

FINAL
ENVIRONMENTAL IMPACT STATEMENT
NEW PASSENGER TERMINAL
GENERAL LYMAN FIELD
HILO, HAWAII

FEDERAL AVIATION ADMINISTRATION
PACIFIC-ASIA REGION

MAY 1973

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ENVIRONMENTAL IMPACT STATEMENT

SUMMARY SHEET

Draft Final Environmental Statement

1. Name of Action

Administrative Action Legislative Action

2. The proposed action involves Federal financial assistance pursuant to the Airport and Airway Development Act of 1970 to construct new public airport terminal facilities at General Lyman Field, Hilo, Hawaii. All work is within the County of Hawaii. A description of the proposed development is as follows:

- a. Construct and light new terminal apron (approximately 976,000 sq. ft.) and connecting taxiways including site preparation, drainage and fire hydrant system.
- b. Construct access road to new terminal area (approximately 7,800' x 24').
- c. Improve line of sight from existing control tower to new terminal apron area and taxiways.
- d. Construct a new passenger terminal building (approximately 150,000 sq. ft.) together with an automobile parking area, circulation roads, and necessary utilities.
- e. Transfer approximately 285 acres of land needed for construction of the new terminal area from State Department of Defense to State Department of Transportation.
- f. Provide security and perimeter fencing for terminal apron area and new property, respectively.

3. The new public terminal facility will provide an adequate parking area for large 4-engine jumbo jet aircraft using this facility. There is not adequate space for parking this aircraft on the existing terminal apron without having an effect on the operational use of Runway 3/21. Terminal activities and associated noise levels will be more distant from residential areas near the airport. The human environment

will benefit through the availability of an operationally satisfactory and aesthetically pleasing terminal facility. Conversely, the proposed development will require transfer of 285 acres of State controlled land to the Department of Transportation. The area will subsequently be cleared of trees and vegetation.

4. Alternatives which were considered include:

- a. Alternative No. 1. Do Nothing.
- b. Alternative No. 2. - Expand Existing Facility;
Runway 3/21 to Remain Active.
- Expand Existing Facility; Runway
3/21 to be Closed.
- c. Alternative No. 3. Relocate Overseas Operations to
Ke-ahole.

5a. The State of Hawaii Solicited comments from the following listed State and local agencies, private groups and interested individuals. (Those agencies, groups and individuals which responded are indicated by an asterisk.)

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6. This final Environmental Impact Statement was made available to the President's Council on Environmental Quality and the public on _____.
7. This Environmental Impact Statement has been prepared pursuant to Section 102 (2) (C) of the National Environmental Policy Act of 1969 (Public Law 91-190). It is to accompany a request for Federal Aid for Airport Development Assistance submitted for the development of a new passenger terminal and related facilities at General Lyman Field in Hilo, Hawaii.

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A. GENERAL DESCRIPTION AND
PURPOSE OF THE PROJECT

1. Description

The proposed project involves the construction of a new passenger terminal for General Lyman Field at Hilo, Hawaii, including construction and lighting of a new terminal apron, construction of a new access road, vehicle parking lot and related work. The new terminal facilities are shown on Attachment 3, Sheets 1 and 2.

2. Purpose

The purpose of the project is to replace the existing inadequate terminal buildings and the existing substandard aircraft parking ramp with operationally satisfactory and aesthetically pleasing terminal facilities and a parking apron, all in compliance with the obstruction standards and airport imaginary surface criteria as set out in Part 77 of the Federal Aviation Regulations (Reference No. 1).

3. Location of the Project

General Lyman Field is located on the east side of the Island of Hawaii, immediately east of the town of Hilo. The total Island of Hawaii is governed by the County without any separate political jurisdiction for City government. Attachment No. 1 is a map of the Island of Hawaii showing existing airports, roads, and County District populations. An aerial photograph of the existing facilities at General Lyman Field and its vicinity is shown on Attachment 2.

4. Existing Facilities

The existing airport is owned and operated by the State of Hawaii, Department of Transportation. It serves general aviation, military, inter-island and overseas airlines and has Runway 8/26 with a length of 9,800 feet and Runway 3/21 with a length of 5,600 feet. The airport layout is shown on Attachment 3.

In the past, the overseas airlines operated mostly 4-engine turbo-jets such as 707 and DC-8-61's. In April, 1973, fourteen B-747's per week were using the airport and their use will become more frequent in the future. In addition to the above uses, Hilo also serves as an alternate airport to Honolulu during the rare occasions when Honolulu is closed by weather.

In 1967, the Civil Aeronautic Board (CAB) authorized three overseas carriers to fly between Hilo and the Mainland. In 1969, five additional overseas carriers were authorized. This is a total of eight overseas carriers and two inter-island carriers currently authorized to serve Hilo. As of 1971, three of the overseas carriers were not utilizing their authorization. Pan American Airways was providing service to Hilo but was granted a temporary suspension of service in May 1971 by the Civil Aeronautics Board. They have recently applied for an additional two-year extension that will permit temporary service suspension through May, 1975.

A layout of the present terminal with adjacent parking apron, located northwest of Runway 3/21 is shown on Attachment 4. Although it has been expanded and modified in recent years, it is still inadequate especially during busy periods.

For instance, in 1970, the inter-island carriers processed 200 passengers per hour for many hours throughout the year. The existing waiting space in the terminal is 1,250 square feet. Criteria recommended by the Airport Operators Council International (AOCI) allocates 12.5 square feet of waiting space per passenger. This criteria would have required 2,500 square feet of waiting space for the inter-island passengers in 1970. More space would have been required to accommodate passengers' friends and family.

In the overseas area, 4,200 square feet of waiting area is available. In 1970, more than 450 passengers per hour occurred several times during the summer months. This would have required 5,600 square feet of space by AOCI standards. For both the inter-island and overseas passengers during a peak hour in 1970, the passengers were crowded. In 1970 and 1971, as many as nine overseas aircraft were on the ground at one time. If no inter-island aircraft are present, there are seven parking positions for overseas aircraft adjacent to the existing terminal. Several of these overseas aircraft had to park in remote areas of the airport. In addition, the inter-island carriers needed three or four positions during this period.

The pavement for aircraft parking was not originally designed for overseas aircraft. Overseas aircraft have caused high maintenance costs for the apron. Continued frequent use of the pavement by overseas aircraft for more than several years will require the pavement to be rebuilt. The existing terminal can

accommodate one 747 without causing runway operational problems. If two or more 747's must be parked simultaneously at the existing terminal, Runway 3/21 may be required to be closed. The 747 fuselage will exceed the 7 to 1 side slope clearances specified in Part 77 of the Federal Aviation Regulations for all parking positions except one position northeast of the existing terminal buildings.

Curb space adjacent to the terminal building is inadequate. In order to provide as many stall spaces as possible, vehicles must back into the curb, instead of the more normal parallel parking as used at most airports. Most of the curb spaces are used by car rental companies because a separate area is not available. Busses and "stretchouts" (automobiles with four additional doors added to provide more passenger carrying capability) must compete for the limited curb space.

