishment of businesses affected will be problematic. With dim hopes of successfully relocating all displaced businesses, the present situation is anticipated to cause the discontinuance of the majority, or all, the displaced businesses.

The only residential property affected by Alternate B is a single-family dwelling with 4-bedrooms, 1 1/2 baths upstairs and an efficiency unit in the basement. This dwelling unit is presently occupied by 4 individuals (tenant-occupants presumed sharing the 4-bedroom, upstairs portion). It was learned that the 4 individuals are composed of 4 unrelated male construction workers. Indications are that one of the male occupants is the prime tenant and collects the pro-rata share of the monthly rental from the other three occupants.

It appears, and was indicated a year ago, that this income property is utilized on a short-term tenancy basis. This is evident in the change of composition of tenants during the one year period from September, 1973 to October, 1974. It should also be noted that this property was listed for

sale as MLS No. HI003274 in the Multiple Listing Service's Volumes 35 to 39, dated September 2 through 30, 1974.

Generally, it is thought that problems will not be encountered in the relocation of the individuals to be displaced by this alternate. It appears and is presumed that the 4 individuals have permanent residences elsewhere, but are temporarily quartered at 77 Silva Street due to their construction jobs.

An availability study of rental and purchase dwellings or units indicates that there are available rental units (studio to 3-bedrooms) ranging from $150 to $350 a month. There were 61 units available for rent and 19 units available for purchase with asking prices ranging from $26,500 to $85,000. Attached is the housing availability data, Attachment 6.

Our inquiry at the Hawaii Housing Authority showed that there were no Federally-aided low-rent housing, State Permanent housing, nor Federally-aided leased housing presently available in Hilo. Multi-family rental projects and FHA-owned properties presently available for rent are as follows: 6 1-bedroom units ($123 - 260/mo.); 69 2-bedroom ($151 - 300/mo.); and 3 4-bedroom ($173 - 291/mo.).

The rental and purchase replacement housing studies indicate that there are available units to be rented or purchased within the proximity of the project area and therefore, there appears to be no anticipated difficulty in relocating the displaced individuals to decent, safe and sanitary replacement housing.

Conclusion:

As presented by the foregoing discussions on each of the 7 alternate routes, all the alternates will affect businesses only with the exception of Alternate B, which will cause the displacement of 4 individuals (tenant-occupants) from the only dwelling unit affected by any of the alternates.

The 7 alternate routes will affect 16 to 24 businesses (including rental operations) with the displacement of 12 to 17 of these businesses. All alternates will have varying degrees of socio-economic impact on the displaced businesses and their employees as evidenced by the limited availability of business properties to which these displaced businesses can relocate and reestablish their business activities.

Inasmuch as there is a general lack of business properties and spaces to which the displaced businesses can relocate to, it is our recommendation that Alternate A-5 be considered the ultimate route due its lesser impact

as to the number of businesses affected (16) and displaced (12). Furthermore, Alternate A-5 is one of two alternates that will only affect one (1) gas and oil company and not affect the warehouse and storage structures of Brewer Chemical Corporation.

The indications provided by our study are applicable as of the present and under the limiting conditions previously set forth. Future surveys might indicate otherwise at such point in time.

When the project location is established and should an alternate be selected which will require the relocation of individuals and/or families, such as Alternate B, a relocation plan at the right-of-way stage will be prepared which will analyze in detail the availability of business properties and replacement housing for rent or sale.

Relocation Assistance:

All Federally-aided highway programs must comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The State of Hawaii has appropriate enabling legislation and the State Department of Transportation also has an organization equipped and staffed to administer a relocation assistance program in accordance with the Federal law.

A. Individuals and/or Families:

An examination of the Federal law as well as the State program which is described in the Relocation Advisory Assistance and Relocation Payments brochure attached herewith, reveals that certain statutory limits exist with respect to replacement housing payments that can be made to tenant- or owner-occupant displacees. Under the typical relocation assistance program, a displaced tenant will be eligible for up to a maximum of $4,000 which can be paid in lump sum or in annual installments at the discretion of the displacee. This maximum amount of $4,000, in actuality, would be equivalent to a rental subsidy of $83.33 per month over a period of four years. In the case of an owner-occupant, a lump sum payment of up to $15,000 can be made to enable him to purchase a comparable decent, safe and sanitary replacement dwelling. These payments are in addition to moving payments and other services to which a relocatee is entitled to receive.

The above benefit maximums sometimes are insufficient to accommodate the satisfactory relocation of individuals and/or families displaced by public projects because of the scarcity of rentals and the high cost of "for sale" homes in a designated project area. State and Federal regulations

require that a displaced person must be relocated within his financial means. In other words, a tenant-occupant must be relocated so that the replacement housing unit to which he relocates will not increase his "out of pocket" costs in terms of rent, over and above the amount that he actually paid for his rent at the affected property, considering the additional payments received from his replacement housing payments.

The treatment of owner-occupants is similar to that of the tenant-occupant, although the payment is made on a lump sum basis to enable him to purchase a replacement housing unit comparable to that which he had previously occupied, and therefore, be no worse off financially in terms of housing costs than he was before.

Based upon this conceptual relocation study made for this project, Alternate B is the only one of the 7 alternates that will displace individuals and it is anticipated that there will be no problems encountered in relocating the 4 individuals should this alternate be selected, as present survey shows a more than adequate supply of rental units.

Indications are that the procedure called "Replacement Housing as Last Resort", Section 206(a), of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, will not be necessary and utilized as it is anticipated that the displaced persons can be satisfactorily relocated to comparable replacement housing that will be within their financial means. However, if the statutory requirements in providing the maximum replacement housing payments to satisfactorily relocate the displaced persons is exceeded, this increase in relocation payments beyond the maximum allowed is provided by law under Last Resort Housing.

There are various alternatives that can be used under Section 206(a), such as:

1. Purchase land and/or existing dwellings.
2. Rehabilitate existing dwellings.
3. Relocate and if necessary, refurbish or rehabilitate dwellings purchased by the State for right-of-way purposes.
4. Construct new dwellings.

All of these alternatives are accomplished under the auspices of the State highway agency and such housing can be either rented or sold to the displacee. It is our responsibility to provide the same ownership or tenancy status which the displacee had prior to his displacement. However, we are not obligated to provide a dwelling that will change the ownership or tenancy status of the relocatee unless such a replacement dwelling is available or can be provided more economically.

In addition, the replacement housing payment can be increased beyond the statutory limits to allow the displaced person - owner or tenant - to

purchase or rent a dwelling beyond the maximum allowed, but within his financial means.

Federal and State procedures also have additional safeguards in the sense that construction cannot be authorized to begin on any project until such time that all displacees have been satisfactorily relocated to comparable decent, safe and sanitary replacement housing within their financial means or that such housing is in place and has been made available to the relocatee.

B. Businesses, Farms and Non-Profit Organizations:

Our relocation assistance program contains no mandate to furnish comparable quarters, facilities or location for displaced businesses, farms or non-profit organizations. Nevertheless, several elements of the State's assistance program for this type of relocatee are worthy of mention as follows:

1. Actual reasonable moving costs up to 50 miles will be paid.
2. Actual reasonable expenses in searching for a replacement business can be reimbursed.
3. In lieu of items 1 and 2 above, a payment equal to the average annual net earnings of the business not to exceed $10,000 can be paid if the business is discontinued or cannot be relocated without a substantial loss of existing patronage.
4. Benefits of the small business disaster loan program under Section 7(b)(3) of the Small Business Act (15 U.S.C. 636(b)(3)) may be available to eligible businesses displaced because of a highway project. As of July 9, 1973, loans up to 30 years at 5 3/8% per annum would be available to eligible business relocatees and to those businesses outside of the project (but not displaced) where substantial economic injury results because of the highway project.
5. State relocation advisory services are available.

Inasmuch as all 7 alternate routes primarily affect and/or displace businesses, strong indications are that the "in lieu of" moving cost payment program will be very important in the administration of relocation on this project, particularly in the case of small businesses involved who may qualify for this program, either because they are unable to re-establish their business or in doing so, incur substantially higher rental or replacement property costs.

EDWARD K. OCHIAI
Head, Right-of-Way Branch

Attachments (12)

LIMITING CONDITIONS

The following assumptions and limiting conditions apply to the study and preparation of the resultant conceptual stage relocation program plan:

1. The statements and opinions presented on relocation resulting from the effects of right-of-way on realty and/or personalty are accurate and supportable only to the extent that the compiled information is based on right-of-way maps, tax map plats, an aerial map, a field inspection made and data gathered (7-30-73 to 8-2-73), and human memory.

2. For a sound assessment of the socio-economic impact of the various alignments, a field trip and inspection of the various alignments and their effect(s) on the various parcels are necessary to support the costs and effects submitted.

Attachment 1

TABLE 1: POPULATION, HAWAII COUNTY, By District, Town and Census Tract

DISTRICT, TOWN & CENSUS TRACT	July 1, 1972	July 1, 1971	April 1, 1970
HAWAII COUNTY	68,400	66,078	63,468
South Hilo District (9 Census Tracts, 201-209)		35,066	33,915
Hilo City			26,353
Census Tract 205			4,604
Block 101			5
Census Tract 206			2,989
Block 301			8
" 303			10
" 304			30
" 305			40
" 308			19
" 901			500

Source: "Data Book, 1972", County of Hawaii Department of Research and Development; "1970 Census of Housing, Block Statistics, Selected Areas in Hawaii"; and "Hawaii Economic Review", Summer, 1973.

TABLE 2: ETHNIC DISTRIBUTION, South Hilo District by Census Tract

ETHNIC GROUP	CENSUS TRACT 205	CENSUS TRACT 206
Caucasian	27.6%	19.0%
Hawaiian	unknown %	46.9%
Japanese	largest proportion	20.9%

Source: Department of Labor and Industrial Relations, Research and Statistics Office, Selected Manpower Indicators for the County of Hawaii, August 1972

ATTACHMENT 2

TABLE 3: SELECTED MANPOWER INDICATORS, District and Census Tract

	HILO (CT 205)		HILO (CT 206)	
	#	%	#	%
Population				
Total	4,604	100.0	2,989	100.0
White	1,269	27.6	569	19.0
Non-White	3,335	72.4	2,420	81.0
Labor Force Status				
Civilian Labor Force	2,003	100.0	1,209	100.0
Employed	1,930	96.4	1,181	97.7
Unemployed	73	3.6	28	2.3
Population 16-21 years old, not in school, unemployed or not in labor force	90	-	88	-
Class of Worker				
Total Workers	1,930	100.0	1,181	100.0
Wage & Salaried	1,422	73.7	815	69.0
Government	373	19.3	250	21.2
Self-employed	118	6.1	111	9.4
Unpaid family worker	17	0.9	5	0.4
Industry				
Total Workers	1,930	100.0	1,181	100.0
Construction	218	11.3	163	13.8
Manufacturing	128	6.6	123	10.4
Transportation	71	3.7	74	6.3
Wholesale Trade	177	9.2	46	4.0
Retail Trade	502	26.0	180	15.2
Business & Repair Services	66	3.4	31	2.6
Personal Services	146	7.6	104	8.8
Public Administration	126	6.5	110	9.3
Occupation				
Total Workers	1,930	100.0	1,181	100.0
Professional & Technical	201	10.4	130	11.0
Managerial & Administrative	178	9.2	140	11.8
Sales Workers	162	8.4	43	3.6
Clerical Workers	410	21.2	184	15.6
Craftsmen & Foremen	258	13.4	170	14.4
Operatives	204	10.6	177	15.0
Service Workers	330	17.1	228	19.3
Income - 1969				
Total Families	1,104	100.0	607	100.0
Median Family Income	$10,804	-	$11,444	-
Families Below Poverty Level	86	7.8	47	7.7
Families with Public Assistance Income	14	1.3	8	1.3

Source: Department of Labor & Industrial Relations, Research & Statistics Office, Selected Manpower Indicators for the County of Hawaii, August 1972.

ATTACHMENT #3
Page 1 of 3

TABLE A

LABOR MARKET INFORMATION BY CENSUS TRACT COMBINATIONS (CONT.)

	CENSUS TRACTS COVERED	1ST QUARTER 1973			2ND QUARTER 1973			3RD QUARTER 1973			4TH QUARTER 1973			ANNUAL AVERAGE 197		
		CLF	UNEMP	RATE	CLF	UNEMP	RATE	CLF	UNEMP	RATE	CLF	UNEMP	RATE	CLF	UNEMP	R
[illegible] COUNTY	201-221	30,830	2,020	6.6	31,810	2,440	7.7	32,380	2,630	8.3	32,370	2,540	7.9	31,850	2,420	7
HILO DISTRICT	201-209	16,500	1,060	6.3	17,460	1,280	7.3	17,740	1,400	7.9	17,740	1,330	7.5	17,460	1,270	7
[illegible]-WAILEA	201	2,380	120	5.0	2,460	140	5.9	2,500	160	6.4	2,500	150	6.0	2,460	140	5
SOUTH HILO	202-209	14,510	940	6.5	15,000	1,130	7.6	15,250	1,240	8.2	15,250	1,180	7.7	15,000	1,120	7
PUNA DISTRICT	210-211	2,560	260	10.0	2,800	310	11.5	2,720	340	12.5	2,710	320	11.9	2,660	310	11
[illegible]-MOUNTAIN VIEW	210	2,060	220	10.8	2,140	270	12.5	2,190	300	13.5	2,180	280	12.8	2,140	270	12
[illegible]-[illegible]	211	500	30	6.8	520	40	7.9	530	40	8.6	530	40	8.2	520	40	7
WEST HAWAII	213-216	4,250	380	8.8	4,450	460	10.2	4,540	500	11.0	4,530	470	10.5	4,450	450	10
SOUTH KONA	213	600	10	2.0	630	10	2.3	630	20	2.4	630	20	2.4	620	10	2
[illegible]-CAPT COOK	214	1,210	90	7.3	1,250	110	8.6	1,270	120	9.2	1,270	110	8.7	1,250	110	8
NORTH KONA	215	1,370	80	5.6	1,410	90	6.6	1,430	100	7.1	1,430	100	6.8	1,410	90	6
KAILUA VILLAGE	216	1,110	200	18.0	1,170	240	20.5	1,210	260	21.9	1,200	250	21.0	1,170	240	20
KOHALA	217-218	2,740	180	6.6	2,840	220	7.8	2,880	240	8.4	2,880	230	8.0	2,840	220	7
SOUTH KOHALA	217	1,150	110	9.6	1,200	140	11.3	1,220	150	12.0	1,220	140	11.5	1,200	130	11
NORTH KOHALA	218	1,590	70	4.5	1,640	90	5.3	1,660	90	5.7	1,660	90	5.4	1,640	90	5
MAUI COUNTY	301-319	21,820	1,880	9.1	23,040	1,950	8.5	24,260	2,030	8.4	22,830	2,350	10.5	22,990	2,090	9
MAUI ISLAND	301-315	18,350	1,390	7.6	19,540	1,580	8.1	20,460	1,710	8.4	19,360	1,700	8.8	19,430	1,600	8
[illegible] DISTRICT	301	400	10	2.3	420	10	2.4	440	10	2.5	420	10	2.7	420	10	2
[illegible]	302	400	10	2.3	420	10	2.4	440	10	2.5	420	10	2.7	420	10	2
[illegible] DISTRICT	314-315	2,820	150	5.1	3,070	170	5.4	3,210	180	5.6	3,040	180	5.9	3,050	170	5
[illegible]	314	2,030	100	4.7	2,160	110	5.0	2,260	120	5.2	2,140	120	5.5	2,150	110	5
[illegible]	315	860	50	6.0	910	60	6.4	950	60	6.6	900	60	6.9	910	60	6
LANAI ISLAND	316	1,330	170	12.5	1,340	40	2.8	1,400	30	2.1	1,290	130	9.9	1,350	90	6
MOLOKAI ISLAND	317-319	2,140	440	20.6	2,150	320	15.0	2,350	290	12.3	2,180	560	25.5	2,210	400	18

NOTE: FIGURES MAY NOT ADD TO TOTAL DUE TO ROUNDING. UNEMPLOYMENT RATE BASED ON RAW DATA.

ATTACHMENT B, Page 2 of 2

John A. Burns, GOVERNOR

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

AUGUST 1974

HAWAII-HONOLULU Labor Area Summary

Prepared by Research & Statistics Office Gordon Frazier, Chief

STATEWIDE

Total employment edged up to 343,400 in July, up 1,200 from June.

The July nonagricultural wage and salary jobcount was essentially unchanged from June. Job gains in private industry only slightly offset job losses in government for a small net gain of 100 jobs. Job boxscore for July: private industry +2,900 (jobcount was up in all sectors) and government -2,800 (federal -200, state -1,800, and local -800). Normal job losses at public schools (classroom cleaners, substitute teachers, etc.) accounted heavily for the reduction in government jobs.

Joblessness in the State improved seasonally to 29,900 in July. The jobless rate was 8.0 percent, down from the 8.4 percent in June.

The July jobless picture was seasonally better for all counties. The rate dropped from 8.1 percent to 7.7 percent in Honolulu, from 10.8 to 10.5 in Hawaii, from 8.8 to 8.0 in Maui, and from 10.2 to 9.0 in Kauai.

CITY AND COUNTY OF HONOLULU

Employment in Honolulu inched up by 200 to a July total of 276,200.

The nonagricultural wage and salary jobcount was estimated at 289,300, down 300 from the June count. The Honolulu boxscore: private industry +2,600 and government -2,900. The June-July drop in government occurred almost entirely in Honolulu -- neighbor island counties actually experienced a small overall gain in government jobs.

The Honolulu jobless total fell to 23,000 in July, down 1,200 from the high June total of 24,200. The July rate improved to 7.7 percent from the 8.1 percent in June.

OUTLOOK

The labor outlook for September is for a seasonal downturn in employment as summer jobs are terminated. Reductions will stem largely from releases by the pineapple industry. Local government is also expected to register a large decrease.

With the exodus of summer entrants from the labor force, a drop in unemployment is also anticipated. However, the jobless rate is expected to hold near current high levels.

LABOR FORCE ITEMS	U. S.	STATE	HONOLULU SMSA	HAWAII COUNTY	MAUI COUNTY	KAUAI COUNTY
JULY 1974 P						
Civilian Labor Force	93,276	373.3	299.2	33.3	26.0	14.9
Unemployed	5,260	29.9	23.0	3.5	2.1	1.3
Percent Unemployed	5.6%	8.0%	7.7%	10.5%	8.0%	9.0%
Employed	88,015	343.4	276.2	29.8	23.9	13.6
JUNE 1974 RP						
Civilian Labor Force	92,546	373.8	300.3	33.2	25.4	14.9
Unemployed	5,380	31.6	24.2	3.6	2.2	1.5
Percent Unemployed	5.8%	8.4%	8.1%	10.8%	8.8%	10.2%
Employed	87,167	342.2	276.0	29.6	23.2	13.4

Honolulu SMSA - Honolulu Standard Metropolitan Statistical Area (or Oahu).
Maui County - Includes the Island of Maui, Molokai, Lanai.
Data in thousands. P - Preliminary; RP - Revised Preliminary.

Attachment 3, Page 3 of 3

NONAGRICULTURAL WAGE AND SALARY JOBS[1/]

	JULY 1974 - Preliminary					JUNE 1974 - Revised Preliminary				
		COUNTIES					COUNTIES			
	STATE	HONOLULU	HAWAII	MAUI	KAUAI	STATE	HONOLULU	HAWAII	MAUI	KAUAI
Total Jobs	342.0	289.3	23.6	18.3	10.8	341.9	289.6	23.6	18.0	10.7
Construction	29.5	25.0	2.3	1.5	.6	29.1	24.7	2.3	1.5	.6
Manufacturing	27.2	20.4	2.7	2.7	1.4	26.9	20.1	2.7	2.7	1.4
Durable Goods	5.0	4.6	.1	.3	*	5.0	4.5	.1	.3	*
Nondurable Goods	22.2	15.8	2.6	2.4	1.4	21.9	15.6	2.6	2.4	1.3
Food Processing	14.2	8.8	2.0	2.2	1.2	13.9	8.5	2.0	2.2	1.2
Transp., Communications & Utilities	25.7	21.3	1.7	1.4	1.3	25.0	20.6	1.7	1.4	1.3
Trade	84.7	71.7	6.1	4.5	2.4	83.9	71.0	6.1	4.5	2.4
Wholesale	16.5	14.4	1.4	.5	.2	16.5	14.4	1.4	.5	.2
Retail	68.2	57.3	4.7	4.0	2.2	67.4	56.6	4.7	3.9	2.1
Finance, Insurance & Real Estate	22.7	20.6	.9	.9	.4	22.4	20.3	.8	.9	.3
Services & Miscellaneous	72.1	60.3	5.2	4.1	2.5	71.7	60.0	5.2	4.0	2.6
Hotels	19.1	12.7	2.9	2.2	1.3	19.2	12.8	2.9	2.2	1.3
Government	80.1	70.0	4.7	3.2	2.3	82.9	72.9	4.8	3.1	2.1
Federal	31.1	30.3	.4	.2	.2	31.3	30.4	.4	.2	.2
State	34.2	27.8	3.0	2.1	1.2	36.0	29.6	3.0	2.1	1.2
County	14.8	11.9	1.3	.9	.8	15.6	12.9	1.3	.8	.6

Attachment

* Less than 50.

1/ Estimates include all full-time or part-time wage and salary employees who worked or received pay during the week including the 12th of the month. Persons on the payrolls of more than one establishment during the same reference week are counted for each establishment. Nonagricultural self-employed, unpaid family workers, and domestics are excluded.

Totals may not add due to rounding. Figures are rounded to nearest hundred.

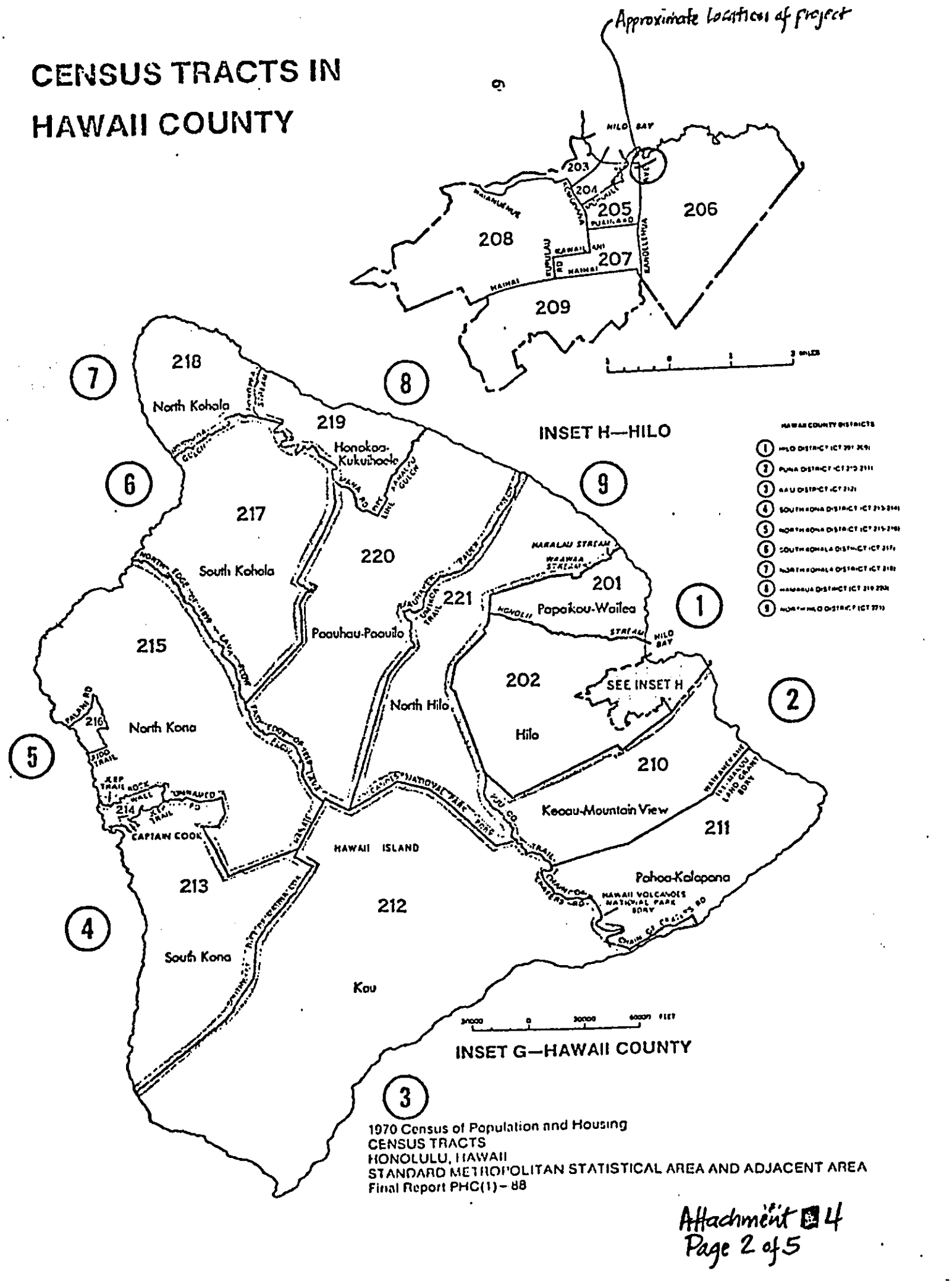
*** Labor Area Classification for Honolulu, July 1974 - Group D (substantial unemployment) ***

Selected Manpower Indicators for the County of Hawaii

Department of Labor & Industrial Relations
Research & Statistics Office

Approximate location of project

CENSUS TRACTS IN HAWAII COUNTY



1970 Census of Population and Housing
CENSUS TRACTS
HONOLULU, HAWAII
STANDARD METROPOLITAN STATISTICAL AREA AND ADJACENT AREA
Final Report PHC(1) – 88

Attachment 4
Page 2 of 5

PART II. SELECTED MANPOWER INDICATORS FOR THE COUNTY OF HAWAII BY DISTRICT AND CENSUS TRACT

SOUTH HILO DISTRICT

Location and Description

The South Hilo district, the most populated district in Hawaii County with 53.4 percent of the total population, includes nine census tracts (201 to 209). Situated on the northeast end of the island between Puna and North Hilo districts, it extends from the eastern end of Hilo Bay to Hakalau Stream and inland to the Waiakea Forest Reserve.

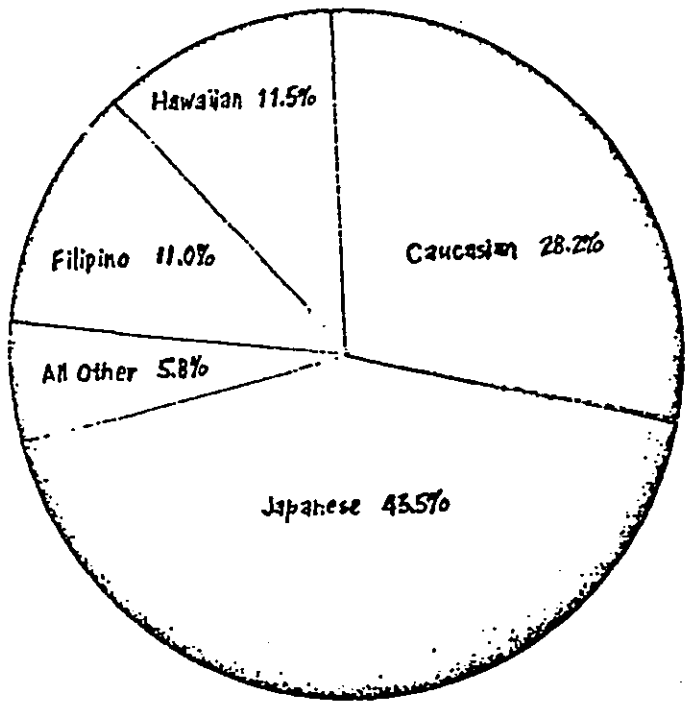
Population

The Japanese and Caucasian groups dominated the ethnic distribution in all but one of the nine census tracts in the district. Caucasians led the distributions in tracts 202 and 203. The Japanese population ranged from 20.9 percent in tract 206 to 58.0 percent in tract 207 and comprised the largest proportions in the remaining six tracts: 201, 204, 205, 207, 208, and 209.

The only tract not dominated by the Japanese or Caucasian groups was tract 206 where 46.9 percent of the population were Hawaiians.

Tracts 201 and 202 had fairly large proportions, respectively 35.6 percent and 29.1 percent, of Filipinos.

Graph 5. Ethnic Distribution.



Attachment 4
Page 3 of 5

Industry

Retail Trade, as a single industry, dominated the industry profile in most of the census tracts. Manufacturing and Other Industries (presumably agriculture) reflected high percentages of jobholders in tracts 201, 202 and 209, all situated outside of Hilo City. The Construction industry also represented large proportions of the employed in most of the tracts in the district. Census tract 203 had a comparatively high percentage of workers in the Educational Services category.

Occupation

The leading occupational classes were generally related to the leading industries in the census tracts. Inner city tracts had high proportions of Clerical and Service workers while the outlying tracts, where Manufacturing and Other Industries predominated, had higher proportions of workers in the Operative and Farm Worker categories. The Professional and Technical occupations led the distribution in tract 203 where the largest single industry was Educational Services.

Target Groups

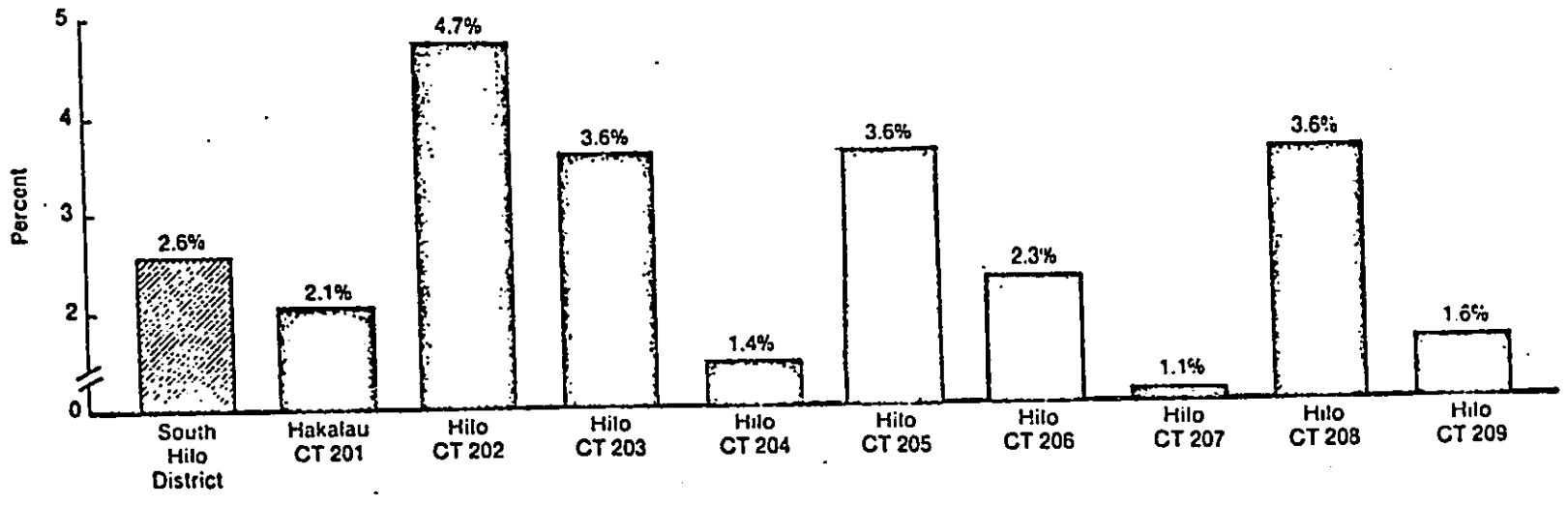
The majority, 64.4 percent, of the youths in the County, 16 to 21 years old, not in school, unemployed or not in the labor force, resided in the South Hilo district. Census tracts 201, 205 and 206 had high proportions of the 529 youths for the district.

Vietnam-era veterans were also highly concentrated in the South Hilo district (55.7 percent of the County total). Their distribution varied among the census tracts with larger ratios in tracts 201, 205 and 208.

Unemployment

Unemployment rates varied among the census tracts and ranged from 1.1 percent in tract 207 in central Hilo City to 4.7 percent in tract 202 located on the outskirts of the city and with the lowest population density in the district.

Graph 6. Unemployment Rate.



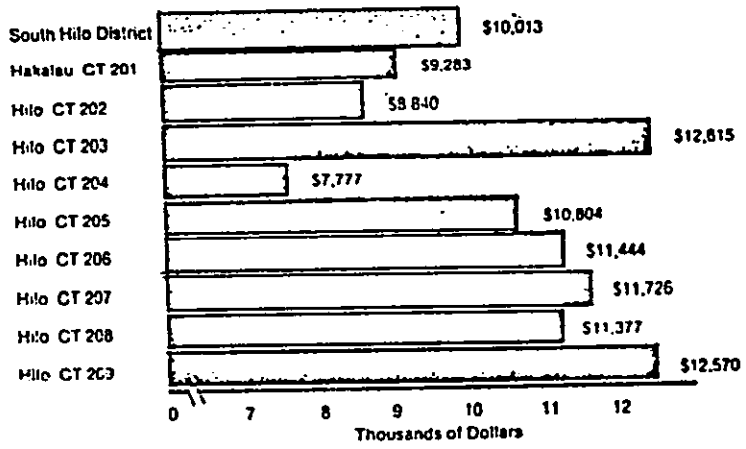
Attachment #4
Page 4 of 5

Income

The outlying tracts, 201 and 202, had low median family incomes of $9,283 and $8,840, respectively, in 1969. The lowest median, however, was $7,777 in tract 204 in Hilo City. Tract 203, where the Educational Services industry and Professional and Technical occupations were the largest groups, had the high for the district at $12,615. This tract, together with tracts 207 with a median of $11,726 and 209 at $12,570, were above the State median of $11,553.

Large percentages, 44.5 and 44.3, of the total families in the County with incomes below the poverty level and with public assistance income resided in the district. Census tract 204, with the lowest median family income for the district, also had the highest number of families with incomes below the poverty level and families with public assistance income.

Graph 7. Median Family Income.



Educational Attainment

More than one-half, 52.1 percent, of the population 25 years and over were high school graduates, but this was lower than the State's 61.9 percent. Only one census tract, 207, with 65.9 percent of the population 25 years and over with twelve years of schooling, had a ratio higher than the State. All other tracts had proportions below the State level.

The outlying tracts, 201 and 202, had the lowest percentages of high school graduates at 33.1 percent and 32.5 percent respectively. Census tract 204 which had the lowest median family income had a 49.5 percent graduate rate. Interestingly, tract 203 with the highest median income and high proportions of Professional and Technical workers reported only 56.4 percent graduates, below five other tracts in the district.

Attachment #4
Page 5 of 5

Graph 8. Educational Attainment.

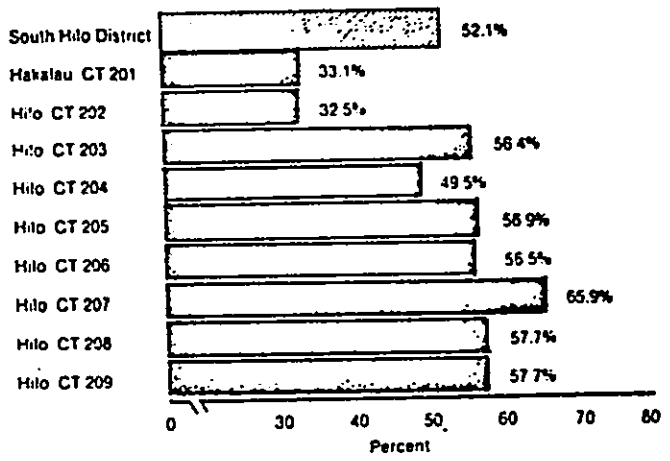


TABLE 4: AVAILABILITY OF HOUSING IN THE COUNTY OF HAWAII, 1970

	Occupied Housing Units		Vacant Units		Total Housing Units
	Owner Occupied	Renter Occupied	For Rent or Sale	Other Vacant	
Hawaii County	17,260		477	1,235	18,972
Per Cent	56.9%	43.1%	2.5%	6.3%	
Census Tracts:					
205	724	522	—	—	1,280
Per Cent	56.6%	40.8%	2.6%		
206	500	196	—	—	733
Per Cent	68.2%	26.7%	5.1%		

Source: U.S. Census of Housing, 1970; Hawaii Economic Review, March - April, 1971

Attachment 5

AVAILABLE HOUSES & CONDOMINIUM APTS.

For Sale

Location	No. of Units	Bdrms.	Bath(s)	Floor Area (Sq. Ft.)	Land Area (Sq. Ft.)	Asking Price	Building Description
Hilo	1	1	1	520	14,693	$27,000	Condominium Apt.
Hilo	1	2	1	747	16,694	26,500	Condominium Apt.
Hilo	4	2	1	798 - 1,063	11,780 - 35,082	33,000 - 81,170	Dwelling
Hilo	1	2	1 1/2	1,500	15,275	32,000	Mobile Home
Hilo	1	2	2	1,197	35,800	46,800	Condominium Apt.
Hilo	2	3	1 1/2	864 & 1,672	7,611 & 15,466	45,000 & 55,000	Dwelling
Hilo	7	3	2	1,080 - 2,200	6,340 - 15,650	34,000 - 72,500	Dwelling
Hilo	1	4	1	1,200	10,000	54,000	Dwelling
Hilo	1	5	2	1,048	21,050	85,000	Dwelling

For Rent

Hilo	4 - 6	0 (Studio)	390 - 500	---	$150-225/mo.	Apt.
Hilo	3 - 4	1	420 or 700	---	175 or 325/mo.	Apt.
Hilo	25 - 26	2	714 - 1,000	---	200-350/mo.	Apt.
Hilo	1	3	2,100	---	325	Dwelling

ATTACHMENT 6

PHILLIPS PETROLEUM COMPANY
HONOLULU, HAWAII 96809
BOX 500

August 29, 1973

Department of Transportation
Rights-of-Way Branch
869 Punchbowl St.
Honolulu, Hawaii 96813

Subject: Preliminary Study - Prop.Street Widening
595 Kalanianaole Ave. - Hilo, Hawaii

Gentlemen: Attn: Mr. Herbert Yuen

In response to your recent request re subject matter, attached are Drawings #10358-D (Existing Facilities); Hon-173 Sheet 1-0 (Preliminary Layout w/17' Condemnation); and Hon-173 Sheet 2-0 (Preliminary Layout w/33' Condemnation).

It appears from the preliminary studies that we would be unable to relocate the existing facilities on the available property after condemnation of either 33' or 17'; therefore, it would be necessary to construct a new warehouse & dock more adaptable to the available property and meet Federal, State and local regulations and setback ordinances affecting this type of operation.

This information is based on preliminary study only and there remains many factors such as new street elevations, possible ingress and egress restrictions, new approach restrictions and any number of other restrictions that could affect our operations at this location.

We trust you will use this information as preliminary only and should your study progress to a firm project that we be so advised in order that we can revise our layout and cost estimate.

Very truly yours,

F. A. GAINES
District Manager, Operations

FAG:mr
encl.

cc:John W. Cameron
B. M. Wiseman

APPENDIX C SUMMARY OF AIR QUALITY ANALYSIS

SUMMARY OF
AIR QUALITY ANALYSIS
FOR
HILO BAYFRONT HIGHWAY

Utilizing the
Environmental Protection Agency's
"HIWAY" Computerized Model
by
Department of Transportation

Estimated 1-hour concentrations of carbon monoxide (CO) were calculated for receptor locations along the proposed highway right-of-way line. For 1984, the highest concentration of CO was 5.0 milligrams per cubic meter (mg/m^3) which would be experienced at the Wailoa River Bridge. Should no improvements be initiated, this level of CO can be expected to reach 6.3 milligrams per cubic meter. Singular comparisons at other receptor locations indicate that a definite decrease in CO levels can be anticipated should either lines A or B be constructed. With or without a highway improvement, 1984 CO concentrations from the Hilo Bayfront Highway are within the State and Federal hourly standards of 10 mg/m^3 and 40 mg/m^3 respectively.

A sample input data for lines A and B at the Wailoa River Bridge and a tabulation of the 1984 concentrations for both lines and the no improvement condition follow: The emission factors were obtained from EPA's Compilation of Air Pollutant Emission Factors, AP-42, Supplement No. 2, September 1973.