The combination of the road system and the existing auto parking is confusing to the newcomer. The road bends to skirt the existing buildings. One main exit road cuts through the auto parking lot. The entrances and exits from the parking lot cannot easily be distinguished from the main access road.

In summary, it can be stated that the terminal has reached the point where it has extremely limited expansion possibilities, and because of previous additions, is architecturally chaotic. General Lyman Field was used by 860,000 passengers in 1970 and would be expected to be used by 2,371,000 passengers in 1980.

5. Proposed New Facilities

It is proposed to construct a new passenger terminal facility which is the first phase in a long range development plan for General Lyman Field. This long range development plan envisages relocation of the terminal facilities to an area south of Runway 8/26 and east of Runway 3/21 as shown on Attachments 3 and 5. This area will provide adequate space to meet future air passenger needs. The first phase development will provide four inter-island positions and eight overseas positions which is expected to be adequate to 1980. In addition, several spaces in the existing cargo area will park overseas all-cargo aircraft, making a minimum of ten overseas positions available.

The first phase terminal building will be set south of Runway 8/26 a distance of 2,250 feet, which will provide space for future aircraft larger than the Boeing 747. Planning dictates that airport development provide for future aircraft. The new terminal will

require that 258 acres of land be transferred from the Department of Defense, State of Hawaii, and 27 acres of land from the Department of Land and Natural Resources to the Department of Transportation, Airports Division. The Department of Defense land has been and is used for training of the Hawaii National Guard. The Department of Defense has stated "withdrawal of land from National Guard use and use of it for construction of the proposed new airport terminal will not adversely affect the mission accomplishment of the National Guard and will more fully commit it to an overriding public use." The Department of Land and Natural Resources land has been unused. The land is classified as "Agriculture" on the State Land Use Map, but is not suitable for agriculture as discussed in Section C. The existing airport is zoned "Urban".

The new passenger terminal facilities will include:

- a. A 24-foot wide access road, 7,800 feet long.
- b. Automobile parking lot and circulation roads.
- c. A new passenger terminal building of 150,000 square feet.
- d. An aircraft apron of over 700,000 square feet.
- e. Access taxiways, 100 feet wide.

Table 1 below compares the existing terminal and the proposed new facilities. An artist's rendering of the new terminal is shown on Attachment 6.

The new facilities are sized for requirements for five years after the terminal is completed, and can be expanded as traffic dictates after the five year period by increasing the space of the passenger waiting area, the ticket lobby, baggage claim building and aircraft apron.

TABLE 1
COMPARISON OF EXISTING AND PROPOSED FACILITIES

Facility	Existing Terminal (1971)	Proposed 1st Phase Terminal (1974)
Number of Auto Parking Spaces		
Public	198	440
Employee (and Unassigned in 1971)	238	200
U-Drive Adjacent to Terminal	Use Curb Spaces	97
U-Drive (Remote)	47	159
Curb Spaces	35	50
Bus and "Stretchout" Spaces	2	28
Taxi Spaces	6	15
Passenger Waiting Area, Square Feet	3,450	15,000
Bulk Baggage Area, Square Feet	0	2,500
Number of Passenger Aircraft Parking Positions	8 (7) ^a	12 (10) ^b
Number of All Cargo Aircraft Parking Positions	1	2 ^c

^a The lower figure includes one position for a B-747.

^b The lower figure includes five positions for B-747's.

^c Provided in existing terminal area.

Relocation of the terminal will partially eliminate the existing items of non-compliance with criteria under Part 77 of the Federal Aviation Regulations (Reference No. 1) in regard to the following:

- a. Tails of B-707's, DC-8's and B-747's parked at the existing apron, protrude above transitional surfaces Runway 3/21.
- b. The existing terminal building is 660 feet from Runway 3/21 which does not comply with current FAA criteria of 750 feet from a building to a runway. (Former FAA criteria allowed buildings as close as 500 feet to a runway.)
- c. Current FAA criteria calls for aircraft to be parked no closer than 535 feet to Runway 3/21 centerline. Aircraft at the present passenger terminal are parking 415.5 feet from the centerline.

However, as will be discussed in detail on page 16, all-cargo airlines will continue to use the existing apron even after the new terminal is constructed. This continued use will not alleviate non-compliance items b. and c. above, but by re-orientating the parking positions so that the B-707 and DC-8 aircraft park parallel to Runway 3/21, item a. may be partially relieved. It should be noted that parking B-747 aircraft at the existing terminal will always be in non-compliance with items a, b and c above.

Attachment 4 shows where the FAA criteria is exceeded.

6. Terminal Concept Development

Several alternative schemes were prepared during the conceptual design phase of the new terminal complex at General Lyman Field.

The first of these incorporated the features suggested by Peat, Marwick and Livingston (Reference No. 2). These schemes required separation of the inter-island and overseas terminals as well as a two level roadway at the overseas terminal. After reviewing the cost estimates, it became obvious the Peat, Marwick and Livingston concept was too expensive for the Phase I development at General Lyman Field.

Subsequently, separate single level concepts were explored, but these also proved to be too expensive. The next step taken was to integrate the inter-island and overseas activities. By combining these operations, savings in space were realized due to

the cross-utilization of the passenger lounge, gate positions, concession and baggage claim areas.

The proposed terminal complex is comprised of three major structures which house the primary terminal functions: Check-in, Passenger Lounge, and Baggage Claim.

Because of the linear nature of the proposed scheme, walking distances for inter-island passengers will be somewhat longer than those presently experienced at Hilo. However, they are within the limits suggested by the International Air Transport Association.

The decision to proceed with a combined inter-island/overseas terminal function was reinforced by the different scheduling characteristics of the overseas and inter-island carriers.

The overseas traffic on Saturdays represent 33 percent of the weeks activity and the remaining, or 67 percent of all overseas flights is divided among the other six days of the week. On the other hand, the inter-island traffic is uniformly distributed throughout the week, with Saturdays being a little below average.

In view of these facts, the construction of separate facilities for each of the two types of carriers seems inconsistent with the task of finding the most economical and functional utilization of space. If separate terminals were provided, the overseas terminal area would have a reduced percentage of activity during six days of any week. The proposed concept of combining inter-island and overseas facilities appeared to provide the maximum use and flexibility of the spaces provided.

The consolidated layout also offers definite advantages as far as expansion in the near future and growth in air traffic in the more distant future are concerned.

The proposed layout will accommodate anticipated growth in air traffic until about 1980, after which future expansion can be provided if necessary as delineated on Attachment 3, Sheet 1.

Also considered were the growth in air traffic at Hilo in the more distant future and the impact of the elimination of the "Maui Fence" on the inter-island/overseas traffic mix. The terminal concept as proposed provides for flexibility in the event inter-island traffic, overseas traffic, or both, increase in volume.