DATA:

Peak hour traffic - 2940 vph (1984)
Traffic distribution - 55/45
Parallel wind
Stability Class - F
Wind Speed - 1.0 meters/second
Vehicular Operating speed - 35 mph
Perpendicular downward distance - 10 feet

HILO BAYFRONT HIGHWAY
WAILOA RIVER TO KUHIO WHARF

HIGHEST LEVEL OF CONCENTRATION

Alternate		1984 Carbon Monoxide Concentration (mg/m^3)
1.	No Improvement	
	a. Wailoa River Bridge	6.3
	b. Business Oppqsite Reeds Bay	9.0
	c. Silva Street Residence	0.7
2.	Line A	
	a. Wailoa River Bridge	5.0
	b. Business Opposite Reeds Bay	4.8
3.	Line B	
	a. Wailoa River Bridge	5.0
	b. Business Opposite Reeds Bay	0.6

APPENDIX D COORDINATION WITH OTHER AGENCIES AND PUBLIC

ENVIRONMENTAL IMPACT STATEMENT REVIEW PROCESS

August 25, 1975

Draft E.I.S. for the project submitted to the State Office of Environmental Quality Control. October 31, 1975, set as deadline for comments to the Draft E.I.S.

September 10, 1975

Draft E.I.S. distributed for Public Review.

November 1977

Submittal made on the Final E.I.S. to the State Environmental Quality Commission.

MEETINGS WITH OTHER AGENCIES

November 16, 1972

Joint Agency Meeting
869 Punchbowl Street
Honolulu, Hawaii

FHWA
DOT/Highways Division
DOT/Harbors Division
DOT/Airports Division
Land & Natural Resources
U.S. Corps of Engineers

November 22, 1972

Joint Agency Meeting
Highway District Office
Hilo, Hawaii

DOT/Highways Division
DOT/Harbors Division
DOT/Airports Division
Hawaii County Planning Department
Hawaii County Parks & Recreation

March 22, 1973

Meeting to Coordinate Project Study with
Other Studies in the Hilo Area

DOT/Highways Division
Hawaii County Planning Deparment

August 21, 1973

Meeting to Resolve Problem at General Lyman Field
Hilo, Hawaii

DOT/Highways Division
DOT/Airports Division
FAA

PUBLIC INFORMATIONAL MEETING
HAWAII COUNTY COUNCIL ROOM, HILO, HAWAII
7:00 P.M., OCTOBER 29, 1973

Discussions were held on the realignment and widening of the Hilo Bayfront Highway, from the Wailoa River to the Kuhio Wharf.

Number of people in attendance were: Count not taken.

Major points of discussion were:

- Validity of traffic projections.
- Vertical clearance for the proposed replacement bridge over Wailua River.

  Should the existing 11 foot clearance be maintained or increased?
- Location for the proposed replacement bridge over Wailoa River.

  Should it be constructed at the present location? Further inland?

PUBLIC INFORMATIONAL MEETING
HAWAII COUNTY COUNCIL ROOM, HILO, HAWAII
7:00 P.M., NOVEMBER 14, 1974

Discussion was held on the set realignment and widening of the Hilo Bayfront Highway from the Wailoa River to the Kuhio Wharf.

Number of people in attendance were: 50 persons.

Major points of discussion were:

- Traffic management during the construction of the bridge over the Wailoa River.
- Method of project implementation. Will the project be constructed in its entirety or phased:
- Property condemnation and relocation costs.
- A need for coordination between this project and future plans for river activities. Should the existing 11 foot clearance be maintained or increased.

WRITTEN COORDINATION

Exhibit One

Coordination of Highway Projects with Land and Natural Resources Interests

Exhibit Two

Sketch Map Supporting Finding of Public Interest at General Lyman, Hilo, Island of Hawaii

Exhibit Three

Coordination With the State Historic Preservation Officer

STATE OF HAWAII

TO: Department of Transportation

FROM: Department of Land and Natural Resources

CLEARANCE FORM

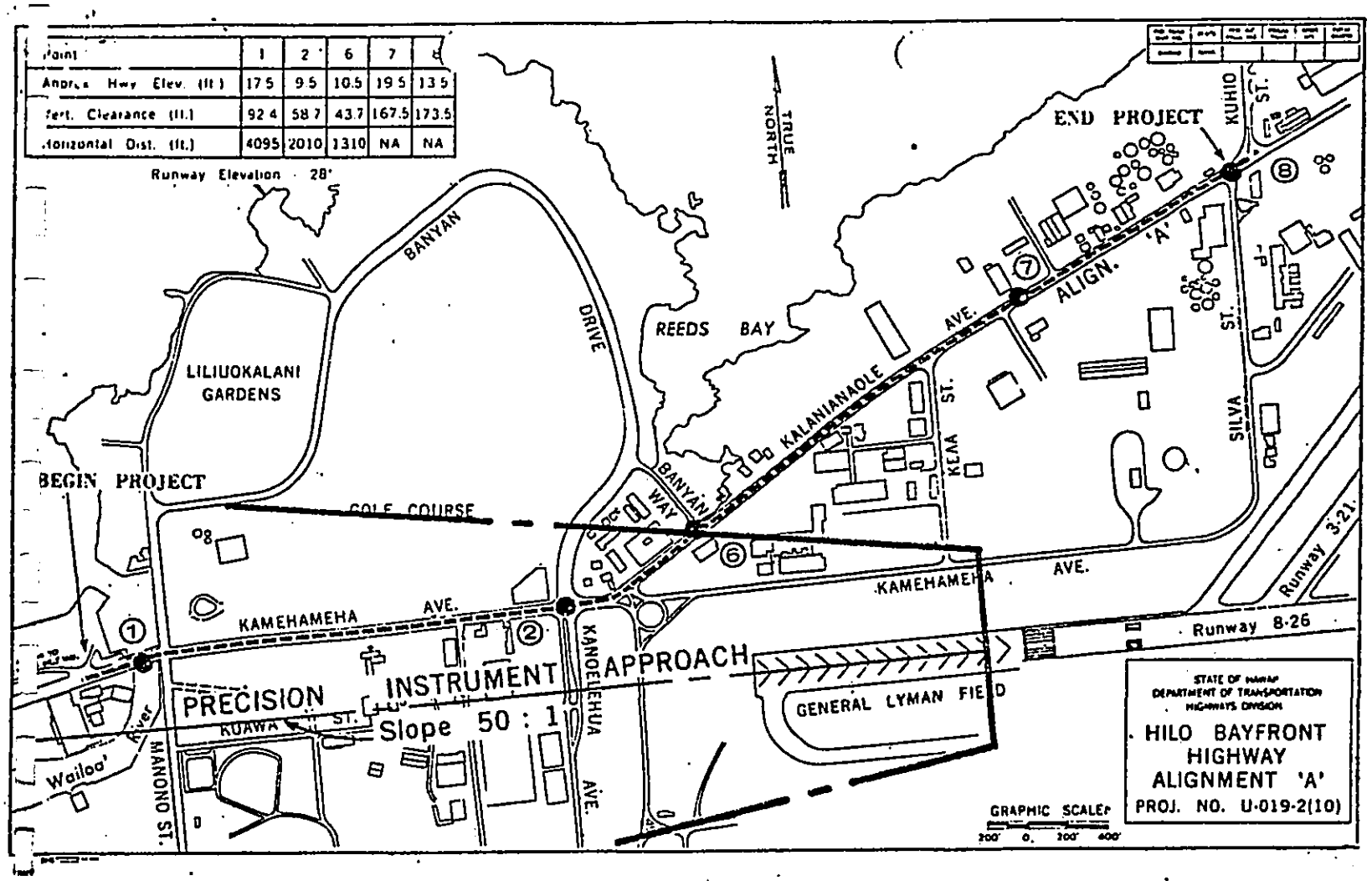
COORDINATION OF HIGHWAY PROJECTS WITH LAND AND NATURAL RESOURCES INTERESTS

This is to certify that Project 19M-01-69, Hilo Bayfront Highway, Wailoa River to Kuhio Wharf, has been reviewed by this Department and insofar as economically practicable, has been coordinated in terms of land and natural resources interests in accordance with Section 109, Title 23, United States Code.

Sunao Kido
Chairman and Member
Board of Land and Natural Resources
Department of Land Natural Resources

3-21-74
Date

Exhibit 1



SKETCH MAP SUPPORTING
FINDING OF PUBLIC INTEREST AT

GENERAL LYMAN FIELD
HILO, ISLAND OF HAWAII

In compliance with Section 318, Title 23 U. S. C., we concur that the location of this airport and the consequent construction of Project No. U-019-2(10), Alignment "A", Hilo Bayfront Highway, are in the public interest.

Department of Transportation
Airports Division

Department of Transportation
Highways Division

Date

Date

for H. Hayama
HERMAN C. BLISS
Federal Aviation Agency
Airports Division

Federal Highway Administration

Date

AUG 16 1976
Date

Exhibit 2

JUN 10 1975

HWY-PA
2.22535

Mr. Ralph T. Segawa
Division Engineer
U. S. Department of Transportation
Federal Highway Administration
677 Ala Moana Boulevard, Suite 613
Honolulu, Hawaii 96813

Dear Mr. Segawa:

Subject: Hilo Bayfront Highway,
Project No. 19M-01-69

In accordance with 36 CFR, Part 800, we request your determination of effect concerning the impact of the subject project relative to the Richardson Memorial clock. A copy of a photograph of the clock is herewith attached for your reference.

The Hawaii Historic Places Review Board, at its regular annual meeting, acknowledged the historic significance of the clock. The State Department of Transportation concludes that there will be "no effect" based on the following discussion:

The 12-foot high landmark once belonged to the old Waiakea Settlement. In 1960, the settlement was destroyed with many lives lost by a series of tidal waves. Thereafter, the settlement area was cleared and zoned for open space. There is local attachment to the clock and memorial wreaths are placed to commemorate the anniversary of the tragedy.

Exhibit 3

HWY-PA 2.22535
JUN 10 1975

The Memorial Clock is located alongside Kamehameha Avenue, approximately 15 feet from the right-of-way boundary. The proposed highway improvement will increase the right-of-way width by approximately 40 feet, thus affecting the clock. It is our intent to relocate the clock to a more accessible and less traffic conflicting site. The Suisan area or the Hoolulu Park are possible locations where it might be better appreciated. The historic value of the clock is its survival of the seismic wave and therefore proper relocation will not alter its qualifying character for eligibility for nomination to the National Register.

Very truly yours,

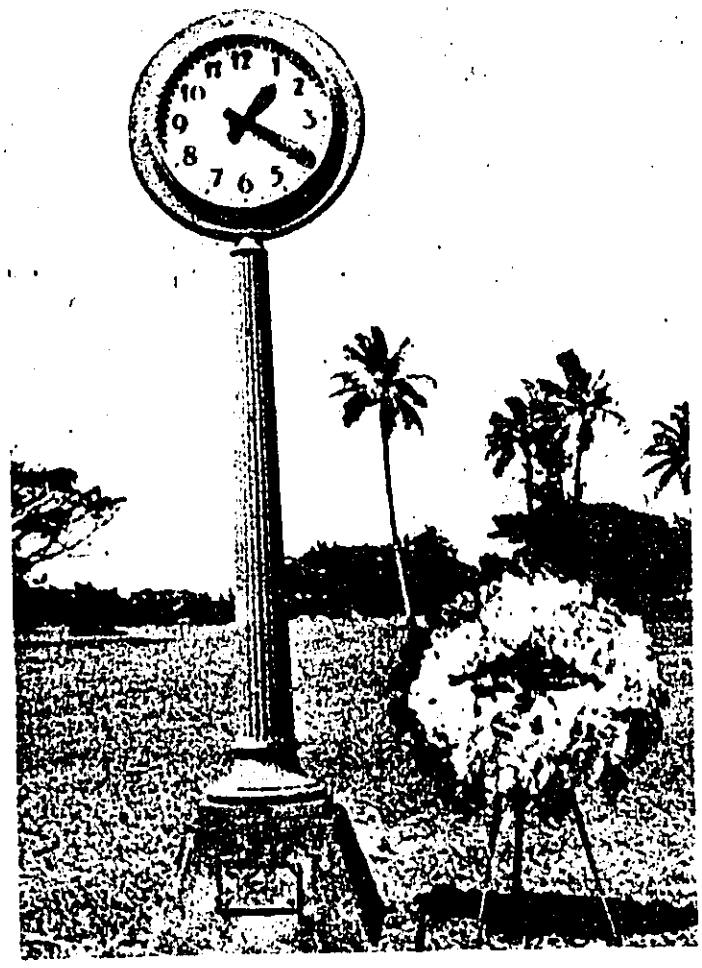
T. HARANO
Chief
Highways Division

NS:km

Enclosure

cc: HWY-H
WOA

Exhibit 3



Tribune-Herald Photo

CLOCKED SPRUCED UP — The memorial clock in the old Waiakea Settlement area, which stopped early on the morning of May 23, 1960, when a series of tidal waves hit the Big Island, has been cleaned up by members of the Waiakea Lions Club in memory of the 15th anniversary of The Big Wave.

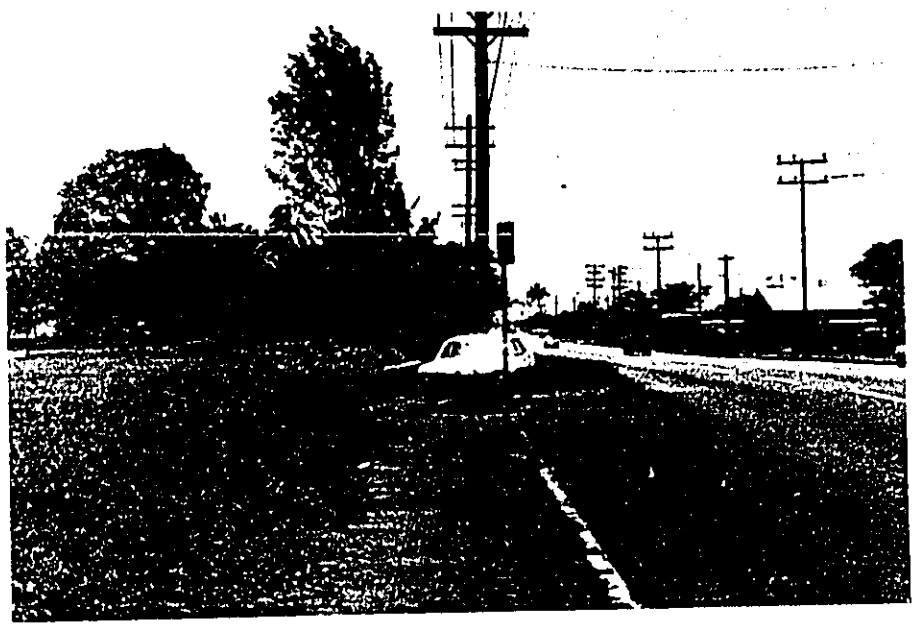
5/25/75

5/21/75

Correction

5/27/75

The photo of the memorial clock in the old Waiakea Settlement area that was published in the Tribune-Herald on Sunday erroneously said the clock had been spruced up by the Waiakea Lions' Club. The project was carried out by the Waiakea Pirates Athletic Club, whose president is T. Okomoto.



COPY

Suite 613, 677 Ala Moana Boulevard, Honolulu, Hawaii 96313

July 2, 1975

915EC

Ms. Jane Silverman
State Historic Preservation Officer
Department of Land & Natural Resources
465 S. King Street
Honolulu, Hawaii 96813

Dear Ms. Silverman:

Subject: Hawaii Project F-019-1( ), Hilo Bayfront Highway,
State Project No. 19M-01-69

In accordance with 36 C.F.R., Part 800, we have determined that the proposed improvement of FAP Route 19 from west of the Wailoa River to the junction of Kalanaianaole Highway and Silva Street in Hilo, Hawaii, will not affect the Richardson Memorial clock.

As you know, the 12' high landmark was once part of the old Waiakea Settlement. In 1960, the Settlement was destroyed by a series of tidal waves which also resulted in heavy loss of lives. Subsequently, the Settlement area was abandoned and zoned for open space.

The Memorial clock is located adjacent to Kamehameha Avenue approximately 15' from the existing right of way boundary. However, the proposed highway improvement will place the clock within the future right of way limits.

The Hawaii Department of Transportation has expressed their intent to relocate the clock to an area more accessible for public viewing. The Suisan area or Hoolulu Park are possible locations. We believe that the historic value of the Richardson Memorial clock is inherent in its survival of the 1960 seismic wave disaster. Therefore, proper relocation of the clock will not alter or in any way affect its qualifying factor for eligibility to the National Register of Historic Places.

We ask your concurrence in our determination of "no effect".

There are no other historical properties located within the project limits which may be eligible for nomination to the National Register of Historic Places.

Sincerely yours,

Ralph T. Segawa, Division Engineer

By: /s/ H. Kusumoto, Asst. Division Engineer

GMYasui:jmi/s/

Exhibit 3

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

CHRISTOPHER COBB, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

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

July 8, 1975

Mr. Ralph T. Segawa
Division Engineer,
U. S. Department of Transportation
Federal Highways Administration, Region Nine
Suite 613, 677 Ala Moana Boulevard
Honolulu, Hawaii 96813

Dear Mr. Segawa:

Subject: Hawaii Project F-019-1 (), Hilo Bayfront Highway, State Project No. 19M-01-69

Thank you for your letter of July 2, 1975, concerning the Richardson Memorial Clock in Hilo. The intention of the Hawaii Department of Transportation to preserve the clock by removing it from the Hilo Bayfront right-of-way is commendable, and I concur in this action.

Although this would have an effect on the clock, under the criteria of effect in 36 CFR, Part 800.8, the effect would not be adverse. At any rate, it does not appear likely that the Hawaii Historic Places Review Board will nominate the clock to the National Register of Historic Places.

Your interest in historic preservation in Hawaii is greatly appreciated.

Sincerely yours,

Jane L. Silverman
Historic Preservation Officer
State of Hawaii

JS:jsm

Exhibit 3

APPENDIX E DRAFT ENVIRONMENTAL IMPACT STATEMENT - MAILING LIST, RESPONSE AND DISCUSSION

DRAFT E.I.S. MAILING LIST

FEDERAL AGENCIES		No. of Copies
Agricultural Stabilization and Conservation Service U.S. Department of Agriculture	1833 Kalakaua Avenue Honolulu, Hawaii 96815	1
*Soil Conservation Service U.S. Departmentof Agriculture	Alexander Young Building Room 440 Honolulu, Hawaii 96813	1
Forest Service U.S. Department of Agriculture	530 South Hotel Street Honolulu, Hawaii 96813	1
U.S. Department of Agriculture	Office of the Secretary Washington, D.C. 20250	1
*Federal Aviation Administration	1833 Kalakaua Avenue Honolulu, Hawaii 96815	1
*Director, Office of Environmental Project Review U.S. Department of the Interior	18th and "C" Streets, NW Washington, D. C. 20242	12
*Department of Housing and Urban Development	P.O. Box 3377 Honolulu, Hawaii 96801	1
Department of Housing and Urban Development	450 Golden Gate Avenue P.O. Box 36003 San Francisco, CA. 94102	1
*Department of Health, Education and Welfare	Federal Office Building 50 Fulton Street San Francisco, CA. 94102	1
Council on Environmental Quality	722 Jackson Place, NW Washington, D.C. 20006	5
National Bureau of Standards U.S. Department of Commerce	Administration Building Washington, D.C. 20234	1
U.S. Department of Commerce National Marine Fisheries Service	2570 Dole Street Honolulu, Hawaii 96822	1
Environmental Protection Agency	Bishop Trust Building 1000 Bishop Street #601 Honolulu, Hawaii 96813	1

*Submitted written response to Draft E.I.S.

		No. of Copies
*Environmental Protection Agency Region IX	100 California Street San Francisco, CA. 94111	2
*Advisory Council on Historic Preservation Attn: Mr. Robert Garvey Executive Director	801 19th Street NW Suite 618 Washington, D. C. 20006	1
*Department of Commerce Attn: Dr. Sydney R. Galler Deputy Assistant	Secretary for Environmental Affairs Washington, D.C. 20230	1
Mr. Ernest E. Sligh, Director Environmentl Impact Division Office of Environmental Programs Federal Energy Administration	New Post Office Building 12th & Pennsylvania Ave., N.W. Washington, D.C. 20461	5
*Department of the Air Force Base Commander	15th Airbase Wing (CC) Hickam Airbase Honolulu, Hawaii 96553	1
*Department of the Army Commanding General Attn: Directorate of Engineering	Headquarters, U.S. Army Hawaii APO San Francisco 96558	1
*U.S. Army - Corps of Engineers Honolulu District	Building 230, Fort Shafter APO San Francisco 96558	1
*Department of Transportation U.S. Coast Guard Commandant	14th Coast Guard District 677 Ala Moana Boulevard Honolulu, Hawaii 96813	1
Congressional Representatives		
*The Honorable Hiram L. Fong	1313 New Senate Ofc. Bldg. Washington, D.C. 20515	1
The Honorable Daniel K. Inouye	442 Richard Russell Bldg. Washington, D.C. 20510	1
*The Honorable Patsy Mink	442 Cannon House Bldg. Washington, D.C. 20515	1
The Honorable Spark M. Matsunaga	442 Cannon Ofc. Bldg. Washington, D. C. 20515	1

*Submitted written response to Draft E.I.S.

			No. of Copies
STATE LEGISLATORS			
The Honorable Jack K. Suwa Representative, 1st District	P.O. Box 8 Kurtistown, Hawaii 96760		1
The Honorable Stanley H. Roehrig Representative, 2nd District	80 Pauahi Street Hilo, Hawaii 96720		1
The Honorable Herbert A. Segawa Representative, 2nd District	P.O. Box 1476 Hilo, Hawaii 96720		1
The Honorable Yoshito Takamine Representative, 3rd District	P.O. Box 608 Honokaa, Hawaii 96727		1
The Honorable Stanley I. Hara Senator, 1st District	203 Kilauea Avenue Hilo, Hawaii 96720		1
The Honorable Richard Henderson Senator, 1st District	P.O. Box 747 Hilo, Hawaii 96720		1
The Honorable John T. Ushijima Senator, 1st District	P.O. Box 964 Hilo, Hawaii 96720		1
STATE AGENCIES			
*Department of Agriculture	Attn:	John Farias, Jr.	1
Department of Accounting and General Services	Attn:	Hideo Murakami	1
*Department of Defense	Attn:	Maj. Gen. Valentine A. Siefermann	1
Department of Education	Attn:	James Eddington	1
Department of Health	Attn:	Shinji Soneda	3
*Department of Land and Natural Resources	Attn:	Christopher Cobb	3
*Department of Planning and Economic Development	Attn:	Hideto Kono	1
Department of Social Services and	Attn:	Ronald Lin	
*OEQC	Attn:	Dr. Richard Marlan	10

*Submitted written response to Draft E.I.S.

		No. of Copies
University of Hawaii		
*Environmental Center	Dr. Doak Cox	4
Water Resources Research Center	Dr. Stephen Lau	1
NEWS MEDIA		
Honolulu Star Bulletin	Attn: Mr. Hobart Duncan 605 Kapiolani Blvd. Honolulu, HI. 96813	1
Honolulu Advertiser	Attn: Mr. George Chaplin 605 Kapiolani Blvd. Honolulu, HI. 96813	1
Hawaii Tribune Herald	P.O. Box 767 Hilo, Hawaii 96720	1
STATE PUBLIC LIBRARIES		
University of Hawaii (Sinclair and Hamilton)	Attn: Mrs. Muraoka	2
DPED Library	Attn: Anthony Oliver c/o DPED	1
Hawaii Public Library	300 Waianuenue Avenue Hilo, Hawaii 96720	1
State Archives		1
Legislative Reference Bureau		1
COUNTY OF HAWAII PROJECTS		
County Council County of Hawaii	25 Aupuni Street Hilo, Hawaii 96720	1
*Department of Planning Attn: Mr. Raymond Suefuji	25 Aupuni Street Hilo, Hawaii 96720	2
*Department of Public Works Attn: Mr. Edward Harada	25 Aupuni Street Hilo, Hawaii 96720	1
*Department of Parks and Recreation Attn: Mr. Milton Hakoda	25 Aupuni Street Hilo, Hawaii 96720	1
*Department of Water Supply Attn: Mr. Akira Fujimoto	P.O. Box 1820 Hilo, Hawaii 96720	1
Department of Research and Development Attn: Mr. Clarence Garcia	25 Aupuni Street Hilo, Hawaii 96720	1

*Submitted written response to Draft E.I.S.

		No. of Copies
PUBLIC UTILITIES		
Hawaiian Telephone Company	115 Kalakaua Street Hilo, Hawaii 96720	1
Hawaii Electric Light Co., Inc.	P.O. Box 1027 Hilo, Hawaii 96720	1
Gasco,Inc.,Hawaii Division	945 Kalanianaole Avenue Hilo, Hawaii 96720	1
ORGANIZATIONS		
*Mr. Robert Santos, Chairman Highway Safety Council	c/o Public Works Dept. 25 Aupuni Street Hilo, Hawaii 96720	1
Mr. Kazuto Takayama Transportation Advisory Comm.	2330 Ainaola Drive Hilo, Hawaii 96720	1
Mr. George Kodani, President Big Island Chapter Hawaii Society of Professional Engineers	P.O. Box 942 Hilo, Hawaii 96720	1
Mrs. Joyce Mitsumori, President Hilo Women's Club	974 Komomala Drive Hilo, Hawaii 96720	1
Mr. Yukio Shiigi, President Hilo Contractors Association	c/o Isemoto Contracting Ltd. 648 Piilani Street Hilo, Hawaii 96720	1
Mr. Richard Chong, Director Truckers Association, Big Island	c/o Yamada & Sons,Inc. P.O. Box 577 Hilo,Hawaii 96720	1
Japanese Chamber of Commerce and Industry Attn.: Mr. Jitsuo Niwao, President	c/o Hawaii Electric Light Co., Inc. P.O. Box 1027 Hilo, Hawaii 96720	1

*Submitted written response to Draft E.I.S.

RESPONSE TO DRAFT ENVIRONMENTAL IMPACT STATEMENT REQUIRING DISCUSSION

UNITED STATES

Department of the Army, U.S. Army Engineers District
Department of Commerce, The Assistant Secretary for Science and Technology
Department of Interior
Department of Transportation, Coast Guard
Department of Transportation, Federal Aviation Administration
Environmental Protection Agency

STATE OF HAWAII

Department of Health
Office of Environmental Quality Control
University of Hawaii at Manoa, Environmental Center

COUNTY OF HAWAII

Department of Water Supply
Planning Department

ORGANIZATIONS

American Lung Association of Hawaii

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BLDG. 230, FT. SHAFTER
APO SAN FRANCISCO 96558

PODED-PV

23 October 1975

Department of Transportation
State of Hawaii
ATTN: Highways Division, Planning Br
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

We have reviewed the draft environmental impact statement for Hilo Bayfront Highway and have the following comments to offer.

1A a. The Federal Wailoa River Flood Control project is located above Waiakea Pond upstream of the proposed Hilo Bayfront Highway. The completed flood control project is designed for a discharge of 6,800 cubic feet per second at the outlet to Waiakea Pond.

1B b. Except for the bridge structure, which is under Coast Guard jurisdiction, the statement does not indicate any work within navigable waters. If there should be any work such as fills, walls, erosion protection or drain outfalls within tidal waters, a Department of the Army permit would be required.

1C c. The discussion of impacts upon water pollution, page 27, should be expanded to include the State Department of Health coordination and other data to support the conclusion that impacts will be temporary or minimal. Consideration should be given to changes in the present and future amounts of paved surfaces, related changes in infiltration and runoff, and the potential effect of increased urban storm runoff to Hilo Bay.

1D d. Although Plate 6 identifies the limits of recorded tsunami inundation, there is no discussion of the impact of the proposed improvements on tsunami inundation areas or the impact of tsunami inundation on the highway improvements. Reference should be made to the design considerations, if any, that are related to tsunami damages.

Thank you for the opportunity to review this statement. We would appreciate a copy of the final statement.

Sincerely yours,

KISUK CHUNG
Chief, Engineering Division

BICENTENNIAL 1776-1976 AMERICAN REVOLUTION

DISCUSSION OF COMMENTS MADE BY THE DEPARTMENT OF THE ARMY, U.S. ARMY ENGINEER DISTRICT, HONOLULU

1A. A comprehensive drainage study will be conducted during the project's design phase to ensure that river flow characteristics of the replacement bridge are capable of accommodating design floods.

1B. An application for a Department of the Army Permits covering activities in Waterways will be filed after the corridor phase.

1C. The area to be replaced by pavement (widening of the existing pavement width) will have a higher coefficient of runoff; however, due to the small ratio on the new paved area to the drainage area, the increase in runoff will be small.

Coordination has been effected with Pollution Technical Review branch of the State Department of Health and a determination has been made that the increase in runoff will not have an impact on the water quality of Hilo Bay.

1D. During the design of the highway improvement, considerations will be given to the possible impact tsunami may have on the highway improvement.

3748

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

October 22, 1975

DIRECTOR'S OFFICE
Oct 28 12 59 PM '75
DEPT. OF TRANSPORTATION

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

Dear Mr. Wright:

The draft environmental impact statement "Hilo Bayfront Highway, Project Number U-019-2(10)", which accompanied your letter of September 10, 1975, has been received by the Department of Commerce for review and comment. The statement has been reviewed and the following comments are offered for your consideration.

We are concerned with the potential problem of soil erosion and sedimentation during the construction period, particularly the possibility of soil entering the Wailoa River during replacement of the existing Wailoa River bridge.

We feel the final environmental impact statement should detail mitigating measures which will be specifically utilized to control erosion during bridge replacement
2A construction. This should include grading only during the months of minimum rainfall. Replanting, hydro-mulching, and landscraping should be completed well ahead of the rainy season.

We have been assured by the agency issuing the subject statement that the proposed project will not impinge on Reeds Bay in any way. Therefore, with the exception of the potential problem stated above, the proposed project should not signficantly affect resources for which this Department's National Marine Fisheries Service is responsible.

2.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving three copies of the final statement.

Sincerely,

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

DISCUSSION OF COMMENTS MADE BY THE UNITED STATES DEPARTMENT OF COMMERCE

2A. The potential problem of soil erosion and sedimentation, during and after construction, is valid concern and will be addressed by enforcing Section 639 "Temporary Project Water Pollution Control (Soil Erosion)" of the State of Hawaii Standard Specifications for Road and Bridge Construction, during construction.

2968

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

DIRECTOR'S OFFICE
Nov 28 1 07 PM '75
DEPT OF TRANSPORTATION

DEC 1 9 AM 1975

ER-75/980

Dear Mr. Segawa:

This is in response to the request of Mr. E. Alvey Wright, Director, Hawaii Department of Transportation, for the Department of the Interior's comments on the draft environmental/Section 4(f) statement for Hilo Bayfront Highway, Island of Hawaii, Hawaii.

General Comment

The proposed highway project was field inspected in June, 1974, by a representative of the Pacific Southwest Region of the Bureau of Outdoor Recreation. At that time, it was pointed out that Hoolulu Park had received a development grant from the Federal Land and Water Conservation Fund (LAWCF) and that the provisions of Section 6(f) of the LAWCF Act might be applicable (mandatory provision of replacement land and approval by the Secretary of the Interior for change in use). Subsequent investigation of the LAWCF project file indicated that the highway-impacted parkland is located outside of the grant project boundaries and therefore Section 6(f) of the LAWCF Act would not be applicable. The Bureau of Outdoor Recreation informed Mr. T. Harano, Chief, Highways Division, Hawaii Department of Transportation, of this finding in its letter of April 25, 1975.

Section 4(f) Comments

Based on the information provided in the statement and the field inspection of the project area, we concur that there are no feasible and prudent alternatives to the taking of small portions of land from Hoolulu Park, Banyan Drive Golf Course, and the Hilo Bay Open Area.

3A With respect to measures to minimize harm, the statement does not adequately discuss the method of compensation for the parklands required for right-of-way. In fact, on page 32 it is stated that "at the present time, there are no provisions for compensating or replacing the Section 4(f) lands to be absorbed by the planned highway proposal" and that "it would be unfeasible to relocate the park or to make compensation by replacement". We interpret this to mean that

replacement lands will not be provided. In view of the small portions of land taken and the continued integrity of the recreation areas, we agree that replacement lands will not be necessary-provided that the managing park officials concur. However, there should be compensation, of some kind for the loss of these lands. We recommend the Department of Transportation work closely with park officials in determining just compensation and fully document this compensation in the final statement. There should be documentation that the managing park officials concur with the proposed mitigation measures.

Environmental Statement Comments

3B The project as described could have adverse effects upon archeological resources in the area. In order to assess the potential impacts of the project upon such resources, the entire project area, including all viable alternatives and disposal areas, should be surveyed by a professional archeologist. If significant archeological resources are identified, they should be described and evaluated for their National Register potential. If they meet the criteria for nomination, as set forth in Title 36, CFR 800.10, they should be nominated to the National Register of Historic Places.

After the survey has been conducted, all of the viable alternatives should be assessed as to their impacts upon archeological resources. Other aspects being equal, we recommend that the alternative that will have the least impact upon such resources be selected.

The final statement should include a copy of the archeologist's findings and recommendations and should indicate the intensity of the survey and the precise areas surveyed. In addition, there should be a discussion of what mitigating measures will be taken if significant sites are discovered before or during construction. Such measures should be designed to preserve the greatest amount of information and material from the archeological resource base.

Copies of any archeological reports obtained should be made available to the National Park Service in accordance with Section 3(a) of Public Law 93-291.

Summary Comment

Provided that the proposed measures to minimize harm are adequately addressed, as discussed under Section 4(f) Comments above, this

Mr. Ralph T. Segawa
Honolulu, Hawaii

Department would not object to the approval of the Section 4(f) aspects of this case by the Federal Highway Administrator. If you should have any questions or require technical assistance in completing or reviewing the final document, the field office assigned responsibility is the Regional Director, Bureau of Outdoor Recreation, 450 Golden Gate Avenue, San Francisco, California 94102, telephone number (415) 556-2480.

Sincerely yours,

(Sgd) S[illegible]. Boremus

Assistant Secretary of the Interior

Mr. Ralph T. Segawa
Division Administrator
Federal Highway Administration
677 Ala Moana
Honolulu, Hawaii 96813

cc: Mr. E. Alvey Wright
Director
Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

DISCUSSION OF COMMENTS MADE BY THE UNITED STATES DEPARTMENT OF THE INTERIOR

3A. The State Department of Transportation was informed by the State Department of Land and Natural Resources, Land Management Division, that affected park lands are either owned by the State of Hawaii or under Executive Order to the County of Hawaii or under lease to the golf course operators; therefore, cash payment to affected parties are not necessary.

3B. An archaeological survey was not conducted within the project area. Due to prior urban use, the probability of finding any site is remote; however, should any archaeological or historical findings be encountered during construction, operations will be temporarily suspended to allow the proper authorities to evaluate the findings and determine the appropriate course of action.

Exhibit 3, found in Appendix D, documents the coordination effected with the State Historic Preservation Officer regarding the Richardson Memorial clock.

1775

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:
COMMANDER (mep)
Fourteenth Coast Guard District
677 Ala Moana
Honolulu, Hawaii 96813

5922/3270
6 OCT 1975

Mr. T. Harano
Chief, Highways Division
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Harano:

Staff review of the Draft Environmental Impact Statement for the proposed Hilo Bayfront Highway from Wailoa River to Kuhio Wharf has been completed, and the Coast Guard has no objections to your implementing this project as stated therein.

It is noted that there are no changes to those portions concerning the bridge over the Wailoa River from the Pre-Draft EIS. The DEIS indicates
4A the present vertical clearance of 11 feet from mean sea level will be maintained. Has there been any concern by the boating public in this area to increase this vertical clearance?

This project involves a complete replacement of the bridge vice repairs or maintenance. Thus, a formal application for a bridge permit should be
4B submitted in accordance with the Code of Federal Regulations, Title 33 (CFR 33), Subchapter J. Any questions on this matter should be directed to Captain G. O. LESPERANCE, Chief, Aids to Navigation Branch, at 546-7130.

Normally, before the Coast Guard issues a bridge permit, an environmental assessment must be made followed by an Environmental Impact Statement or a negative declaration of environmental impact. In this case, we feel the assessment of the overall project should satisfy this requirement, however, this office would like to receive copies of any comments which you receive which would in any way concern the bridge. If necessary, we can discuss these comments before they are incorporated into the final statement.

The opportunity to review the Draft Environmental Impact Statement is appreciated. Please forward a copy of the Final Environmental Impact Statement when it becomes available.

Sincerely,

W. H. STEWART
Captain, U. S. Coast Guard
Chief of Staff
Fourteenth Coast Guard District

Copy to: COMDT (G-MEP)
CEQ
EQC

DISCUSSION OF COMMENTS MADE BY THE UNITED STATES COAST GUARD

4A. Public Notice Number 14-72-03, regarding the proposed bridge was posted by the United States Coast Guard. There has been no concern expressed by the boating public regarding a desire to increase the vertical clearance.

4B. During the design stage of the project development, a formal application will be made.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

PACIFIC-ASIA REGION
P. O. BOX 4009
HONOLULU, HAWAII 96813

OCT 22 1975

Chief, Highways Division
Planning Branch
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

The draft Environmental Impact Statement for the proposed Hilo Bayfront Highway, Project No. U-019-2(10), submitted by your letter HWY-PA 2.24211 dated September 10, 1975, has been reviewed and the following comments are offered:

General Comments:

5A 1. The alignment for this proposed four-lane highway has been the subject of much discussion and correspondence in the past between the FAA and the State of Hawaii Airports Division. Our position has been, and still is, that we are opposed to the construction of a four-lane highway through airport property and strongly suggest that the existing Kalanianaole Highway be widened to provide the additional highway lanes. Our primary concern, of course, is for the safety of aircraft operations at General Lyman Field, and we feel that the proposed Alignment B highway development would present a potential derogation of safety. Adequate information, in the form of a Sketch Map Supporting a Finding of Public Interest for Airway/Highway Clearance, to determine otherwise has not been made available.

5B 2. During the planning stage for the new passenger terminal complex now under construction at General Lyman Field, we were apprised that the access road tieing into Kanoelehua Avenue opposite Kekuanaoa Street is only an interim plan and that a permanent access road will tie into a future Saddle Road extension (Puainako Street). It appears that this future highway plan should be included in the discussion of access to the airport.

5C 3. Consistency of the proposed development with the present Highway Master Plan for the island of Hawaii, especially around the north edge of the airport, should be discussed.

Specific Comments:

5D Page S-1, Summary, paragraph D1c

The statement that the proposed highway improvement will improve access to the airport should be expanded or deleted since Kamehameha Avenue up to Kanoelehua Avenue is already a four-lane highway. Construction of a four-lane divided highway may improve safety, but it is believed that the increase in highway capacity would not be significant.

5E Page 19, second paragraph

The statement concerning the accident rates should be compared to other intersections in Hilo for proper evaluation. Are these accident rates high or low.

5F Page 20, first paragraph and paragraph 2d

Same comment as above regarding improvement of access to and from General Lyman Field.

5G Page 24, last sentence

This statement should be clarified to indicate that nearly 95 percent of the takeoffs are west to east and most of the landings are east to west, a pattern useful for keeping noise to a minimum. Additionally, we suggest that noise generated from passing vehicles on a highway is not commensurate with aircraft noise from infrequent landings on Runway 8.

5H Page 25, first sentence

We recommend that this sentence be deleted in its entirety as it is taken out of context and is totally incorrect. For the existing terminal, landing on Runway 26 provides a shorter taxi distance than landing on Runway 8. For the new terminal now under construction, landing on Runway 8 and takeoff on Runway 26 would produce the shortest taxi distance; this would be the reverse of the existing pattern.

It appears therefore that until the runway extension is completed, pilots and airlines operating from the new terminal will want to land on Runway 8 and takeoff on Runway 26. Concerning this point, the statement is made in the Final Environmental Impact Statement for the New Passenger Terminal that, "If necessary, an informal runway use program can be adopted by the FAA to insist that the air carriers continue their current operational patterns (landing on Runway 26 and takeoff on Runway 8), thus reducing potential noise level increases over Hilo."

Page 44, third paragraph

5I a. The second sentence that Alignment B meets all airway/highway clearances should be deleted as this cannot be ascertained without knowing all pertinent data such as the exact highway alignment, finished elevations and distances to critical airway/highway intersections. A Sketch Map Supporting a Finding of Public Interest for Airway/Highway Clearance at General Lyman Field must be prepared before we can comment on this item.

b. Concerning the proposal to relocate the threshold for Runway 8 by approximately 630 feet, it should be pointed out that this would also require relocation of the existing navigational aid facilities, such as (1) the glide slope facility, (2) the medium intensity approach lighting system with runway alignment (MALSR), (3) the VASI-6 system on Runway 8, and (4) the VASI-4 system on Runway 26. Additionally, relocation of Runway 8 threshold by 630 feet would require a corresponding extension of the parallel taxiway shoulder stabilization, runway and taxiway lights, pavement markings, access road and land acquisition. An order of magnitude estimate for this work is $700,000, including the runway extension.