A further consideration regarding expansion to accommodate future growth at Hilo was the following. When the volume of overseas passengers increases to the point the Phase I terminal facility is inadequate to handle combined inter-island/overseas traffic, a separate inter-island terminal can be built adjacent to the proposed Phase I terminal development. The Phase I facility would then be used exclusively by the overseas carriers.

Thus, this concept is the result of an effort to combine overseas and inter-island operations on one single level based on the following considerations:

1. Lower total project cost obtained than if separate terminals were constructed.
 2. Airline scheduling characteristics - high Saturday peak for overseas carriers.
 3. Terminal flexibility and cross-utilization of space for inter-island and overseas activities.
 4. Future expansion of terminal to accommodate growth of air traffic.
 5. Long range growth potential through development of new inter-island terminal adjacent to overseas terminal when required.
7. Terminal Building Description

For the traveling public, the focal point is the passenger terminal building. The proposed building, in addition to providing for the immediate future needs at Hilo, forms the nucleus for planned and orderly expansion of the terminal complex as passenger traffic grows.

Several factors, besides the technical requirements discussed above, shaped the concept for the new terminal. Among these are screening of the brilliant sun, protection from the frequent rainfall, providing passenger comfort in the warm subtropical climate, and the visual and functional relationship of the terminal complex to its surroundings.

The auto parking area will be screened from the terminal building by landscaping to preclude an impression the terminal is an extension of the parking lot. The visually less desirable

features or activities on the apron side will also be screened from view by use of screen walls and landscaping.

The three major structures will be connected by covered walkways, allowing the extension of interior spaces outdoors through use of landscaped circulation courts and planted areas between buildings. Where necessary, obscure or transparent surfaces are provided for protection from jet blasts, prevailing winds, and wind-blown rain. Because of the openness of the plan, extensive studies are in progress to determine acoustical qualities of the terminal buildings.

Functional requirements impose objective restrictions on the design of airport terminals, but within these restraints many things will be done to enhance the subjective quality and create a sense of Hawaiiana. Hawaiiana is not necessarily achieved through an architectural "style" but through the character of the space created. To the extent possible in a major airport terminal building, that character will be stressed. Humanizing the scale of the complex is one area in which this can be accomplished. The apparent scale of the whole is reduced by treating the total mass as a series of smaller elements that better relate to human scale. The proper use of materials, textures, lighting, and the visual subdivision of the larger spaces will also help provide a humanized environment for the occupants of the building as well as the people moving through the terminal.

To relate the terminal complex to its locale, native material will be used extensively both in construction of the terminal building and for landscaping. An example will be the use of on-site excavated rock material for screen walls or jet blast protection. "Puna" rock or replicas of Big Island petroglyphs may also be used as finish materials throughout the complex to provide visual continuity as well as local identity. To further relate the terminal to its environment, local plant materials will be provided in the landscaped areas. Access to landscaped areas by the public will be encouraged. In addition, these areas will provide a natural setting for the display of local art forms and artifacts.

8. Airport Security

Recent events involving acts of air piracy for personal or political reasons have resulted in an increased concern for security at airports.

Terminal Security

Because of the openness of the proposed terminal plan, security will be provided by methods that discourage rather than absolutely prevent breaches of airport security.

Airport security at Hilo will rely primarily on devices such as screen walls, metal grilles, and chain-link fencing between public and non-public areas. Openings in the security barrier, e. g., gates and doors, will be locked and noted as being "restricted areas" on the public side.

The airport boundaries are defined by a five strand wire fence. However, for a certain distance from either end of the terminal, a chain-link fence of proper height will be provided. The extent of this fencing will be mutually agreed upon by the State and the FAA.

In compliance with Part 107 of the Federal Aviation Regulations (Reference No. 3), the State of Hawaii, as airport operator, was required to submit to the FAA a security program for the entire airport. This program, among other things, describes security improvements the State plans to implement at the airport in the coming months. When the new terminal becomes active, the State will be required to submit to the FAA an amendment to its approved program describing the security measures in effect at the new terminal area. If the security of the new terminal area is determined by the FAA to be adequate, the amended program will be approved. The amendment will be evaluated primarily on the degree of access into the Air Operations area from public areas.

To insure the fuel supply for emergency power generation will not be sabotaged, a lockable fuel filler will be provided on the fuel tank. Also the electrical equipment building will be secured to prevent unauthorized entry.

For cargo shipments by reliable shippers, no inspection of packages or containers is required. However, for other than reliable shippers inspection will be required.

Passenger Screening

All departing passengers on both inter-island and overseas flights operating under Part 121 (Reference No. 4), rules are currently required to pass through a weapons detection device and their carry-on items must be physically searched. After satisfactorily completing this security processing, they are cleared to board the aircraft.

The passenger screening may be accomplished by one of two systems or concepts: (1) the passengers may be screened at the boarding gate immediately before they proceed onto and across the ramp to the aircraft, or (2) the passengers may be "trickle screened" into a "sterile" holding area which may commence well before the aircraft is ready for boarding. When the aircraft is ready for boarding, the previously screened passengers proceed to the aircraft as a group.

The selection of which system to use is subject to agreement between the carriers and the airport operator; however, since the ground time of aircraft at Hilo is often relatively short, e. g., the inter-island carriers' ground time is approximately 19 minutes, flight delays would be expected unless the "sterile" concept is used at both the inter-island and overseas boarding areas.

Attachment No. 14 is included for reference to security provisions described above.

9. Aircraft Apron

On the apron side of the new terminal building, parking positions for seven planes of the 2-engine turbojet (DC-9, B-737) type and five of the 4-engine turbojet (DC-8, 707) type or four of the B-747 type will be provided. During periods of light inter-island activity, two inter-island positions may be used by the overseas carriers. This will allow the parking of two additional DC-8 type or one additional B-747 type adjacent to the terminal building. Two taxiways are included in this layout which connect the parking apron with the existing runway and taxiway system.

The parking positions will be paved with Portland cement concrete. The remainder of the apron and the connecting taxiways will receive asphalt concrete pavement. The new apron will provide adequate separation of parked aircraft from the runway, which is not the case at the existing terminal.

10. Access Road and Automobile Parking

There are several 20 feet wide roads leading to the National Guard area immediately west of the new passenger terminal site. These roads are narrow, have sharp curves and the pavement is in poor condition. This limits their capacity and could be dangerous for public use. Estimates were prepared for upgrading the existing road to provide adequate access to the new terminal. It was determined that a new access road could be constructed at a lower cost than required for upgrading the existing roads. In

addition, the new access road will provide access to land adjacent to Runway 3/21 for lessees that desire direct runway and taxiway access for uses such as air cargo, airline food catering, and a post office.

The new access road will require the displacement by 350 feet of the threshold of Runway 3 to maintain 15 feet clearance height between the road and the approach slope for Runway 3. This displacement will not affect current or forecast operations. The road will be constructed in conformance with Federal Highway Administration and State Highway Division standards. (See Attachment 5 for location.) It is anticipated that the proposed access road will be utilized for passenger traffic for ten to fifteen years until an ultimate road system is constructed. At that time, the road will become an airport service road. Its major use will then be for access from the terminal area to future airport related facilities located south-east of Runway 3/21.