5J Page 58, Conclusion, Item No. 3

Same comment as paragraph D1c, page 1, Summary, regarding improvement of access to airport.

5K Plate 19, Comparison of Schemes

Estimated construction cost for the revised Alignment B is shown as $4,790,000. Please recognize that this cost estimate does not include the cost of extending Runway 8/26 by 630 feet and corresponding extensions and relocation of the existing navigational aids as mentioned in our previous comment.

Thank you for the opportunity to review and comment on this document. We would appreciate receiving a copy of the Final Environmental Impact Statement when it is completed.

Sincerely,

K. HAYAMA
Acting Chief, Airports Division, APC-600

DISCUSSION OF COMMENTS MADE BY THE UNITED STATES FEDERAL AVIATION ADMINISTRATION

5A. After a thorough evaluation of all alternatives, the State Department of Transportation has selected alternate Alignment A-5 for implementation. In compliance with Section 318, Title 23, U.S.C., a sketch map supporting finding of public interest in General Lyman Field, Hilo, Island of Hawaii, was fully executed August 16, 1976. Said document can be found in Appendix D.

5B. In the context of the overall street and highway system for the Hilo area, both the Bayfront Highway and Kanoelehua Avenue are arterial highways. A change in airport access location will not affect the aforesaid role of the proposed highway improvement nor their interrelationship.

5C. The Statewide System map and Hilo Community Development Plan presently show similar concepts of a major highway facility around the northern edge of the airport. The selected alternate, Alignment A is in agreement with these plans.

5D. Access to the airport via the Bayfront Highway and Kanoelehua Avenue will be improved due to the increase in highway capacity particularly at the major intersections of Manono Street and Kanoelehua Avenue.

5E. From the statistics compiled by the Highways Division, the following were noted:

A. Most dangerous intersection in Hawaii County during 1966 to 1975:

Kamehameha Avenue-Kanoelehua Avenue - ranked 1st.
Kamehameha Avenue-Manono Street - ranked 2nd.

5F. See discussion of Comment 5B.

5G. Clarification on percentage of takeoffs are moot due to the opening of new passenger terminal in 1976.

5H. Referenced sentence modified to reflect conditional use of Runway 8.

5I. a. The second sentence has been deleted.

b. Necessary relocation and extension works were pointed out by the Federal Aviation Administration and by the State Airports Division in previous correspondences.

5J. See discussion of Comment 5B.

5K. The relocation and extension costs were included in the estimated construction cost for the revised Alignment B.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

RECEIVED
NOV 28 1 59 PM-1975
DEPT. OF [illegible]

Mr. Ralph Segawa
Division Engineer
Federal Highway Administration
677 Ala Moana
Honolulu HI 96720

NOV 2 1 1975

Dear Mr. Segawa:

The Environmental Protection Agency has received and reviewed the draft environmental statement for the Hilo Bayfront Highway, Hilo, Hawaii.

EPA's comments on the draft environmental statement have been classified as Category ER-2. Definitions of the categories are provided on the enclosure. The classification and the date of EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the environmental statement.

EPA appreciates the opportunity to comment on this draft environmental statement and requests one copy of the final environmental statement when available.

Sincerely,

for Paul De Falco, Jr.
Regional Administrator

Enclosure

cc: Council on Environmental Quality

EIS CATEGORY CODES

Environmental Impact of the Action

LO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

COMMENTS ON THE DEIS FOR THE
HILO BAYFRONT HIGHWAY, HILO, HAWAII

6A The type of air quality impact analysis (burden analysis) contained in the Draft EIS is sufficient for hydrocarbons and nitrogen oxides in an area in which there is no apparent photochemical air pollution problem. The calculations, data and the assumptions used in the calculations should be included in the E.I.S.

6B For carbon monoxide, a diffusion model should be used to predict maximum ambient concentrations which would occur during the life of the roadway. Carbon monoxide concentrations are related closely to traffic loading and patterns within a specific area, and, therefore, are not truly reflected by a burden analysis involving emissions from the entire project.

6C In Section II.D.2. the statement is made that "pollutant levels for carbon monoxide, hydrocarbons and nitrogen oxide in the Hilo area do not exceed either State or Federal control levels". We are not aware of any ambient measurements of these pollutants in the Hilo area. Documentation of this statement should be included in the E.I.S.

DISCUSSION OF COMMENTS MADE BY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION IX

6A.

SAMPLE CALCULATION
FOR
POLLUTANT CONCENTRATION

DATA:

a) Year - 1984

b) Line A Improvement, Segment No. 2, Length = 0.27 miles

c) Average Daily Traffic (ADT) = 22,800 vehicles per day (vpd)

d) *Average Emission Factor (EF)

e) *Speed Correction Factor (SCF)

* Obtained from EPA's Compilation of Air Pollutant Emission Factors, AP 42, Supplement No. 2, September 1973.

DETERMINE: Hydrocarbon Concentration = Vehicle Miles Travelled x Corrected Emission Factor

Vehicles Miles Travelled = ADT x Length

Corrected Emission Factor - EF x SCF

1984 Hydrocarbon Concentration = (22,800 x 0.27) x (2.0 x 0.86)

= 10,588 grams per day

6B. The environmental Protection Agency's "HIWAY" Computerized Model was used and a summary of the analysis is included in Appendix C.

6C. Referenced sentence deleted.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

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

September 22, 1975

MEMORANDUM

To: Dr. Richard E. Marland, Director
Office of Environmental Quality Control

From: Deputy Director for Environmental Health

Subject: Draft Environmental Impact Statement (EIS) for Hilo Bayfront Highway

Thank you for allowing us to review and comment on the subject EIS. Please be informed that we have no objections to this project.

The following comments are offered for your consideration:

1. We concur with the methodology and conclusions as they apply to your projected mass emission rates.

2. Also, we conclude that this project, by virtue of the fact that motor vehicles will be subject to the federal motor vehicle control program, is consistent with the control strategy as specified in the State Implementation Plan. Please note that this analysis does not address ambient air quality levels and no determination relative to the effect of this project on ambient air quality levels can be made. 7A

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: Hawaii DHO

DISCUSSION OF COMMENT MADE BY THE DEPARTMENT OF HEALTH, STATE OF HAWAII

7A. Reference to ambient air quality levels has been deleted. The State of Hawaii Control Strategy for Carbon Monoxide is reproduced here:

"Hawaii is Priority III for carbon monoxide and, according to EPA Regulations, the control strategy need only demonstrate that the air quality levels will be maintained below the national secondary ambient air quality standards.

Control Strategy to Meet National Standards

The national primary and secondary standards for carbon monoxide has not been exceeded in the State based on recorded data. The Federal motor vehicle control program should maintain air quality levels below the national standards despite future growth if the Federal motor vehicle emission standards are effective.

Control Strategy to Meet State Standards

The State standards of 10 mg/m^3 for one hour and 5 mg/m^3 for eight hours have both been exceeded at the Department of Health Station. The more restrictive standard (1 hour) is used in the proportional model as follows:

$$\text{\% emission Reduction required} = \frac{16.9 - 10}{16.9} = 41\%$$

According to the procedures in Appendix I of the EPA Regulations, the Federal motor vehicle program will result in an emission reduction between 1970 and 1975 of 22%. By 1977, there will be a 40% reduction in emissions from 1970 levels and by 1978, there would be a corresponding reduction of 47%. Thus, if 1977 could be considered a reasonable date for achieving the Hawaii ambient air quality standards for carbon monoxide, additional measures would not have to be instituted.

In order to achieve the State standards by 1975, the following measures will be considered:

1. Requiring control devices to be installed on uncontrolled (pre-1966) vehicles. This program would have to be instituted immediately in order to be completed by 1975. Based on figures supplied by the major domestic auto manufacturers concerning the effectiveness of such devices, the estimated 1975 air quality would be 10.8 mg/m^3. The effectiveness of such a program would be transient, since most pre-1966 vehicles would be retired after 10 years of driving.

2. Converting fleet vehicles or even private autos to gaseous fuels;

3. Periodic inspection, testing, or required maintenance of all vehicles;

4. Adoption of one or more traffic control measures; such as:

   a. Increasing development and use of mass transit

   b. Restricting parking in Honolulu

   c. Requiring car-pooling during rush hours

   d. Commuter taxes

   e. Gasoline rationing

   f. Staggering working hours

   g. Raising parking fees in downtown Honolulu

The effect on emissions of traffic control measures is difficult to evaluate. Also, there appears to be substantial problems of cost, administration, and public acceptance. Since such measures will be necessary only for the time period between 1975 and 1977, it would appear that relying on the Federal motor vehicle control program to achieve the Hawaii standards by 1977 would be in public interest."[1]

1 Reference: State of Hawaii Department of Health, Air Pollution Control Implementation Plan, January 1972.

4933

GEORGE R. ARIYOSHI
GOVERNOR

RICHARD E. MARLAND, PH.D
DIRECTOR

TELEPHONE NO.
548-6915

RECEIVED DIRECTOR'S OFFICE
NOV 24 7 59 AM '75

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
DEPT. OF TRANSPORTATION
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

November 20, 1975

MEMORANDUM

TO: E. Alvey Wright, Director
Department of Transportation

FROM: Richard E. Marland, Director

SUBJECT: Draft Environmental Impact Statement for Hilo Bayfront Highway, Hilo, Hawaii

As of this date, this Office has already forwarded the comments received on the above project in our correspondence dated October 31, 1975.

In our review of the draft EIS, we have found several areas in which the EIS should expand discussion. We offer the following comments:

8A 1. This Office has one general comment regarding the style and form of the EIS. From pages 5-17, the dEIS seems to be a note taking outline form. In other words, the document is not a formal presentation but rather a list with incompleted sentences and phrases. Perhaps, the information between those pages could be more useful if given in table form.

8B 2. p. 17. The statement, "The waters in Hilo Bay are polluted to a degree where it may be detrimental to the health of swimmers," should be documented or referenced.

8C 3. p.24. Although the EIS points out that aircraft noise is considerably more than traffic, it also should indicate that aircraft noise is only intermittent whereas traffic noise is on a continuious bases.

8D 4. In regards to the traffic data of 1974 and 1994, the EIS should expand its discussion to include the peak hours, peak hour traffic, and peak directions.

8E 5. The description of the surrounding environment should be expanded to include climate, temperature, and wind velocity and direction.

8F 6. p. 34, Although the EIS mentions that alignments B-1, C & D were dropped, this Office recommends a discussion of why these alternatives were not feasible.

8G 7. How much of the total funding described on plate 19 is state funding?

8H 8. Short-term uses vs. long-term productivity should be expanded to include discussion of secondary impacts generated from this proposed project. We recommend that increased urbanization, population growth, commercialization, use of public facilities, and etc., be considered in relation to the effects of the proposed action.

8I 9. The description and discussion of the bridge is brief. What type of design is being proposed? Will it accommodate pedestrians? Is this part of the Hilo Bayfront project?

8J 10. The Hawaii County Planning Department has stated that they are concerned with the highway segment extending from Wailoa River to Wailuku River and that both segments should be considered simultaneously. This Office concurs with the Planning Department. The EIS Regulations in section 1:12c. states,

> "A group of proposed actions shall be treated as a single action when: (1) the component actions are phases or increments of a larger total undertaking;"

8K 11. This Office would like to point out that an energy crisis still exists. Because highways tend to promote the use of the automobile, consumption of gasoline is increased. Other alternatives should be explored in the final EIS. In other words, emphasis should be placed on conserving fuel rather than promoting its use. Thus, we strongly recommend a discussion of alternate modes of transportation such as car pools, mass transit, fixed guideway system, and etc.

RECOMMENDATIONS

For brevity and fairness, this Office did not attempt to summarize other comments. Instead, we strongly recommend that each comment be given careful consideration.

8L We further recommend that (1) your written responses, indicating a point by point discussion of the validity, significance, and relevance of comments be sent directly to all commentors, including this Office; (2) all comments and your responses be incorporated as an appendix to the revised EIS; (3) a copy of the final EIS should be sent to those individuals that provided substantive comments to the draft EIS.

This Office also realizes that the fourteen day response period is quite short for an adequate response. Thus, we will consider responses after the fourteen day period.

We trust that these comments will be helpful in preparing the revised EIS. We thank you for the opportunity to review the draft EIS. We look forward to the revised EIS.

DISCUSSION OF COMMENTS MADE BY THE OFFICE OF ENVIRONMENTAL QUALITY CONTROL, STATE OF HAWAII

8A. Portion of the information between the said pages were deleted and incorporated in a separate document entitled: Section 4(f) Statement, Hilo Bayfront Highway. The preparing agency elects to excise its prerogative regarding style and form of the EIS.

8B. The referenced sentence has been deleted.

8C. Vehicular traffic noise could also be considered intermittent, specifically during non-peak hours. The purpose of mentioning the presence of aircraft noise is providing the reviewer with other factors affecting the noise level in the area.

8D. Additional information regarding the characteristics of the traffic were included in Section 2.B.2.

8E. Description of the climate, temperature, and wind velocity and direction have been included in Section IIIB.

8F. Discussions of the alternatives dropped are included in Section VIII.

8G. The project will be a part of the Federal Aid Primary system and therefore a 70/30, Federal/State, funding is anticipated.

8H. Secondary impacts as a result of project implementation are discussed in Section VB.

8I. The Wailoa River bridge is within the study limits. The planned bridge section does include provision for pedestrian traffic. During the design stage of project development, public input regarding design features will be solicited.

8J. Please refer to the discussion of comment 11A of the Hawaii County Planning Department.

8K. The proposed highway improvement is needed to meet the demands generated by the land use in the Hilo area. It appears that the major existing transportation system (private automobiles and roads) is the only viable transportation alternative to the City of Hilo in view of its widely scattered population. The existing Hilo bus service and car pools make more efficient use of gasoline and are encouraged, but they too require streets and highways. A fixed guideway system for a city with Hilo's present population and configuration is neither practical nor economically justifiable.

8L. Point by point discussions are not sent to the respondents as an agency policy; however, responses are incorporated in the Final EIS. Reviewers who provided substantial comments will be furnished a copy of the Final EIS.

2770

DIRECTOR'S OFFICE

'75 OCT 31 8 01 AM

DEPT. OF TRANSPORTATION

University of Hawaii at Manoa

Environmental Center
Maile Bldg. 10 • 2540 Maile Way
Honolulu, Hawaii 96822
Telephone (808) 948-7361

Office of the Director

MEMORANDUM

October 29, 1975

TO: E. Alvey Wright, DOT

FROM: Doak C. Cox

RE: Hilo Bayfront Highway

We regret that time and available staff have not permitted our usual formal review of this draft EIS. Our brief examination of the document indicates a generally good identification of the noise level impacts (pp. 23 - 26, 29 - 31).

9A We are pleased to note the measures to minimize impacts cited on pages 56 and 57. There does not seem to be any mention of potential archeological sites in the area. Has the presence of such sites been considered and have provisions been established for appropriate evaluation if archeological remains are unearthed during construction?

We appreciate the opportunity to have examined this draft EIS.

Doak C. Cox, Director

cc: EQC

DISCUSSION OF COMMENT MADE BY THE ENVIRONMENTAL CENTER, UNIVERSITY OF HAWAII AT MANOA

9A. Please refer to discussion of comment 3B made by the United States Department of the Interior.

-PH

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

P O BOX 1820 • HILO, HAWAII 96720 • 25 AUPUNI STREET

September 18, 1975

Department of Transportation
Highways Division
Planning Branch
869 Punchbowl Street
Honolulu, HI 96813

Re: Hilo Bayfront Highway
Project No. 7-019-2(10),
Draft Environmental Impact Statement

10A We see no immediate adverse objections to this project. However, you should be advised that there may be a number of places where the existing water systems may have to be relocated or realigned.

E. W. Ishii
Akira Fujimoto
Manager

GK

... Water brings progress...

DISCUSSION OF COMMENT MADE BY THE BOARD OF WATER SUPPLY, HAWAII COUNTY

10A. Close coordination will be effected during the design stage and continued during the construction stage of the project development.

260

COUNTY OF HAWAII

PLANNING DEPARTMENT

25 AUPUNI STREET • HILO, HAWAII 96720

HERBERT T. MATAYOSHI
Mayor

RAYMOND H. SUEFUJI
Director

October 1, 1975

Mr. E. Alvey Wright, Director
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Re: Hilo Bayfront Highway (Draft EIS)
Project No. U-019-2(10)

Thank you for the opportunity to review the above.

The project addressed in the EIS is but one segment of the State Highway System which "passes through" Hilo. It may be convenient to divide such highways into segments which are more easily managed, especially if we view funding as the primary concern. Admittedly,
11A the proposed project stretching from Kuhio Wharf until Wailoa Bridge is a needed one; however, we are equally concerned with the State Highway segment stretching from Wailoa River to Wailuku River. We contend that both segments should be considered simulataneously. It is critical that we examine a wider scope since the proposed segment is not self-serving. The need for a wider perspective becomes even more critical when we realize that transportation systems have a great capacity for affecting the pattern of development in an area.

11B In addition, the County Planning Commission adopted the Hilo Community Development Plan on May 21, 1975, and the County Council adopted the Hilo Downtown Development Plan as Ordinance No. 53. Neither document has been referred to in your draft EIS.

We note on Page 23, "Vehicular operating speeds will be on the order of 35 miles per hour and will not pose as a vehicular barrier or
11C threat to the safety of pedestrians." On the other hand, on Page 26, you state "Air pollution from vehicle emissions will decrease following the construction of the facility due primarily to improved emission control devices and higher speeds." There appears to be some conflict between these two statements; perhaps, further clarification should be made.

11D On Page 15, we note a minor oversight. The Country Club is presently not in operation.

11E On Page 33, you state that the memorial clock will be relocated. As monies for the clock and tidal wave memorial were appropriated at both the State and County levels, the coordination required of various agencies should be addressed.

11F The Wailoa Bridge will be reconstructed. During reconstruction, traffic may have to be detoured. The alternate detour routes should be addressed. Rerouting of heavy vehicles through Hilo will definitely have some impact. A detour with the least impact should be selected.

Raymond Suefuji

RAYMOND SUEFUJI
Director

VKG/RN:rfd

cc: Environmental Quality Commission
Office of Environmental Quality Control
Chief Engineer, DPW

DISCUSSION OF COMMENTS MADE BY THE PLANNING DEPARTMENT, HAWAII COUNTY

11A. Both the Wailuku to Wailoa River and the Wailoa River to Kuhio Wharf segments are independent and separate actions. Neither is dependent on the other nor is it necessary to construct one to justify construction of the other.

Both actions serve separate and distinct functions. The Wailuku to Wailoa River Section separates Hamakua bound traffic from the Hilo town traffic. The Wailoa River to Kuhio Wharf Section links the Hilo urban area to its transportation terminals (harbor and airport).

Thus, neither section is a component of the other. We interpret the cited regulation to be applicable to the situation where an action is part of larger project. An example would be a retention basin or a bridge that is constructed as part of a highway realignment. Another example would be land clearing and displacement of residences for a highway widening.

We do agree, however, that the planning of both segments should be mindful of each other. For this reason, the new Wailoa River Bridge is sited in a manner to insure that a safe and efficient transition can be made to connect its touch-down point with either Kamehameha Avenue or the Bayfront Highway. This flexibility was one of the controls incorporated in our plans in order that the Wailoa River Bridge could be replaced as soon as possible. The foundations for the bridge are deteriorated and consequently the bridge is on the high priority list for needed repairs. Delaying the present study to incorporate the Wailuku to Wailoa River Section would not serve the public interest. It is not unreasonable to assume that such a delay could amount to several years.

11B. Reference is made to the Hilo Community Development Plan in Section IV of the final EIS.

11C. The phrase "higher speed" contained in the second of the two cited statements is made in the relative sense. Higher speed (35 miles per hour) will be achievable thru the absence of traffic congestion made possible by the proposed improvement.

11D. Oversight has been corrected.

11E. Coordination, should it be required for the relocation of the memorial dock, will be effected during the design stage of the project development.