The State of Hawaii, Division of Highways has estimated traffic at the intersection of the access road and Kanoelehua for the year 1993, assuming that the ultimate road is not constructed by 1993. The access road is expected to have 745 vehicles during a peak hour in one direction and Kanoelehua is expected to have 1,499 vehicles in one direction. This amount of traffic can be accommodated by a signal system at the intersection. The ultimate road system to the new passenger terminal will be from the Saddle Road extension (Puainako Street) northward to the terminal site. The Saddle Road extension will be a joint funding effort by the State and Federal government and is a lower priority than other roads in the County of Hawaii, so joint spending is several years away. To be ready in time for the opening of the new passenger terminal, the access road must be constructed now.

The parking lot for the terminal will provide for over 750 stalls to be used by the public, U-Drives, employees and taxis. In addition, separate parking for 28 busses and limousines will be provided. The parking lot can be expanded to provide up to 2,000 stalls when needed. The parking lot will provide for public parking on one area instead of three different areas separated by access roads as is the case in the existing terminal.

11. Utilities

Power and telephone utilities will be extensions of existing systems that serve the nearby Hawaii National Guard facilities. Power and telephone lines will be brought in overhead to a

addition, the new access road will provide access to land adjacent to Runway 3/21 for lessees that desire direct runway and taxiway access for uses such as air cargo, airline food catering, and a post office.

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The State of Hawaii, Division of Highways has estimated traffic at the intersection of the access road and Kanoelehua for the year 1993, assuming that the ultimate road is not constructed by 1993. The access road is expected to have 745 vehicles during a peak hour in one direction and Kanoelehua is expected to have 1,499 vehicles in one direction. This amount of traffic can be accommodated by a signal system at the intersection. The ultimate road system to the new passenger terminal will be from the Saddle Road extension (Puainako Street) northward to the terminal site. The Saddle Road extension will be a joint funding effort by the State and Federal government and is a lower priority than other roads in the County of Hawaii, so joint spending is several years away. To be ready in time for the opening of the new passenger terminal, the access road must be constructed now.

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11. Utilities

Power and telephone utilities will be extensions of existing systems that serve the nearby Hawaii National Guard facilities. Power and telephone lines will be brought in overhead to a

point 1,000 feet southwest of the passenger terminal building, and then placed in underground ducts to the terminal building. The overhead lines are cheaper to install and will require minimal tree and brush clearing to install as compared with a complete underground duct installation. The overhead wires and poles will not be seen by the public using the facility because the overhead lines will be in unused land not generally accessible to the public. (See Attachment 3).

The maximum power demand is estimated to be 1,250 kilowatts and the average load is estimated to be 750 kilowatts. The power will be used for terminal building lighting, air-conditioning, sewage system, drain pumps, apron lighting and parking lot lighting. The electrical generating capacity in the Hilo area is 71,000 kilowatts, so the peak demand is less than two percent of the area generating capacity and the average load is one percent of the generating capacity. The electrical generating capacity is adequate to supply the airport demands.

Water for the new passenger terminal will be supplied from existing City water mains. The supply point for the water to be used on the airport is a 1,000,000 gallon reservoir located 3.4 miles southeast of the passenger terminal and at 240 feet higher elevation. The existing ground water table is approximately 3 feet above mean sea level as measured by existing wells 2,000 feet southwest of the passenger terminal site. These wells were constructed during World War II but are no longer used for domestic water because of salt water contamination from the ocean. However, these wells may be activated for fire fighting purposes if needed.

Water consumption, at a level of 2,371,000 annual passengers, is estimated to be 33,000 gallons per day, as compared with the 1970 usage of 11,000 gallons per day. The average daily consumption of water for the City of Hilo was 3,500,000 gallons per day in 1970. In 1990, the average daily consumption is estimated to be 6,000,000 gallons per day. The water supply is adequate. The airport is a very small part of the total water consumption.

Sewage disposal will be accomplished by piping the sewage to a package treatment plant where the sewage will be aerated, solids settled, and the water treated with chlorine. This process will remove 85 to 95 percent of the organic wastes which is equivalent to conventional secondary sewage treatment. The chlorine treated water will then be pumped into disposal wells constructed for this purpose. The United States Department of the Interior, states disposal from the sewage plant will

eventually flow into the sea at the shore, probably in the section between Wailoa River and Leleiwi Park. (See Attachment 8). Dye tests will be performed after the wells are constructed to ascertain if the effluent will be sufficiently diluted or if it concentrates in a small area. Additional disposal wells will be constructed if the effluent does not disperse.

The water leaving the plant meets water quality standards established by the Department of Health, State of Hawaii, and will have a pH value between 6.5 and 8 with a median value of 7, and have a fecal coliform content not exceeding an arithmetic average of 20/100 ml. during any 30 day period. This type plant was evaluated by the National Sanitation Foundation under a grant project sponsored by the Federal Water Pollution Control Administration. The plant is designed so that it can be expanded as demand increases.

The plant will be constructed to treat 40,000 gallons of sewage per day, and estimated demand is 33,000 gallons per day at 2,371,000 annual passengers in 1980. The plant is modular and can be expanded in 20,000 gallon increments as demand dictates. The plant will be operated by trained airport personnel.

A study was made to determine the feasibility of connecting the sewer main to the existing City sewage treatment plant. It would require the construction of over one mile of sewer pipe in volcanic rock and crossing under an existing runway involving prohibitively high cost. Connection to the City treatment plant will become economically feasible when expansion of the terminal facilities beyond the presently proposed development is required.

12. Storm Drainage

The existing ground surface has an overall slope of approximately one percent down to the existing taxiway. The material is generally "Aa" lava with an occasional outcropping of fractured "Pahoehoe". Very little "Soil" is found on the project site. The rainwater now soaks into the ground rapidly with very little runoff. There are no natural or man-made water courses at the project site.

The vehicle parking lot will be a large paved area, with over-pavement water flow leading to an underground storm drain pipe. The pipe is sized to accommodate a five year storm in accordance with normal design practice. The pipe will carry the water to a low area where the water will percolate into the ground.

Rainwater falling on the apron will flow into a drainline and eventually seep into the ground. However, petro-chemical residues washed from the apron will be caught in a fuel trap installed in the drainline to prevent further pollution of the ground water. Any silt or debris caught in the trap will be removed to the County Land Fill Dump.

13. Land Acquisition

The proposed passenger terminal site is on land owned by the State of Hawaii. A Governor's Executive Order has been signed transferring land from the Hawaii Department of Defense (Hawaii National Guard) and the Department of Land and Natural Resources to the Department of Transportation. A copy of the Governor's Executive Order is included as Attachment 18. The passenger terminal development is in an area that the Guard uses infrequently. The total amount of land to be transferred is 285 acres. To comply with State regulations, the State land use district will be changed from "Agriculture" to "Urban".

14. Aircraft Fueling

At the present time, aircraft fuel is unloaded from tankers at the Hilo pier and transported by underground fuel lines to fuel storage tanks on the airport. Hilo Harbor has one pier that is used almost exclusively by oil tankers. Present aviation fuel requirements are met by two tankers within a sixteen day period. The oil companies do not anticipate any pier problems because of increased aviation fuel requirements.

The fueling of an aircraft parked at the existing terminal apron is being accomplished by pumping the fuel into fuel tank trucks. The trucks then travel on internal airport service roads and the pavement to the aircraft where the fuel is pumped into the aircraft. This same system will be used in the new passenger terminal. The new service road which will be used by the fuel trucks is shown on Attachment 5. Underground fueling by pipeline from the existing storage tanks to the new apron to refuel aircraft was considered but rejected because of high cost. The cost of such

a system is estimated to be \$2.4 million. The present use of tank-trucks for refueling is adequate for the existing terminal. It is estimated that this type of refueling operation will be adequate for the forecast period. The construction of the underground fuel system will impose an additional economic burden on the users.

A service road on the existing airport property will be constructed as a part of the project, so the refueling equipment will not be required to use the adjacent highway system. Service vehicles will enter the new terminal apron from the proposed new service road. The new apron will be marked with adequate service roads and lanes typical of major airport terminal operations throughout the nation's airport system. Appendix 4, Section C, analyzes ramp vehicle traffic and provides an estimated layout of the vehicles necessary to meet aircraft servicing and passenger handling requirements during the peak operational period of 1979.

No problems are anticipated from a safety standpoint. Should overseas passenger traffic increase considerably, consideration would be given to the use of a "Plane-Mate" or "Mobile Lounge" type concept. During the month of July 1972, the Honolulu Airlines Committee suggested the State of Hawaii analyze this type of passenger handling concept. Studies have been made and it appears the total concept would be more economical in the long-range program in the future.

15. Air Cargo Handling

Cargo arriving and departing by cargo lines aircraft will unload and load in the existing terminal area. It is ultimately proposed to convert this area for cargo handling purposes. Other cargo transported in and out of General Lyman Field will be unloaded and loaded from the respective aircraft in the new terminal area. The only increase in handling time will be the transportation time required to drive the ground cargo servicing vehicles from the cargo area in the existing terminal area to the new terminal apron. A new service road within the existing airport property will be constructed for this use so that this traffic will not enter into the public transportation highway system.

The present cargo handling facilities comprise a building approximately 250 by 50 feet. Generally, a majority of the outgoing cargo is loaded on to trucks at the warehouses in Hilo and transferred directly on to the aircraft. Loading at the new terminal will only require driving the extra distance. Transfer of baggage from inter-island to domestic aircraft is very limited. As mentioned, only 2.2 percent of the passengers are direct transfers.

The area around Hilo and the eastern side of the Island of Hawaii is a very productive area for flowers and papaya. All-cargo flights originate from General Lyman Field for direct flight to the mainland. Also, there are all-cargo flights of cattle to California and other mainland states. At present, the facilities appear to be satisfactory to handle the current and forecast operations at General Lyman Field.

The increase in use of B-747 aircraft also provides a considerable increase in the cargo handling capability of the airlines serving Hilo. It appears the major users of air cargo facilities and aircraft are located on the Hilo side of the Island. Cargo service to the mainland is of prime importance to the City of Hilo and its adjacent agricultural areas.

16. Cost of the Project

The approximate cost of the proposed new terminal and related facilities, including design and construction management costs, is \$20,500,000. This figure assumes that project construction is begun in the early fall of 1973 and completed within 24 months.

B. ENVIRONMENTAL CONTROLS DURING CONSTRUCTION

The major construction activities for the new terminal facilities will include remodeling and leveling of the existing terrain for automobile parking and aircraft parking; installing crushed rock under areas to be paved with asphalt; paving with asphalt; paving with Portland cement concrete in certain aircraft parking areas; and construction of the terminal buildings.

The construction materials for these activities will be obtained from existing suppliers, quarries and asphalt plants in the area. The contractor, who may also establish a portable asphalt plant for this project, will be required to operate in accordance with existing pollution control methods. Provisions will be included in the construction specifications to ascertain that the criteria for environmental control during construction are met. Recommendations from FAA Advisory Circular AC 5370-7 (Reference No. 5) will be included. The contractor will be required to maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within or without the project limits free from dust which would cause a hazard to the work or to persons or property. Methods of stabilization will include sprinkling, light bituminous treatment or similar methods as necessary.

Construction access will be from the intersection of Leilani Street and Kanoelehua Avenue, eastward along Leilani Street to other existing roads that lead to the project site. This access is currently used by vehicles using the County Dump and Glover's Quarry, a private quarry that crushes rock and sells the material to many construction companies.

The emission of smoke, dust or other air pollutants from construction equipment will be controlled to State and local standards.

Noise should be generated by construction of the terminal building. The nearest residence to the terminal building is 3,000 feet, so noise affecting residents will be minimal.

There are no streams, lakes or other bodies of open water at or in the immediate vicinity of the project which could become polluted from construction activities. Top soil is sparse or nonexistent at the site and problems related to soil erosion, slope protection and stabilization are not anticipated.

The contractor will not be permitted to discharge liquid waste materials into the ground, which may contaminate the body of ground water existing in the area. Waste materials which fall into this category include fuels, lubricants, bituminous waste and raw sewage. These will be disposed of at the County Land Fill or at the City Treatment Plant for raw sewage.

Trees and other vegetation removed from the construction site will be disposed of in the area shown on Attachment 5. This area is an outcropping of solid pahoehoe rock where only some native grasses are now growing. The trees and other vegetation will be spread with a maximum height of 5 feet and left to decompose. This will provide humus in an area that presently has little or no soil cover.

The contractor will be required to remove and dispose of all solid waste materials in accordance with County regulations. The County Land Fill Dump is located approximately one mile southwest of the terminal building site. At the conclusion of the contract he will also be required to leave all working areas in a neat, clean and safe condition.

If the contractor removes soil from borrow pits he will be required to dress them in order to eliminate erosion problems at these sites.

C. PROBABLE IMPACT OF THE PROJECT ON HUMAN AND
NATURAL ENVIRONMENT

1. Existing Studies

In order to assess fully the impact potential of the project on its environment, related studies were reviewed and all available sources of information at libraries including land use plans and regulations were consulted.

The following four studies and reports were found covering the project area:

- a. Environmental and Urban Design Proposals, East Hawaii Project/The City of Hilo, The Hawaii State Foundation on Culture and the Arts, by George S. Walters, 1969 (Reference No. 6).
- b. General Lyman Field Development Plan - 1985, by Peat, Marwick & Livingston, 1969 (Reference No.2).
- c. State of Hawaii, Land Use Districts and Regulation Review, by Dean Eckbo, Austin & Williams, 1967 (Reference No.7).
- d. Detailed Land Classification, Island of Hawaii, November, 1965 (Reference No.8).