11F. Due to the structural inadequacies of the existing bridge, the heavier trucks (approximately 5% of the truck traffic) are currently being routed through Hilo. Significant impacts are not anticipated as a result of the new bridge construction at the Wailoa River; however, during the design stage of the project development, detour alternatives will be carefully evaluated.

245 North Kukui Street, Honolulu, Hawaii 96817, Telephone (808) 537-5966

AMERICAN LUNG ASSOCIATION *of Hawaii*

October 16, 1975

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Dr. Marland:

Re: Hilo Bayfront Highway Draft EIS

Attached hereto is a microscale analysis of the proposed highway's impact on air quality. The methodology we employed for calculating emission factors is a version revised earlier this year by EPA's Office of Air Quality Planning and Standards, and this may account for differences between our emissions estimates and those presented in the appendix of the DEIS which appear to have been computed according to the older method.

We feel it is important to point out that the principal reason for projected decreases in emissions is improvement in emission control devices. Similar decreases can be predicted with or without the proposed highway improvements.
12A It is also important to note that these projected decreases are contingent on present statutory standards and attainment dates being maintained. Congressional action changing either of these factors could attenuate or even reverse the downward trend.

The DEIS did not address completely the short term impact on air quality. For example, we estimate that each of the three major automotive pollutants will have a critical year in which its emissions will reach a peak above
12B current levels. During these critical years, ambient air quality in close proximity to the highway may approach or even exceed State and/or Federal standards. In this same vein, the DEIS mentioned particulate emissions generated by construction but did not consider the effect of construction on vehicle emissions.

Finally, emissions can be expected to begin increasing again following 1990 as the attrition of older, uncontrolled vehicles becomes insignificant and no new standards or improved emission controls are planned.

Sincerely,

James W. Morrow

James W. Morrow, Director
Environmental Health

JWM:ct
Att.

245 North Kukui Street, Honolulu, Hawaii 96817, Telephone (808) 537-5966

AMERICAN LUNG ASSOCIATION *of Hawaii*

HILO BAYFRONT HIGHWAY

AIR QUALITY ANALYSIS

Introduction

Emission factors for each of the three major automotive pollutants, i.e., carbon monoxide (CO), hydrocarbons (HC), and nitrogen oxides (NOx), were calculated for the years 1974-1994 in accordance with the latest revision (August, 1975) of U.S. Environmental Protection Agency (EPA) methodology.[1] These emission factors along with traffic projections[2] for the same period were used to identify the critical year* for each pollutant. Once critical years were identified, new emission factors were computed based on peak hour traffic parameters. These new factors were used in estimating ambient concentrations of each pollutant. A Gaussian diffusion equation modified for line sources was employed in this effort.[3] The ambient concentrations were estimated using morning peak hour traffic figures and assuming both worst case and more probable meteorological conditions.

Emission Estimates

The annual fluctuation in average daily emissions based on emission factors and traffic projections (Figure 1) is shown in Figures 2-4. Construction was assumed to occur during 1977-1978 with the highway being fully operational in 1979. Other parameters and assumptions used in generating these estimates are listed at Appendix A. Note that both CO and HC emissions increase during the construction period due to (1) increasing traffic and (2) reduced operating speed. 1977 is the critical year for CO and HC. NOx emissions, however, despite the traffic increase, decline slightly during the construction period because of their opposite response to decreased speed.

Following completion of the project, CO and HC emissions drop off sharply in spite of rising traffic levels primarily because of projected improvements in emission control devices and attrition of older, uncontrolled vehicles, but also due to increased operating speed. NOx, again due to its opposite response to speed, increases to reach its critical year in 1979 after which it declines although less sharply than CO and HC.

*Critical year is the year in which the emissions of a given pollutant reach a peak after which they decline due to improved emission control devices and/or changes in traffic volume and road conditions.

Christmas Seals Fight TB, Asthma, Emphysema, Air Pollution

FIGURE 1

TRAFFIC PROJECTION
HILO BAYFRONT HIGHWAY

Oct. 75

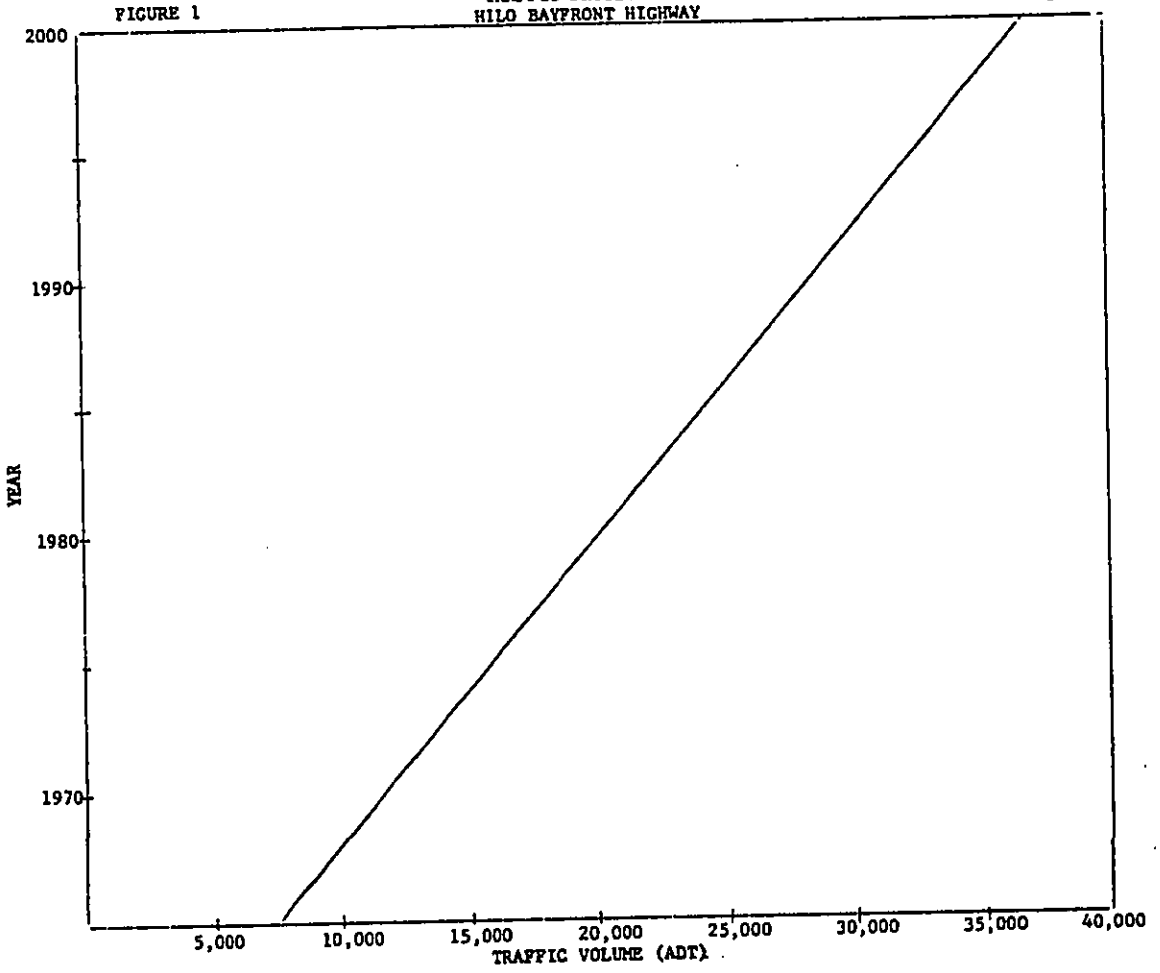


FIGURE 2

ESTIMATED ANNUAL FLUCTUATION OF CARBON MONOXIDE EMISSIONS
HILO BAYFRONT HIGHWAY

Oct. 75

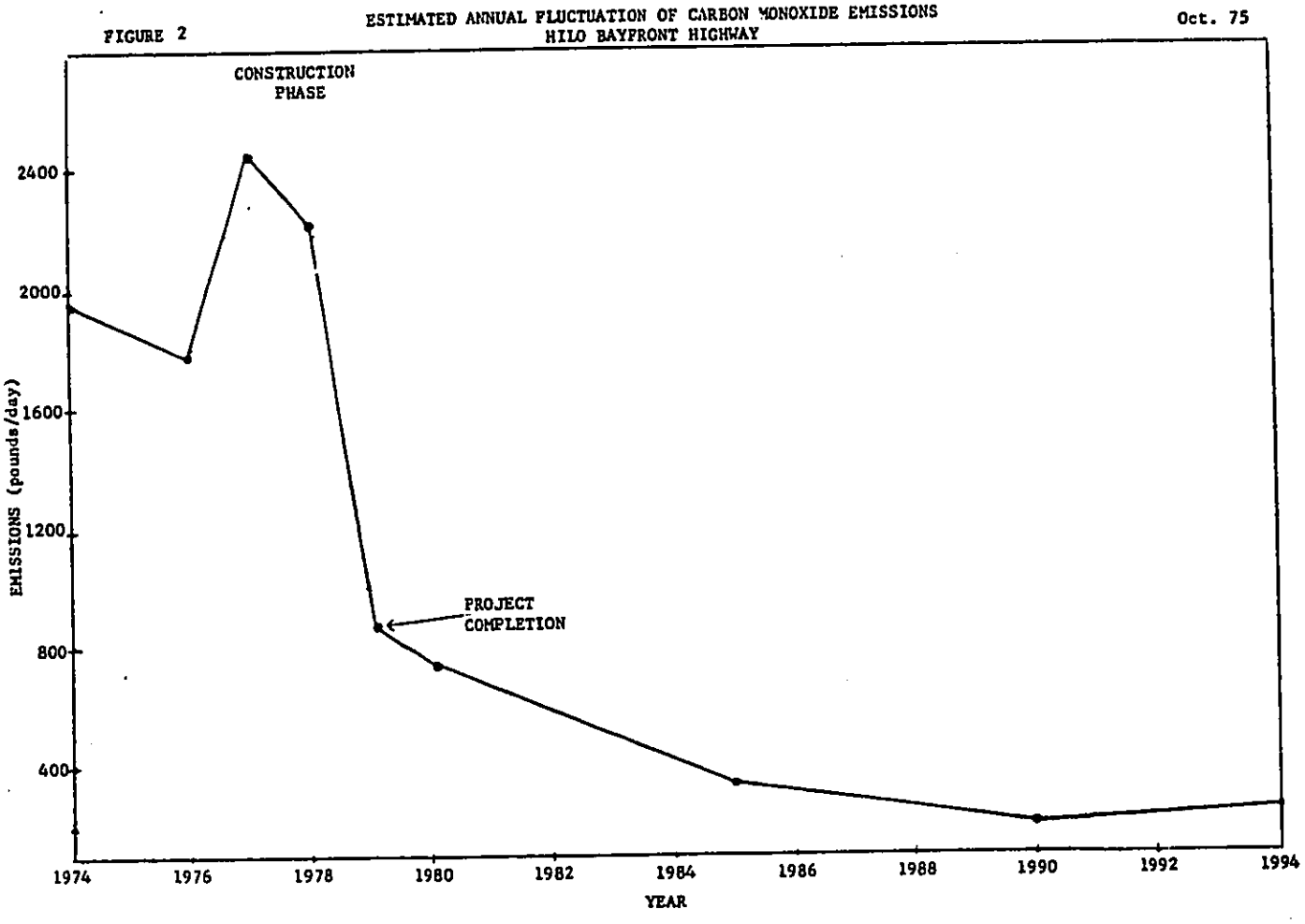


FIGURE 3 ESTIMATED ANNUAL FLUCTUATION OF HYDROCARBONS EMISSIONS HILO BAYFRONT HIGHWAY Oct. 75

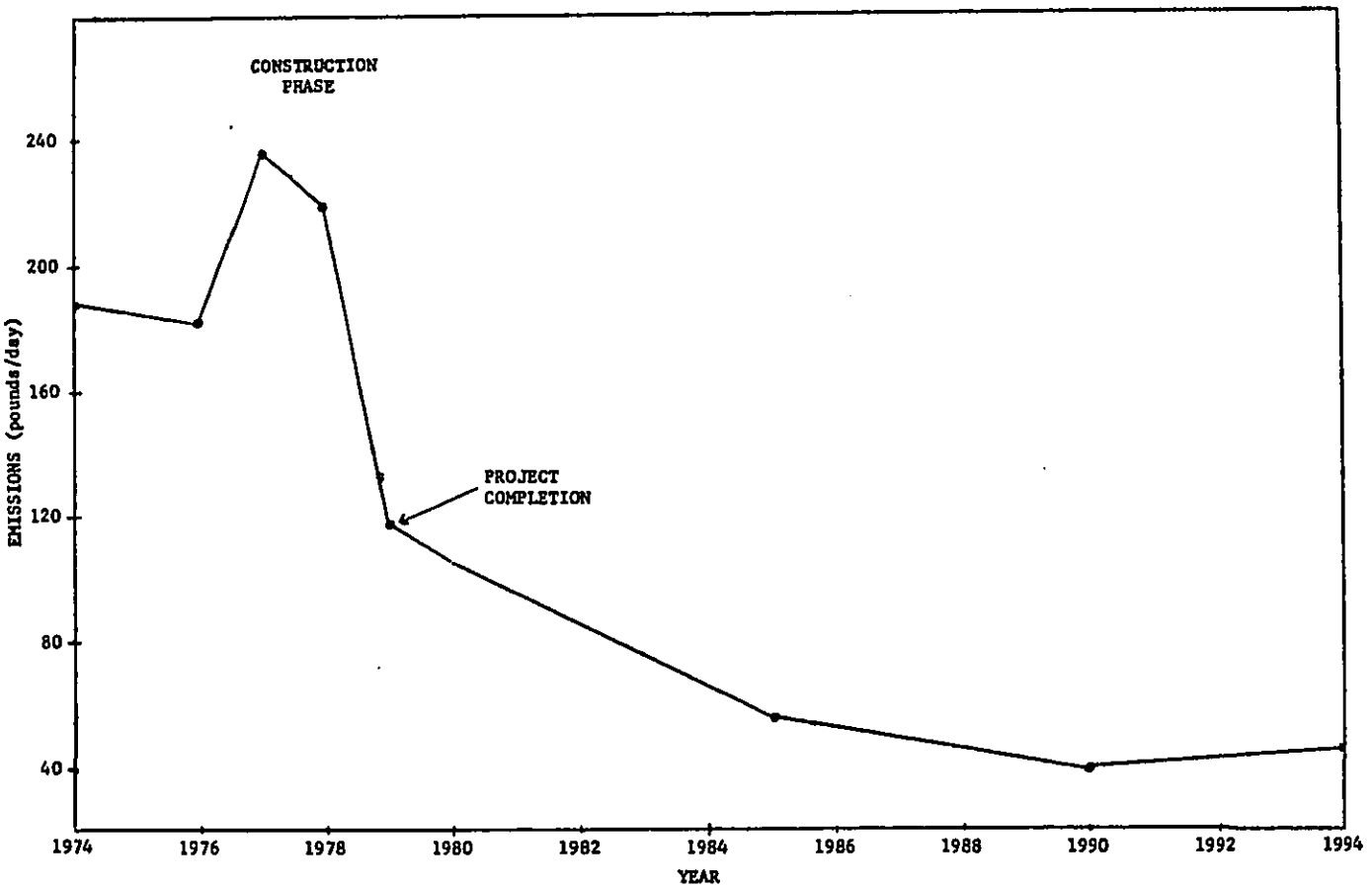
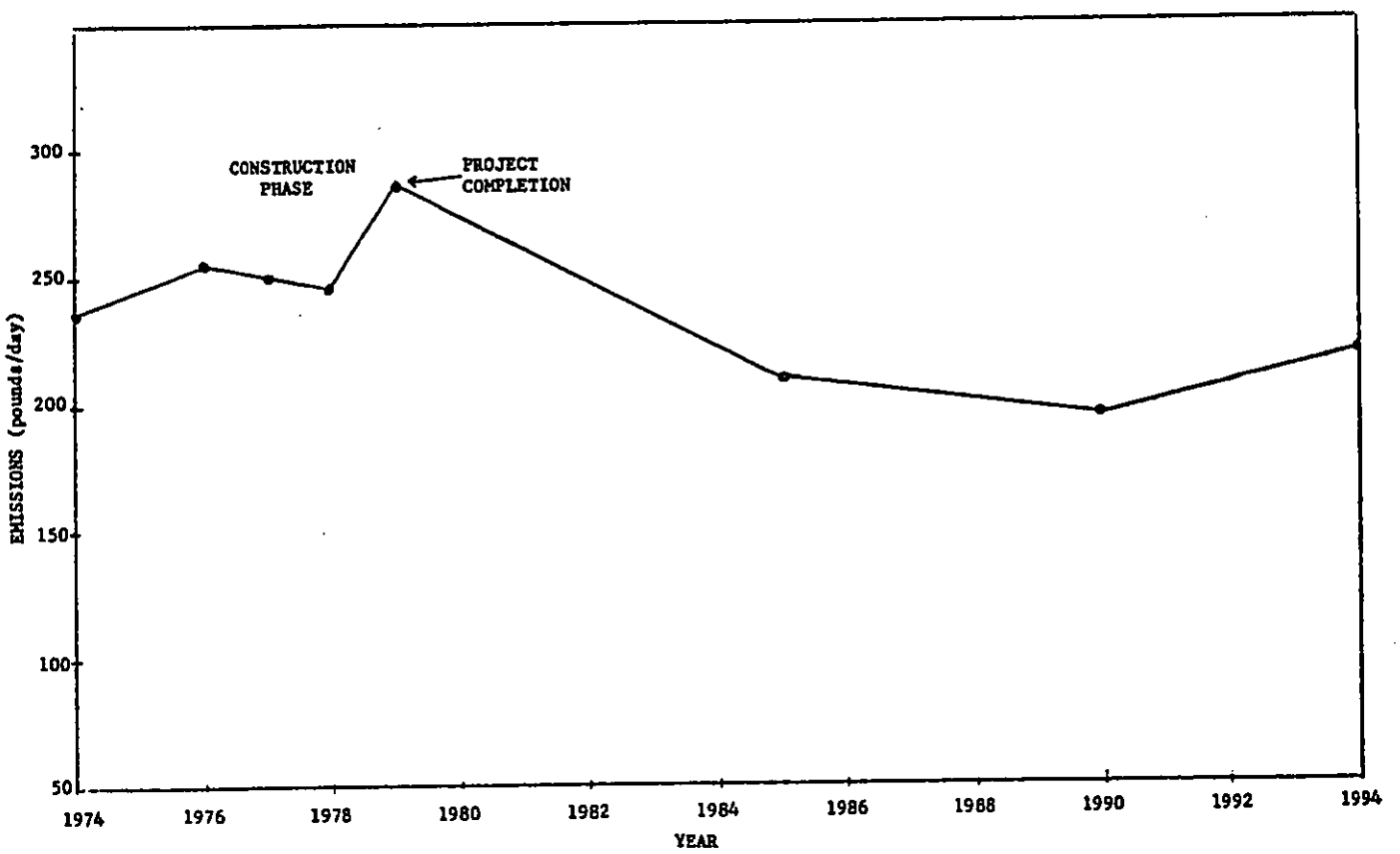


FIGURE 4 ESTIMATED ANNUAL FLUCTUATION OF NITROGEN OXIDES EMISSIONS HILO BAYFRONT HIGHWAY Oct. 75



After 1990, uncontrolled-vehicle attrition becomes insignificant, and no further improvements in emission control systems are presently projected; thus, traffic, which continues to increase, again results in rising emissions levels.

Estimated Ambient Concentrations

Ambient concentration estimates for morning peak hour traffic are shown in Table 1. For comparison Federal and State air quality standards are presented in Table 2. The various parameters and assumptions used in their development are listed at Appendix B.

Table 1

Estimated Ambient Concentrations
(100 meters from highway)

Pollutant	Critical Year	Worst Case 1-Hour Concentration	"Average" 1-Hour Concentration
CO	1977	9-10 mg/m^3	2.5-2.6 mg/m^3
HC	1977	700-750 ug/m^3	180-109 ug/m^3
NOx	1979	840-890 ug/m^3	210-220 ug/m^3

Under worst case meteorological conditions, the CO estimate is very close to the State of Hawaii 1-hour standard and at closer proximity to the highway may exceed it. It should be remembered that all these estimates must be added to existing ambient levels to determine whether standards will be violated. Unfortunately, CO and HC are not monitored in Hilo, but NOx levels average less than 20 micrograms/cubic meter (ug/m^3).