The report by Walters suggests development of specific areas of Hilo and directs Hilo's growth "toward increased urbanization in a manner that would be harmonious with principles of good planning and urban design as well as with Hilo natural environment and with its economic and cultural objectives". The report specifically states the existing terminal is inadequate.

The report by Peat, Marwick and Livingston, recommends the specific area for development of new passenger terminal facilities and estimates passenger growth at General Lyman Field.

The report by Dean Eckbo, Austin and Williams, documents land use throughout the State of Hawaii.

The report "Detailed Land Classification" rates all land on the Island of Hawaii for its suitability for agricultural purposes.

The proposed terminal site is classified as E 271. An "E" rating is the lowest classification for agriculture, rated as "very poor". The number 271 is a soil classification of Aa material, no soil, excessively drained, 0 to 35 percent slope and is unsuitable for machine tillability.

2. State of Hawaii General Plan

Hawaii was the first of the fifty states to have a General Plan. It was prepared by the State Planning Office, now the Department of Planning and Economic Development, in response to the State Planning Act of 1957, and was submitted to the Governor in 1961 (Reference No. 9).

In 1961, the State Legislature passed the Land Use Law establishing the State Land Use Commission, calling for classification of all lands in the State and authorizing the adoption of rules of practice and procedure and regulations for land use within the various districts. The law provides for four districts: Urban, Rural, Agriculture, and Conservation. Urban districts are generally defined as lands in urban use with sufficient reserve to accommodate foreseeable growth. Rural districts are primarily small farms mixed with low density residential lots with a minimum lot size of one-half acre. Agriculture districts include lands with a high capacity for intensive cultivation with a minimum lot size of one acre. Conservation districts are comprised primarily of lands in the existing forest and water reserve zones.

Land uses within urban districts are administered solely by the Counties. In the agriculture and rural districts, the Land Use Commission establishes the Land Use Regulations, and the Counties are responsible for their administration. The Counties may adopt more stringent controls than those imposed by the State. In conservation districts, land uses are administered solely by the State Department of Land and Natural Resources. Attachment 7 shows the existing zoning around General Lyman Field.

In 1967, the plan was revised by the General Plan Revision Program (Reference No.10), which has six parts:

1. Elements of the State Planning Process: A Summary Volume.

2. Goals for Planning.
3. Patterns of Economic Growth.
4. Population Projections.
5. Land Use, Transportation and Public Facilities.
6. Planning for Recreation.

Part 5, "Land Use, Transportation and Public Facilities" lists existing and proposed land uses on each island of the State of Hawaii. This plan states that a new passenger terminal building is required at General Lyman Field.

The General Plan anticipates 36,462 people in the South Hilo area in 1985, a 17 percent increase over the 1965 population of 31,047. However, this will be only a 5.8 percent increase over the 1950 population of 34,448. The General Plan anticipates a major increase in acreage devoted to hotels as shown in Table 2 below. Considerable vacant urban land will still remain in most areas and there will be little effect by the General Plan developments on airport development.

3. Land Classification of the Terminal Site

The area south and east of General Lyman Field is vacant land covered by grass, shrubs and trees for many square miles and is labelled "Agriculture" in the Land Use District Boundary Maps for the County of Hawaii. About 100 acres of this area will be used immediately for the passenger terminal site. The terminal site was cleared in 1970, prior to issuance of the Environmental Protection Act Guidelines. The purpose of the clearing was to obtain accurate topography. The terminal is to be located on State owned land and labelled "Public, Semi-Public" on present State Land Use Maps and the area immediately south of it carries the notation "Commercial Forest".

4. Parks and Recreational Areas

No park or recreational area has been planned at the site for the new terminal facilities. There is no conservation district, existing or proposed park and no recreational area within one mile of the new terminal development. Therefore, further action as outlined in Section 4 (f) of the DOT Act is not required. Attachment 8 shows the location of existing and proposed parks in relation to the new terminal.

TABLE 2

LAND USE IN URBAN LAND USE DISTRICTS IN HAWAII COUNTY
 BY JUDICIAL DISTRICT: 1965 AND 1985^a

(In Acres)

Judicial District	Total	Residential		Hotel		Other		Vacant	
		1965	1985	1965	1985	1965	1985	1965	1985
Total	18,998	4,604	5,648	228	1,051	3,912	4,893	10,254	7,406
Puna	2,557	380	487	0	274	103	165	2,074	1,631
South Hilo	9,256	2,524	2,964	18	121	2,498	2,856	4,216	3,315
North Hilo	353	94	84	0	0	143	136	116	133
Hamakua	630	304	347	1	9	147	194	178	80
North Kohala	746	272	269	1	19	118	117	355	341
South Kohala	1,830	478	607	138	192	384	492	830	539
North Kona	2,358	246	472	67	363	326	662	1,719	861
South Kona	331	106	204	0	39	81	146	144	^b
Kau	937	200	214	3	34	112	125	622	564

^a Based on data listed in "Land Use, Transportation and Public Facilities State of Hawaii, General Plan Revision Program Part 5, 1967" (Reference No.9).

^b Deficit of 58 acres.

5. Relocation of Residences

The construction of the new terminal and related facilities will not require the relocation of existing residences. A certification entitled "Requirement for Displaced Persons Assurance" is enclosed as Attachment 17.

6. Noise Factor

a. Noise from Parked Aircraft

By relocating the activities from the existing terminal to the proposed new site, the distance of the parked passenger aircraft from the nearest residence will be increased from 1,300 to 2,300 feet. The total number of residences within one-half mile of a passenger aircraft parking position will decrease from 140 to 29 residences. (See Attachment 7 for locations) Consequently, the ambient noise level from aircraft parked at the new terminal for people now living near the existing passenger terminal will be considerably reduced. No significant increase in noise level from aircraft parked at the new terminal should be experienced at all other residences in the immediate vicinity of the airport.

b. Takeoff and Landing Noise

The noise generated by aircraft takeoff and landing is by far the most significant contributor to airport related noise. Noise at Hilo, as at any location, is directly dependant upon the type of aircraft, engine power setting, and distance to aircraft. Once the type of aircraft and engine power setting are fixed, noise then becomes a function of the aircraft's position in space. In order to determine the impact on ambient noise levels as a result of relocating the passenger terminal activities, the present runway usage and decisional input for runway selection were studied.

Runway Usage. Early in 1972, a survey was conducted to determine the frequency of runway usage by commercial overseas and inter-island jets. Based on counts taken over a 62 day period, Table 3 shows the percentage of landings and takeoffs on each of the four Hilo runways. It was found that 96.9 percent of all takeoffs and 96.2 percent of the

total landings are on Runway 8 or 26. Furthermore, nearly 95 percent of the takeoffs are west to east and most of the landings east to west, a pattern useful for keeping noise to a minimum.

TABLE 3

62 DAY RUNWAY USAGE IN 1972 FOR INTER-ISLAND AND OVERSEAS AIRCRAFT

<u>Runway</u>	<u>Percent of Landings</u>	<u>Percent of Takeoffs</u>
8	32.3	94.7
26	63.9	2.2
3	0.7	3.1
21	<u>3.1</u>	<u>0.0</u>
	100%	100%

The specific runway selection is made after consideration of taxiing distances, weather conditions, and density of aircraft operations at that particular time.

Taxiing Distances. The primary factor for runway selection by the pilot is taxiing distance. Listed in Tables 4 and 5 below are the average taxi distances for inter-island and overseas aircraft using the existing and the proposed new terminal. Also listed are the average taxiing distances for the new terminal with a 2,200 foot extension of Runway 8/26. This extension is included on the approved Airport Layout Plan and in the proposed Capital Improvements Program of the State of Hawaii for the fiscal year 1977/78.

The figures in Tables 4 and 5 indicate that for the existing terminal, landing on Runway 26 provides a shorter taxi distance than landing on Runway 8. Using Runway 8 for takeoff results in a much shorter taxi distance than using Runway 26. For the proposed new terminal, landing on Runway 8 and takeoff on Runway 26 would produce the shortest taxi distance; this would be the reverse of the existing pattern.

However, when the 2,200 foot extension is completed, taxiing distances for the proposed terminal will be lower in almost all cases. Round trip taxiing costs, assuming the same percentages of runway usage as in Table 3, are estimated to be slightly lower than similar costs for the existing terminal complex. 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, a pattern not likely to please the residents of Hilo. (See Appendix 4, Section D, for additional discussion of this subject). If necessary, an informal runway use program can be adopted by the FAA to insist that the air carriers continue their current operational patterns, thus reducing potential noise level increases over Hilo. It is believed an informal runway use program could suffice when needed for the immediate future, pending traffic increases to the point where arrivals and departures are required to be in the same direction.

The possibility of added noise from landing aircraft due to increased reverse thrust has also been raised by airlines officials (Page 2-20 of Appendix 2). Application of reverse thrust is an operating procedure which is normally used by the pilot to bring the aircraft under control as soon as possible after touchdown. This procedure has been applied at General Lyman Field in the past, and its use is expected to continue in the future.

Counts were made on four days in January 1972 to determine if reverse thrust was used by aircraft landing on Runway 26. The pilots of DC-9 aircraft averaged 19.9 seconds of reverse thrust per landing and 737 pilots averaged 8.1 seconds of reverse thrust. Runway 26 has 9,800 feet of landing length available with no back-tracking of aircraft to reach the existing terminal. Reference No. 11 indicates that a DC-9-30, at maximum gross weight, requires 5,400 feet to land on a wet runway without the use

TABLE 4

AVERAGE TAXI DISTANCE IN FEET
AFTER LANDING^{a, b}

Operation	Existing Terminal	Proposed Terminal	Proposed Terminal After 2,200' Runway Ext.
Inter-Island Aircraft			
Land From West on Runway 8	7,550'	2,500'	2,500'
Land From East on Runway 26	5,200'	6,300'	2,500'
Overseas Aircraft			
Land From West on Runway 8	7,550'	2,400'	2,400'
Land From East on Runway 26	5,200'	6,100'	2,400'

^a It is assumed that inter-island aircraft use 5,500 feet of runway for landing and then taxi, while overseas aircraft use 6,000 feet of runway for landing and then taxi.

^b See Attachment 3, Sheet 1 for location of the existing terminal, proposed terminal, and runway extension.

TABLE 5

AVERAGE TAXI DISTANCE IN FEET
TERMINAL TO TAKEOFF POINT ON RUNWAY 8-26^a

<u>Operation</u>	<u>Existing Terminal</u>	<u>Proposed Terminal</u>	<u>Proposed Terminal After 2,200' Runway Ext.</u>
<u>Inter-Island Aircraft</u>			
Takeoff East at Runway 8	1,300'	4,900' (T/W D Takeoff)	2,000' (T/W E Takeoff)
Takeoff West at Taxiway E	Not Done	2,000'	2,000'
Takeoff West at Runway 26	10,000'	5,800'	8,000'
<u>Overseas Aircraft</u>			
Takeoff East at Runway 8	1,850'	9,850'	9,850'
Takeoff West at Runway 26	10,900'	5,150'	7,350'

^a See Attachment 3, Sheet 1 for location of the existing terminal, proposed terminal, and runway extension.

of reverse thrust. The 737-200 requires 6,045 feet under the same conditions.

Both overseas and inter-island aircraft landing on Runway 8 now generally turn off at Taxiway E. This is also the shortest taxiing route to the proposed new terminal. For landings on Runway 26, the first turnoff will be Taxiway D, which is 6,800 feet from the threshold. Most aircraft landing on Runway 26 now are moving slowly enough at Taxiway D to turn off on this taxiway. A few inter-island aircraft with maximum payloads may try landing on Runway 26 and turning off on Taxiway E. This condition would require maximum use of reverse thrust and is not expected to be prevalent.

With 9,800 feet of runway available, it appears that reverse thrust is a procedure that is used at the discretion of the pilot and its application varies among the airlines. Since the airlines are using reverse thrust now and expected to use it when the new terminal is completed, reverse thrust noise in the nearby residential communities is not expected to change because of the terminal location.

Ultimate airport development, as shown on Attachment 3, Sheet 1, indicates that a high speed turn-off is planned in the future. Its construction will increase airport capacity by providing an immediate exit from Runway 26, thus allowing a reduction in engine thrust reversal time.

Weather Conditions. Wind velocity is a secondary factor in a pilot's choosing the operational end of a runway at General Lyman Field. FAA criteria is to avoid operations with more than a 5 knot tailwind except for the following reasons: pilot's choice or operational considerations.

The National Weather Service in Hilo has recorded wind velocities for the past 18 years during the hours of 8:30 a.m. to 5:30 p.m. when most of the aircraft operations have taken place. This data is summarized in Table 6 below.

TABLE 6

WIND FREQUENCIES AT GENERAL LYMAN FIELD^a
8:30 A. M. TO 5:30 P. M.

1.	East wind component (wind direction NNE through SSE) of 7 knots or greater	36.4 percent of time
2.	West wind component (wind direction NNW through SSW) of 7 knots or greater	3.4 percent of time
3.	Calm wind less than 7 knots	33.9 percent of time
4.	North and South wind component of 7 knots or greater	26.3 percent of time
5.	Sum of 3 and 4, above	60.2 percent of time

^a Based on data and information supplied by the National Weather Service.

These percentages indicate that during 60.2 percent of the time, wind conditions permit either end of Runway 8/26 to be used by inter-island and overseas aircraft. The percentages indicate also that during 36.4 percent of the time, flights should use Runway 8, and during 3.4 percent of the time Runway 26 should be used.