There is no 1-hour standard for HC, but even if the preceding or succeeding two hours had a zero HC concentration, the 3-hour average would exceed both Federal and State standards. However, it should also be noted that there are reports of the rapid dissipation of HC generated by highway traffic.[4] Hydrocarbon standards have been established to prevent the formation of photochemical oxidants which are considered more toxic and of which HC are precursors.

NOx also do not have a 1-hour standard but rather have 24-hour and annual standards. Despite high 1-hour levels which appear possible during peak hour traffic under adverse meteorological conditions, it seems unlikely that emissions during the remaining 23 hours of the day will be sufficient to cause violations of the 24-hour standard. Moreover, NOx participate in atmospheric photochemical reactions which further reduce their concentration. However, it should be recalled that these estimates are for a perpendicular distance of 100 m from the highway, and that higher concentrations may occur nearer to it.

The 1-hour estimates under more average meteorological conditions but still assuming peak hour traffic levels, suggest the unlikelihood of standards being exceeded.

Table 2

State and Federal Ambient Air Quality Standards

Pollutant	Averaging Period	State Standard	Federal Standard
CO	1-hour	10 mg/m^3	40 mg/m^3
	8-hour	5	10
HC	3-hour	100 ug/m^3	160 ug/m^3
NOx	24-hour	150 ug/m^3	none
	annual	70	100 ug/m^3

Conclusion

Assuming that none of the key variables such as traffic projections and emission standards undergo any drastic changes over the time period being considered, it appears that after reaching critical years the emissions of all three major automotive pollutants will experience a downward trend. The estimates of ambient concentrations suggest that only in critical years during peak hour traffic under adverse meteorological conditions and within about 100 meters of the highway is there a possibility that ambient air quality standards may be exceeded. The low wind speeds that could cause this occur approximately 10% of the time (all hours)[5] with perhaps a slightly higher frequency during morning hours which correspond with peak a.m. traffic. Thus, it is concluded that there may be a short term degradation of air quality in the immediate vicinity of the highway during the critical years of the respective pollutants. In the case of CO and HC, this will be 1977-78 due to anticipated reduced speed during construction. In the case of NOx, it will occur in 1979 due to the increased speed resulting from completion of the highway. Following these critical years, it is expected that the impact of highway traffic on air quality will decrease. It must be stressed, however, that this assessment is contingent upon the present schedule of statutory emission standards remaining unaltered by Congress.

REFERENCES

1. U.S. Environmental Protection Agency. Compilation of Air Pollutant Emission Factors, (2nd Ed.) with Supplements 1-5, April, 1973.

2. U.S. Department of Transportation, Federal Highway Administration and State of Hawaii Department of Transportation, Highways Division. Draft Environmental Impact Statement--Hilo Bayfront Highway (Project No. U-019-2(10), August, 1975.

3. U.S. Environmental Protection Agency. Workbook of Atmospheric Dispersion Estimates, (revised 1970) 6th printing, January, 1973.

4. Federal Highway Administration, Office of Research and Development, Air Quality Manual, Vol. VIII, Synthesis of Information on Highway Transportation and Air Quality, December, 1972.

5. National Weather Service. Hilo Hawaii (General Lyman Field) Surface Winds, 1949-1967.

Appendix A

Input Parameters for Emissions Estimates

1. Composite Emission Factor:

$$e_{npstwx} = \sum_{i=n-12}^{n} c_{ipn} \cdot m_{in} \cdot v_{ips} \cdot z_{ipt} \cdot r_{iptwx}$$

Where e_{npstwx} = Composite emission factor in grams per mile for calendar year n, pollutant p, average speed s, ambient temperature t, percent cold operation w, and percent hot start operation x.

c_{ipn} = The FTP (1975 Federal Test Procedure) mean emission factor for the i^{th} model year light duty vehicles (LDV) during calendar year n and for pollutant p.

m_{in} = The fraction of annual travel by the i^{th} model year LDV during calendar year n.

v_{ips} = The speed correction factor for the i^{th} model year LDV for pollutant p, and average speed s.

z_{ipt} = The temperature correction for the i^{th} model year LDV for pollutant p and ambient temperature t.

r_{iptwx} = The hot/cold vehicle operation correction factor for the i^{th} model year LDV for pollutant p, ambient temperature t, percent cold operation w, and percent hot start operation x.

2. Speed: 1974-1976 - LDV--30 mph
HDV--18 mph
1977-1978 - LDV--20 mph
HDV--18 mph
1979-1994 - LDV--45 mph
HDV--30 mph

Peak hours - LDV/HDV--15 mph

3. Ambient temperature: 75°F

4. Hot/cold operations: Average daily - 50% hot stabilized
25% hot start
25% cold start

Peak hour - 80% cold start
10% hot start
10% hot stabilized

Appendix A (continued)

5. Vehicle mix: 6% HDV

6. Route length: 1.3 miles

7. Vehicle age distribution: Based on City & County of Honolulu registered vehicles as of March, 1975.

8. Annual mileage driven: Based on national statistics

9. Peak hour traffic: 10% of ADT

Appendix B

Input Parameters for Gaussian Diffusion Model

1. Worst Case Conditions:

Atmospheric stability	- F (moderately stable)
Windspeed	- 1 m/sec (about 2 mph)
Wind direction	- 45° angle with road
Emission height	- 1 m
Emission rate	- based on peak hour traffic conditions in critical year
Receptor distance	- 100 m perpendicular to roadway

2. Average Conditions:

Atmospheric stability	- D (neutral)
Windspeed	- 2 m/sec (about 4 mph)
Wind direction	- 45° angle with road
Emission height	- 1 m
Emission rate	- based on peak hour traffic conditions in critical year
Receptor distance	- 100 m perpendicular to roadway

DISCUSSION OF COMMENTS MADE BY THE AMERICAN LUNG ASSOCIATION OF HAWAII

12A. We concur. The Air Quality Analysis (Exhibit 1, DEIS) conducted for this project examined the pollutant levels for the existing highway for the years 1974 and 1984. The results show a marked decrease in pollutants which can be attributed mainly to anticipated improvements in vehicular emission controls.

12B. The Air Quality Analysis utilizing the U.S. Environmental Protection Agency Methods (Appendix C, FEIS) indicate that State standards are currently being exceeded at the highway right-of-way line along Kamehameha and Kalanianaole Avenues. It can be expected that this will continue through the construction years. This comment is included in the Final EIS in Chapter V, Section A.7, Air Pollution.

RESPONSE TO DRAFT ENVIRONMENTAL IMPACT STATEMENT NOT REQUIRING DISCUSSION

United States Senate

Mr. Hiram L. Fong

United States Congress

Mrs. Patsy T. Mink

United States

Department of the Army
Department of the Air Force
Department of Agriculture, Soil Conservation Service
Department of Health, Education, and Welfare
Department of Housing and Urban Development
Advisory Council on Historic Preservation

State of Hawaii

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

County of Hawaii

Department of Public Works
Department of Parks and Recreation
Department of Public Works, Highway Safety Council

JAMES O. EASTLAND, MISS., CHAIRMAN
JOHN L. MC CLELLAN, ARK.
PHILIP A. HART, MICH.
EDWARD M. KENNEDY, MASS.
BIRCH BAYH, IND.
QUENTIN N. BURDICK, N. DAK.
ROBERT C. BYRD, W. VA.
JOHN V. TUNNEY, CALIF.
JAMES ABOUREZK, S. DAK.

ROMAN L. HRUSKA, NEBR.
HIRAM L. FONG, HAWAII
HUGH SCOTT, PA.
STROM THURMOND, S.C.
CHARLES MC C. MATHIAS, JR., MD
WILLIAM L. SCOTT, VA.

PETER M. STOCKETT
CHIEF COUNSEL AND STAFF DIRECTOR

United States Senate

COMMITTEE ON THE JUDICIARY
WASHINGTON, D.C. 20510

SEP 25 1 45 PM '75

September 15, 1975

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

Dear Alvey:

Thank you for sending me a copy of the Draft Environmental Impact Statement for the Hilo Bayfront Highway, under cover of your letter of September 10. I would appreciate receiving a copy of the Final Environmental Impact Statement for this project when it becomes available.

With aloha,

Sincerely yours,

Hiram L. Fong

Hiram L. Fong

HLF:cko

PATSY T. MINK
SECOND DISTRICT
HAWAII

COMMITTEE ON EDUCATION AND LABOR (ON LEAVE)
SELECT SUBCOMMITTEE ON EDUCATION
GENERAL SUBCOMMITTEE ON EDUCATION
SUBCOMMITTEE ON EQUAL OPPORTUNITIES
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
SUBCOMMITTEE ON TERRITORIAL AND INSULAR AFFAIRS
SUBCOMMITTEE ON NATIONAL PARKS AND RECREATION
SUBCOMMITTEE ON MINES AND MINING, CHAIRMAN
COMMITTEE ON THE BUDGET

Congress of the United States
House of Representatives
Washington, D.C. 20515

September 17, 1975

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

Dear Mr. Wright:

This is to acknowledge the receipt of the Draft Environmental Impact Statement (DEIS) concerning the Hilo Bayfront Highway, Project No. U-019-2 (10). I appreciate your thoughtfulness in transmitting a copy of this document to my office.

Mahalo and best wishes!

Very truly yours,

Patsy T. Mink

PATSY T. MINK
Member of Congress

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

AFZV-FE-EE 21 OCT 1975

SUBJECT: Draft Environmental Impact Statement

Department of Transportation
State of Hawaii
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

This is in response to your letter HWY-PA 2.24211 of September 10, 1975, with the Subject: Hilo Bayfront Highway, Project No. U-019-2(10), Draft Environmental Impact Statement.

We have reviewed the Draft Environmental Impact Statement and have no comments to offer. We ask that you change the zip code on our address from APO San Francisco 96557 to APO San Francisco 96558.

Thank you for the opprotunity to review this document.

Sincerely yours,

CHARLES S. VARNUM
Colonel, CE
Director of Facilities Engineering

CF:
OEQC

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15th AIR BASE WING (PACAF)
APO SAN FRANCISCO 96553

REPLY TO ATTN OF: DEEE (Mr. Nakashima, 4492158) 22 OCT 1975

SUBJECT: Draft Environmental Impact Statement Hilo Bayfront Highway, Project No. U-019-2(10)

TO: Department of Transportation
Highways Division
Planning Branch
869 Punchbowl Street
Honolulu, Hawaii 96813

1. This Headquarters has no comment to render relative to the Draft Environmental Impact Statement for the Hilo Bayfront Highway Project on the Island of Hawaii.

2. We greatly appreciate your cooperative efforts in keeping the Air Force apprised of your development projects.

BEN D KOSA
Dep Dir of Civil Engrg

2765

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
440 Alexander Young Building, Honolulu, Hawaii 96813

October 29, 1975

Mr. E. Alvey Wright, Director
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

OCT 30 12 43 PM '75
DEPT. OF TRANSPORTATION
DIRECTOR'S OFFICE

Dear Mr. Wright:

Subject: Hilo Bayfront Highway, Draft Environmental Impact Statement

We have reviewed the subject dEIS and have no comments. We would appreciate receiving a copy of the final EIS.

Thank you for the opportunity to review this document.

Sincerely,

Francis C. H. Lum
Francis C. H. Lum
State Conservationist

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGIONAL OFFICE
50 FULTON STREET
SAN FRANCISCO, CALIFORNIA 94102

DEC 16 8 52 AM '75

DIRECTOR'S OFFICE
DEC 14 OFFICE OF REGIONAL DIRECTOR 43 PM '75
DEPT OF TRANSPORTATION

December 8, 1975

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

Re: Hilo BayfrontHighway
Project No U-019-2(10)

Dear Sir:

The above Draft Environmental Impact Statement has been reviewed in accordance with the interim procedures of the Department of Health, Education and Welfare as required by Section 102 (2) (c) of the National Environmental Policy Act, PL 91-190.

The material provided appears to describe adequately the impacts of the proposed action as well as the alternatives that were presented. The major concerns of this department are related to possible impacts upon the health of the population, services to that population and changes in the characteristics of the population which would require a different level or extent of services. Our review does not identify problems related to these specific concerns.

The opportunity to review this statement was appreciated.

Sincerely,

James D. Knochenhauer
Regional Environmental Officer

cc: Ms. P. Hayes
Mr. W. Muir

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL HOUSING ADMINISTRATION
HONOLULU INSURING OFFICE
P.O. BOX 3377
HONOLULU, HAWAII 96801

REGION IX
450 Golden Gate Avenue
P.O. Box 36003
San Francisco, California 94102

November 3, 1975

IN REPLY REFER TO:
9.7U (Johnson/
546-5554)

Department of Transportation
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: Hilo Bayfront Highway
Project No. U-019-2(10)
DEIS

The Draft Environmental Impact Statement prepared for the proposed improvement of a 1.3 mile section of the Federal Aid Primary System along the Hilo Bayfront Highway has been reviewed by this office.

The DEIS indicates that there is little or no impact on housing in the neighborhood and will improve traffic safety for this section.

In comparing the various alternatives, we find that alternate #5 provides some advantages over the other alignments proposed.

Sincerely,

Alvin K. H. Pang
Director

.3655

Advisory Council
On Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

DEPT. OF TRANS.
STATEWIDE TRANS.
PLANNING OFFICE
SEP 30 9 43 AM '75

RECEIVED
OCT 1 2 01 PM '75

September 24, 1975

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

Dear Mr. Wright:

This is in response to your request of September 10, 1975 for comments on the draft environmental statement (DES) for the Hilo Bayfront Highway, Project No. U-019-2(10), Hilo, Hawaii County, Hawaii.

Pursuant to Section 106 of the National Historic Preservation Act of 1966 and Sections 1(3) and 2(b) of Executive Order 11593, "Protection and Enhancement of the Cultural Environment" of May 13, 1971, the Advisory Council is charged with the responsibility of providing Federal agencies with comments on their undertakings which effect the cultural resources. Until the Council has been notified by a Federal agency that it has determined an undertaking will affect a property included in or eligible for inclusion in the National Register of Historic Places, the Council is unable to comment.

The Council on Environmental Quality's guidelines for compliance with the National Environmental Policy Act of 1969 directs Federal agencies to forward copies of environmental statements prepared for undertakings which will have an impact on historical resources to the Advisory Council for review and comment. Therefore, because the Council has no legislative or administrative authority to comment to state agencies on their undertakings or environmental statements, the following remarks are directed to the Federal Highway Administration (FHWA).

The Advisory Council has reviewed the State of Hawaii Department of Transportation's DES and has subsequently discussed the proposed undertaking with staff to the Hawaii State Historic Preservation Officer. In addition, while on a recent trip to the State of Hawaii, a member of the Council's staff visited Hilo where the site of this proposed project was inspected and the project discussed with appropriate state and Federal officials. Based upon these discussions and our review of the DES it would appear that the project as proposed will not effect any properties included in or eligible for inclusion in the National Register of Historic Places. Accordingly, the Council has no further comment to make at this time.

Sincerely yours,

Louis S. Wall
Assistant Director, Office
of Review and Compliance

GEORGE R. 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

September 15, 1975

MEMORANDUM

To: Mr. E. Alvey Wright, Director
Department of Transportation

Subject: Hilo Bayfront Highway
Project No. U-019-2(10)
Draft EIS

The Department of Agriculture reviewed the subject proposal for agricultural impact and has no comments.

Thank you for informing us of this highway realignment proposal.

JOHN FARIAS, JR.
Chairman, Board of Agriculture

JF:d:h

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

HIENG

16 SEP 1975

Rear Admiral E. Alvey Wright, USN, (Ret.)
Director, Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Admiral Wright:

Hilo Bayfront Highway, Project No. U-019-2(10),
Draft Environmental Impact Statement

Thank you for sending us a copy of the above project's Draft Environmental Impact Statement. We have reviewed the publication and have no comments to offer.

Very truly yours,

VALENTINE A. SIEFERMANN
Major General, HANG
Adjutant General

2613

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

CHRISTOPHER COBB, 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

October 1,1975

Ref: HWY-PA 2.24213

Honorable E. Alvey Wright
Dept. of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

Draft EIS, Hilo Bayfront Highway

We have reviewed the draft Environmental Impact Statement (EIS).

Although the project is near Wailoa River State Park, park lands are not directly affected. However, as indicated on page 57, pedestrian, as well as bikeways, should be provided in the design of the Wailoa River Bridge to link the harbor front and Waiakea Peninsula with the park.

Very truly yours,

Edgar A. Hamasu

cc CHRISTOPHER COBB
Chairman of the Board

2962

GEORGE R. ARIYOSHI
Governor

HIDETO KONO
Director

FRANK SKRIVANEK
Deputy Director

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

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

RECEIVED
NOV 28 8 37 AM 1975
DEPT. OF TRANSPORTATION
DIRECTOR'S OFFICE

November 25, 1975

Ref. No. 5920

The Honorable E. Alvey Wright
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

Subject: Hilo Bayfront Highway
Project No. U-019-2(10)
Draft Environmental Impact Statement

We have reviewed the subject draft statement and find that it has adequately assessed the probable environmental impacts that can be anticipated from the proposed project.

We appreciate this opportunity to review the draft statement.

Sincerely,

Frank Skrivanek
for HIDETO KONO

DIRECTOR'S OFFICE
Nov 28 7 55 AM '75
DEPT. OF TRANSPORTATION

HERBERT T. MATAYOSHI
MAYOR

EDWARD K. HARADA
CHIEF ENGINEER

BUREAUS AND DIVISIONS:
AUTOMOTIVE EQUIPMENT & MOTOR POOL
BUILDING CONSTRUCTION & INSPECTION
PLANS AND SURVEYS
ROAD CONSTRUCTION AND MAINTENANCE
SEWERS AND SANITATION
TRAFFIC SAFETY AND CONTROL

1647

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS
25 AUPUNI ST.
HILO, HAWAII 96720

SEP 24 2 25 PM 1975

September 22, 1975

Adm. E. Alvey Wright
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

SUBJECT: HILO BAYFRONT HIGHWAY
Project No. U-019-2(10)
Draft Environmental Impact Statement

Thank you for allowing us to review the subject draft E.I.S.
This department has no comments to submit.

EDWARD HARADA
Chief Engineer

DEPARTMENT OF PARKS & RECREATION
COUNTY OF HAWAII

Herbert Matayoshi, Mayor
Milton Hakoda, Director

October 15, 1975

Highways Division, Planning Branch
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

RE: Hilo Bayfront Highway
Project No. U-019-2(10)
Draft Environmental Impact Statement

We have no comments on the draft EIS other than to inform you that the tri-ballfield project at the SE corner of Manono and Kuawa Streets has been completed and the parking grove fronting Kuawa Street has been omitted.

Thank you for affording us the opportunity to review the document.

Milton T. Hakoda
Director

MTH:GM:ai

25 AUPUNI STREET • HILO, HAWAII 96720 • TELEPHONE 961-8311

HERBERT T. MATAYOSHI
MAYOR

EDWARD K. HARADA
CHIEF ENGINEER

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS
25 AUPUNI ST.
HILO, HAWAII 96720

BUREAUS AND DIVISIONS:
AUTOMOTIVE EQUIPMENT & MOTOR POOL
BUILDING CONSTRUCTION & INSPECTION
PLANS AND SURVEYS
ROAD CONSTRUCTION AND MAINTENANCE
SEWERS AND SANITATION
TRAFFIC SAFETY AND CONTROL

October 16, 1975

Department of Transportation
Highways Division, Planning Branch
869 Punchbowl Street
Honolulu, HI 96813

SUBJECT: Hilo Bayfront Highway, Project No. U-019-2(10)
Draft Environmental Impact Statement

Thank you for the copy of the Draft Environmental Impact Statement for the subject project. We have reviewed the draft and have no comments at the present time.

We would appreciate receiving a copy of the Final Environmental Impact Statement.

ROBERT J. SANTOS, Chairman
Highway Safety Council

cc: Mayor
Chief Engineer

APPENDIX F PUBLIC HEARING TESTIMONIES REGARDING THE ENVIRONMENTAL ASPECTS OF THE PROJECT

Public Hearing on the Hilo Bayfront Highway Project
Hawaii County Council Room, Hilo, Hawaii
7:30 P.M. May 6, 1976

The hearing was conducted in accordance with Section 128 of Title 23, U.S. Code. Proceeds of the Hearing were transcribed by a court reported.

Number of people in attendance: 71 persons

THE FOLLOWING INDIVIDUALS TESTIFIED REGARDING THE ENVIRONMENTAL ASPECT OF THE PROJECT AT THE PUBLIC HEARING HELD FOR THE PROJECT:

Mr. Noboru Ota

Mr. Ken Pruitt

Mr. Thomas Cooke

Mr. Bob Mueller

Sister Reddy

Mr. Jim Conahan

Testimony:

MR. OTA: "My name is Noboru Ota. I operate the Oceanview Cash and Carry on Kalanianaole Avenue. We have been there for about twenty years and service the Keaukaha area, Matson Ship, and the yachts that visit us.

On this environmental impact statement, I notice the study wasn't complete, because as far as our customers, this environmental statement, nobody came to question our store on how does it affect the social, economic--I guess that's about all I have to say."

Note:

Oceanview Cash and Carry is affected by the revised Alignment B, an alternative to the selected alignment.

Discussion:

Alternative A-5 has been selected for eventual construction.

Testimony:

MR. KEN PRUITT: "I am associated with Ken's House of Pancakes in the seventeen hundred block of Kam Avenue. The proposition A, the A route proposal seems to me, from what I have heard here tonight to be the most logical place. My objection to it would be to the elaborate width and the division in the middle. I would like to be assured that the traffic flow would be properly handled around that area and I see tonight that we do have a lefthand turn down at the first block. And, the traffic flow could be governed and possibly, if there was some way of arriving down--the way it is now, would practically wipe out our business on the corner and that is why I am concerned.

I think as far as the "A" route, I think that is the best one, even though it does drastically affect us. But we are very concerned about the traffic flow around that area there on the corner. That's about it for me."

Discussion:

The Hilo Bayfront Highway is a six-lane highway between Manono Street and Kanoelehua Avenue. However, because improvements are required at the Kanoelehua Avenue intersection to efficiently disperse the converging traffic, additional lanes are required to channelize the various movements. It is these channelization lanes that necessitate infringement into the four corner properties at the Kanoelehua Avenue/Kamehameha Avenue intersection.

The Department of Transportation has selected Alternative A-5 for eventual construction. Although this alternative will have the least overall impact to Hilo, it will, regrettably, have an impact on subject property. It is the Department's intent to minimize these impacts during the development of the final design plans.

Testimony:

MR. COOKE: "My name is Thomas Cooke and I own property at the corner of Silva Street and Kalanianaole Avenue. Presently on this property there is a building there--I have a building which houses a grocery store, a laundromat and a bar. The grocery store presently services about two hundred and fifty families in the Keaukaha area. It is the only grocery store in that area of any size. The laundromat servces about--the people in the area, the families in the area and there are about thirty boats--an average of thirty boats that come into Hilo at that dock there during the course of a month. A lot of these are seamen, sailors. They go to the store for supplies and the yachts come in there and get supplies at the store. They use the laundromat and they come for cold beer sometimes. The sailors do, you know.

Because of the amount of people here that would be affected should the road go in on the Alignment "B", which would wipe out the store--it would go right through my property and wipe out the building there, we favor very strongly that "A" alignment--that alignment "A" be followed. Thank you."

Note:

Mr. Cooke's property is affected by the revised Alignment B, an alternative to the selected alignment.

Discussion:

Alternative A-5 has been selected for eventual construction.

Testimony:

MR. BOB MUELLER: "My name is Bob Mueller and we have just purchased the Honolulu Iron Works building and under both plans, A and B, our building is going to be affected. We have some questions as to whether, first of all, the need is there for the eight lanes. We feel that the parking in front of your building which is actually State property and some utilization of the other side, there could probably be six lanes, which provide two going east, two west and a lane for the left turn on to Banyan Drive and a right on to Kanoelehua.

Under the Alignment A, it would take away about twenty feet or so of our building, which would be the prime front area and it would also cut down our parking area. Where we park--that would be off the west bound lane. If the building were condemned it would provide severe economic hardship on us, because we have just completed the purchase and we were not aware of this condemnation at the time. We are planning to have eight to ten tennants in there and these people are presently trying to put together their leasehold improvements. So this is going to be a real problem if it is done under Alignment "A"."

Discussion:

Please see discussion on Mr. Pruitt's testimony.

Testimony:

SISTER REDDY: "My name is Sister Marie, and I speak for the Community Service Committee of the Church at Keaukaha, the Catholic Church, Our Lady Gate of Heaven. I am concerned, because I live on Silva Street and I am very unhappy to think that the people who give us service such as the people in the launderette and the people at the corner store will no longer be able to serviceable to the greater community and the number of people that are going to be living there is mounting. I think there are fifty new homes that have been approved by the Hawaiian Homestead. So, I would like to really speak in favor of Alignment A. Thank you."

Discussion:

Alternative A-5 has been selected for eventual construction.

Testimony:

MR. CONAHAN: "My name is Jim Conahan and I am speaking on behalf of Kimo Kinard Investment Realty and Bob Mueller Realty, Inc., who just purchased the Hon-Iron property.

Mr. Mueller indicated that an acceptable alternative would be to have two lanes going east, two going west and two lanes where you could turn either onto Banyan Drive or turn right. This would allow the additional advantage of allowing a look see later on in the future to see whether or not the eight lanes were needed. It would obviously benefit my clients in the sense that their property would be less affected. I think by gut reation from looking at the potential acquisition figures, is that they are seriously understated and you will probably find out because of the recent sales activity in the area that costs are going to be a good deal higher for acquisition. But this doesn't include the costs of affecting the businesses in the

area and the secondary costs that those have in the economy of the County of Hawaii."

Discussion:

The design of the intersection is based on a 20 year traffic projection which is the standard basis for major highway improvements. The point, however, is well taken in that traffic projections may not materialize and a wait and see attitude may be prudent. The State Department of Transportation has previously adopted this practice many times through incremental construction programs. However, it is the usual procedure to acquire sufficient rights of way to meet future needs. In other words, for incremental highway improvements, property acquisition would be based on the 20 year design period and construction implemented as the need arises. Usable improvements acquired on this basis may be used by the former owner on a revocable permit basis in order to minimize disruption and losses to his business. It is possible that this practice may be adopted for the Hilo Bayfront Highway. This possibility will be investigated during the final design.

The real estate acquisition cost estimates were developed in 1974 and perhaps does not reflect current sales activities. At this stage of the project development, the pertinent aspect of real estate acquisition is the relative cost. As one of the planning factors, the relative costs are used, as in this case, to make a selection on a comparative basis.

WRITTEN TESTIMONIES REGARDING THE ENVIRONMENTAL ASPECT OF THE PROJECT WERE RECEIVED FROM THE FOLLOWING AGENCIES, ORGANIZATIONS, OR INDIVIDUALS IN RESPONSE TO THE PUBLIC HEARING HELD FOR THE PROJECT:

U.S. Department of Transportation, Federal Aviation Administration

County of Hawaii, Planning Department

Suisan Company, Limited

Torkidsen, Katz, Conahan, Jossem and Loden

Mr. Robert C. Mueller

Mr. James L. Kinard

Kamehameha Schools/Bernice Pauhi Bishop Estate

Edward R. Kuwaye & Company

3706

...r TRANSPORTATION
...TIATION ADMINISTRATION

PACIFIC-ASIA REGION
P. O. BOX 4009
HONOLULU, HAWAII 96813

RECEIVED
APR 15 2 09 PM 1976
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

APR 14 1976

Chief, Highways Division
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

Reference is made to State of Hawaii letter HWY-PA 2.28000 dated April 6, 1976 concerning the notice of public hearing for Hilo Bayfront Highway, Project No. U-019-2(10).

As you may know, we have previously reviewed the draft Environmental Impact Statement for this proposed highway and furnished comments in our letter dated October 22, 1975, copy enclosed. These comments may be considered as our written statements for purposes of the public hearing and include a reiteration of our previous position opposing the planned construction of a four-lane highway through airport property for General Lyman Field.

Thank you for apprising us of this public hearing.

Sincerely,

B. J. COURTRIGHT
Acting Chief, Airports Division, APC-600

Enclosure

DISCUSSION OF WRITTEN TESTIMONY SUBMITTED BY THE FEDERAL AVIATION ADMINISTRATION

Discussion:

Testimony references comments made to the Draft Environmental Impact Statement. Said comments are addressed under Appendix E.

3907

PLANNING DEPARTMENT

25 AUPUNI STREET - HILO, HAWAII 96720

HERBERT T. MATAYOSHI
Mayor

RAYMOND H. SUEFUJI
Director

COUNTY OF
HAWAII

April 28, 1976

Mr. E. Alvey Wright, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Re: Hilo Bayfront Highway
Project U-019-2 (10)

Thank you for giving us this opportunity to comment on the referenced project which will involve the replacement of the Wailoa River Bridge and the construction of a multilane highway facility between Wailoa River and Kuhio Street.

In our letter of October 1, 1975, a copy of which is attached, we expressed some of our concerns regarding the need to study this project from a wider perspective. Specifically, we had observed that, "Admittedly, the proposed project stretching from Kuhio Wharf until Wailoa Bridge is a needed one; however, we are equally concerned with the State Highway segment stretching from Wailoa River to Wailuku River. We contend that both segments should be considered simultaneously."

Our position still remains unchanged and is further strengthened with the knowledge that planning funds for that section between Wailoa Bridge and Wailuku River were appropriated last year by the State Legislature. Act 195, SLH 1975, Item C-50, set aside $1.655 million dollars for the 1975-77 biennium for the "Improvement of Hilo Highway from vicinity of Wailuku River to Hilo Wharf including replacement of Wailoa River Bridge." As such, it would be timely to evaluate the entire network before committing answers to one corridor for a section of the network.

Accordingly, we respectfully request that no decision be made at this point, pending completion of a study of that section between Wailuku River and Wailoa Bridge.

RAYMOND SUEFUJI
Director

SF:rfd

cc Mayor

Enclosure

DISCUSSION OF WRITTEN TESTIMONY SUBMITTED BY THE PLANNING DEPARTMENT, COUNTY OF HAWAII

Discussion:

The comments contained in the October 1, 1975, letter are discussed in Appendix E. The comment restated in this written testimony is addressed by discussion No. 11A.

The State Department of Transportation is aware of the importance of the Wailuku to Wailoa River segment development of Hilo and hopes to commence this study as soon as possible.

A042

Suisan Company, Limited
Importers & Wholesale Distributors
P. O. Box 366 • 1965 Kamehameha Ave.
Hilo, Hawaii 96720

Phone: 935-4511
Cable Address "SUISAN"

May 20, 1976

Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Hilo Bayfront Highway, Project No. U-019-2 (10)

Dear Sir:

Suisan Company, Ltd. owns and operates the fresh fish auction market a 85 Lihiwai St., Hilo, Hawaii. We also wholesale and retail frozen food, and produce Hawaiian jams, jellies, preserves, and purees at 1965 Kamehameha Avenue, Hilo, Hawaii. The premises at 1965 Kamehameha Avenue are leased from Matsuno Enterprises, Ltd. The comments and opinions given in this letter are the statements of both companies.

Our major concern regarding the Hilo Bayfront Highway is that:

Proposed Alignment A of that project, the widening and improvement of the existing Kalanianaole Avenue to the Hilo docks may retard future development of the Hilo Bay shoreline. As it stands now, the area north of the existing Kalanianaole Avenue is zoned as a resort area and further east, residential. A four-lane highway, following Alignment A, would be detrimental to further development of the aforementioned area in that it would be impractical, as well as unsafe to have too many outlets onto a highway where traffic is likely to be heavy.

A highway following Proposed Alignment B would relieve much of the congestion since all the traffic to and from the wharf would follow Alignment B. This would leave the entire length of Kalanianaole Avenue to Kukio Street free for any future development as that section would be a secondary route available mostly to persons with interests in that particular area. Another practical advantage is that it would not become necessary to divert traffic along Kalanianaole Avenue during construction if Alignment B is used, and only minimal redirectional appears necessary along Alignment B itself.

Therefore, we are in favor of Alignment B as proposed; and

we feel that in the long run, this route will be more beneficial to our community than Alignment A.

Respectfully yours,

SUISAN COMPANY, LIMITED.
MATSUNO ENTERPRISES, LIMITED

By _____
Rex Y. Matsuno, President

DISCUSSION OF WRITTEN TESTIMONY SUBMITTED BY THE SUISAN COMPANY, LIMITED, HILO, HAWAII

Discussion:

The State Department of Transportation has selected Alternative A-5 for eventual construction after a thorough evaluation of all alternatives. Of critical significance have been studies relative to the project's social, economic and environmental impacts, the Federal Aviation Administration's strenuous objections to Alternate B, and public comments supporting revised Alignment A.

A025

Suite 219, 101 Aupuni Street
Hilo, Hawaii 96720
May 14, 1976

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

Re: Hilo Bayfront Highway

Dear Mr. Wright:

We are purchasers of the Honiron Warehouse located at 1717 Kamehameha Avenue, formerly owned by Ward Foods, Inc.

Since we have immediate plans to lease the building to approximately ten lessees, we are naturally vitally interested in the impact of the proposed project on our property and our prospective tenants. Therefore, we wish to supplement and elaborate on our testimony presented at the public hearing on Thursday, May 6, 1976.

We appreciate the Department's concern for the projected traffic flow problem at the intersection of Kamehameha Avenue and Kanoelehua Street. We urge you, however, to limit your project to six lanes. The proposed eight lanes in our opinion are not absolutely necessary and would be harmful to the Hilo community, us and our tenants. Our position is based upon the following:

1. The project is based upon a 20 year traffic flow projection. In the interest of keeping taxpayer road costs to a minimum and in the further interest of protecting our environment from a proliferation of unnecessary roadways, we feel that Hilo should not overbuild in anticipation of a 20 year projection. Rather, a wait and see attitude should be taken since traffic flow patterns may change and population projections may not materialize.

2. A six lane road project will enable the Department to avoid condemnation of business buildings at the Kanoelehua

Street intersection. Our property, in particular, would not be affected. Under all the alternative plans proposed by the Department, substantial portions of the Honiron building would have to be condemned, since the front boundary of the building is situated precisely on the Kamehameha Avenue boundary line of the property.

In making your determination we ask that you consider the hardship that will be placed upon us as property owners, upon our tenants and upon the Hilo community at large. We further hope you will consider the following:

1. A partial taking of the property under any of the proposed plans will involve taking a portion of the warehouse building since the building is situated on the front boundary line. Assuming that the remaining portion of the building can be salvaged, re-enclosed and refaced, such partial condemnation will nevertheless disrupt the business operation, substantially reduce the amount of available space by up to 20%, and considerably reduce the amount of available off-street parking for the remaining tenants.

2. Based upon our familiarity with business property in Hilo, it is our opinion that the present value of the land and the replacement cost of the building will be considerably higher than your projections of estimated costs which we understand were made in 1974. Incidentally, the Honiron building is structurally sound; in fact, it has withstood several tidal waves in the past 30 years.

3. The lost warehouse space will be irreplacable since there is no available land for us to expand or extend the present building.

Very truly yours,

Robert C. Mueller

James L. Kinard

ag

4007

TORKILDSON, KATZ, CONAHAN, JOSSEM & LODEN
ATTORNEYS AT LAW, A LAW CORPORATION

700 BISHOP STREET
HONOLULU, HAWAII 96813

E.C. MOORE, JR.
(1913-1972)

MICHAEL B. SHANE
OF COUNSEL

CABLE ADDRESS
COUNSEL

TELEPHONE
(808) 521-1051

JAMES P. CONAHAN
ELLIOT M. LODEN
RICHARD P. LIEBMAN
ERNEST C. MOORE III
ROGER W. FONSECA
THOMAS A. BODDEN

RECEIVED
MAY 18 1976

May 14, 1976

DIRECTOR'S OFFICE
MAY 17 8 19 AM '76
DEPT. OF TRANSPORTATION

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

Re: Hilo Bayfront Highway

Dear Mr. Wright:

I am the attorney for Mr. Robert C. Mueller and Mr. James L. Kinard, purchasers of the Honiron property located at 1717 Kamehameha Avenue.

I strongly urge you to reduce the width of your road widening project to the six lanes proposed by Mr. Robert C. Mueller at the public hearing of Thursday, May 6, 1976. If this is done, it is my client's belief that you will be able to avoid condemnation of any portion of the Honiron property. This will have the effect of saving much needed warehouse and business space in the Hilo business community.

By reducing the scope of the project, you will also keep the total cost of the project down, including acquisition and construction costs. As was indicated at the public hearing, the estimated costs for the project were made in 1974. It is my opinion that new estimates will come in substantially higher than the lowest estimate of 6.3 million for a short stretch of highway. Certainly, any decision to proceed with the project should not be made until updated estimates are obtained, especially with respect to the cost of business property in fee simple, and replacement of a

strong steel structure like the Honiron building.

Very truly yours,

TORKILDSON, KATZ, CONAHAN, JOSSEM
& LODEN
Attorneys at Law, A Law Corporation

James P. Conahan

KKOC:ag

DISCUSSION OF WRITTEN TESTIMONIES SUBMITTED BY ROBERT C. MUELLER, JAMES L. KINARD, AND THEIR ATTORNEY, JAMES P. CONAHAN

Discussion:

Written testimonies reiterate the verbal testimonies made by or in behalf of the aforementioned individuals. Discussions of said testimonies are contained in this Appendix.

OFFICE OF THE TRUSTEES
519 Halekauwila Street
P.O. Box 3466
Honolulu, Hawaii 96801
Telephone 531-1654
Cable: PAUAHI

3859

RECEIVED
APR 26 2 45 PM '76
DEPT. OF TRANSPORTATION

KAMEHAMEHA SCHOOLS / BERNICE PAUAHI BISHOP ESTATE

April 23, 1976

APR 27 12 47 PM '76
DEPT. OF TRANSPORTATION
DIRECTOR'S OFFICE

Department of Transportation
State of Hawaii
969 Punchbowl Street
Honolulu, Hawaii 96813

Attention: Mr. E. Alvey Wright
Director

Gentlemen:

Notice of Public Hearing for Hilo Bayfront Highway
Project No. U-019-2(10)

This response to your letter of April 6, 1976 (your Reference No. HWY-PA 2.28000) relative to the captioned matter.

At their meeting held April 22, 1976, the Trustees reviewed the various alignments and alternate routes for the captioned project.

Upon consideration, the Trustees voted to advise the State of Hawaii that they favor Alignment A and either Alternate A-1 or A-2 under said alignment.

Should there be any questions, please contact the undersign.

Very truly yours,

Edward H. Nakamura
Land Manager

EHN:cmk

4040

EDWARD R. KUWAYE & COMPANY

160 KEAA ST. — HILO, HAWAII 96720
PHONE 961-3455

RECEIVED
MAY 24 11 8 AM '76

May 19, 1976

MAY 20 12 54 PM '76
DEPT. OF TRANSPORTATION
DIRECTOR'S OFFICE

Directors, Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: Hilo Bayfront Highway
Project No. 6-019-2 (10)

We hold leasehold interests in property bounded by Kalanianaole Avenue, Kamehameha Avenue, and Keaa Streets, Tax Map Key--2-1-06.

We feel that Alignment "A", Alternate "A-4" has the least economic and social effects, and we are on record favoring this alignment. As far as Alignment "B" is concerned, we are definitely opposed to it.

Very truly yours,

EDWARD R. KUWAYE & CO.

James Kuwaye,
~~President~~ Partner

JK:mn

DISCUSSION OF WRITTEN TESTIMONY SUBMITTED BY KAMEHAMEHA SCHOOLS/ BERNICE PAUAHI BISHOP ESTATE AND BY EDWARD R. KUWAYE AND COMPANY

Discussion:

The State Department of Transportation has selected Alternative A5 for eventual construction after a thorough evaluation of all alternatives.

APPENDIX G NECESSARY APPROVALS REQUIRED FOR PROJECT IMPLEMENTATION

A. Subdivision Approval
Planning Department, County of Hawaii

Status: Application to be filed after corridor phase

B. Hawaii County Special Management Area Use Permit
Planning Department, County of Hawaii

Status: Application to be filed after corridor phase

C. Permit for Work in the Shore Waters of the State of Hawaii
State Department of Transportation, Harbors Division

Status: Application to be filed after corridor phase

D. Conservation District Use Application
State Department of Land and Natural Resources

Status: Application will be filed after corridor phase

E. Department of Army Permits for Activities in Waterways
U.S. Department of the Army Corps of Engineers

Status: Application will be filed after corridor phase

F. Bridge Permit
U.S. Coast Guard

Status: Application will be filed after corridor phase.