In periods of low visibility, Runway 26 should be used for landing since it is equipped with an Instrument Landing System (ILS), a Visual Approach Slope Indicator (VASI), and a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR).

Density of Operations. The third factor in choosing the operational end of a runway is the number and density of aircraft operations. For example, in 1971 there were approximately 56,150 landings and takeoffs at General Lyman Field, as shown on Table 12. Of this total, 20,150 were commercial, 7,970 military, 26,470 general aviation, and 1,560 air taxi. A capacity analysis has indicated that the existing system, maintaining the present predominant pattern of landing on Runway 26 and takeoff Runway 8, can accommodate the forecast operations until the early 1980's. At this time it may be necessary, during peak periods

only, to begin one-way operation of landings and take-offs using the same runway. Otherwise, aircraft would be required to hold until landing aircraft cleared Runway 26 prior to clearance for departures on Runway 8 since normal procedure is for landing aircraft to have priority over departing aircraft.

Contours of the perceived noise levels in units of PNdB have been developed for General Lyman Field in accordance with guidelines set forth in Land Use Planning Relating to Aircraft Noise, by Bolt, Beranek and Newman, Inc., 1964, (Reference No.12). The perceived noise level (PNdB) has been found to correlate very well with subjective evaluation of the noisiness of various kinds of aircraft, as well as other kinds of noise, and has become widely accepted as a means for describing noise both in this country and abroad. It is a calculated quantity based on physical measurement of sound pressure levels (decibels) and octave bands (cycles per second), each a factor in noise. The human response to sounds and noise of various levels has been empirically determined (Reference No.13). Table 7 lists various sound sources, the corresponding sound level in dB(A), and the human response the sound normally elicits. For comparative purposes, PNdB values may be converted to dB(A) by subtracting 12 units from the PNdB value (Reference No. 14).

The noise contours, or "footprint" left by a single flyover of a particular type of aircraft, were developed only for Runway 8/26 because Runway 3/21 has few inter-island operations and no overseas operations. Attachment 9 and 10 show future one-way operations but for different types of aircraft. The noise levels on Attachment 9 are based on the operation of a DC-8, typical of the heavy four-engined turbojets being used by overseas airlines serving Hilo. Attachment 10 shows noise levels of a B-747 during landing and takeoff. Since takeoff noise is much more severe, contours due to landing on Runway 26 were not shown. Nor were takeoff noise contours shown for aircraft using Runway 26 since this type of operation is used only during infrequent periods when the west wind component exceeds 7 knots. For two-way operations by overseas aircraft, i. e., landing on Runway 26 and takeoff on Runway 8, significant portions of the contours are the curves over areas north, east, and south of the runway. Noise to the west is not severe from such operations.

TABLE 7

WEIGHTED SOUND LEVELS AND HUMAN RESPONSE^a

SOUND SOURCE	dB (A)	RESPONSE CRITERIA
Carrier Deck Jet Operation	140	Painfully Loud Limited Amplified Speech
Jet Takeoff (200 feet) Discotheque Auto Horn (3 feet)	120	Maximum Vocal Effort
Riveting Machine	110	
Jet Takeoff (2,000 ft.)		
Shout (0.5 feet)	100	
N. Y. Subway Station		Very Annoying
Heavy Truck (50 feet)	90	Hearing Damage (8 hours)
Pneumatic Drill (50 feet)		
Freight Train (50 feet)	80	Annoying
Freeway Traffic (50 feet)	70	Telephone Use Difficult Intrusive
Air Conditioning Unit (20 ft.)	60	
Light Auto Traffic (50 ft.)		
Living Room	50	Quiet
Bedroom	40	
Library		
Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

^aBased on material from "Environmental Quality", The First Annual Report of the Council on Environmental Quality, Transmitted to Congress, August 1970 (Reference No. 13). For comparative purposes, PndB \approx dB(A) + 12 for jet aircraft (Reference No. 14). For example, 100 PndB is about equal to 88 dB(A).

A comparison to Table 7 and Attachment 9 indicates that aircraft noise from one-way operation by DC-8's is annoying to those living in a relatively small area of Hilo. But as more DC-8/B-707's are replaced with B-747's, noise that is now annoying to residents west and northeast of the airport will be reduced to more tolerable levels. This trend is clear when Attachment 10 and Table 7 are compared.

In addition to the PNdB Noise Contours, Attachments 11, 12 and 13, show the composite noise rating in units of CNR due to aircraft operation at General Lyman Field. Composite noise rating is a procedure developed by Bolt, Baranek and Newman, where perceived noise levels (PNdB) are adjusted to take into account frequency of operation, time of day, and percent of runway utilization. The Composite Noise Rating is a calculated quantity; it cannot be measured with a sound level meter or any other indicating device. The calculations to determine CNR values are Attached in Appendix 4, Section F. An empirical relationship has been developed between CNR levels and the expected response of residential communities as shown on Table 8. These expected responses apply only to residential areas.

TABLE 8

COMMUNITY RESPONSE TO COMPOSITE NOISE RATING^a

<u>CNR</u>	<u>Expected Response</u>
Less than 100 (Zone 1)	Essentially no complaints would be expected. The noise may, however, interfere occasionally with certain activities of the residents.
100 to 115 (Zone 2)	Individuals may complain, perhaps vigorously. Concerted group action is possible.
Greater than 115 (Zone 3)	Individual reactions would likely include repeated, vigorous complaints. Concerted group action might be expected.

^a Based on material from Reference No. 12.

Attachment 11 shows the CNR's for operations in 1972 assuming all flights landed on or took off from runway 8/26, a valid assumption since few inter-island operations and no overseas operations were conducted on Runway 3/21 (See Table 3).

Attachment 12 shows CNR's for 1975 - 1985 operations assuming the same percentage of runway utilization. The contours on Attachment 12 are a result of increased operations which are forecast to occur regardless of terminal location. If the percentage of operations changes so that 31 to 70 percent of the takeoffs are from Runway 26, Attachment 13 will then describe the noise situation around General Lyman Field. This would be a radical change from the present figure of 2.2 percent.

When comparing the CNR contours on Attachments 11 and 12, it becomes obvious that a change in contours occurs only in an area designated "Open Space". Take-offs to the west would create a wider area of noise as can be seen by comparing Attachments 12 and 13. To keep the flight paths over the town of Hilo to a minimum, the existing operational pattern of landing on Runway 26 and takeoff on Runway 8 should be requested of all airlines.

It should be noted that the CNR contours are based on noise levels associated with the type of aircraft presently operating at General Lyman Field. With the introduction of quieter wide-body turbojet aircraft, future retro-fitting of current DC-8 and B-707 engines, and implementation of new FAA/ATA climb out procedures, the existing noise levels associated with the current generation of aircraft will be significantly reduced.

SUMMARY:

The following statements can be made to summarize the potential impact on ambient noise levels as a result of relocating terminal activities.

a. Noise from Parked Aircraft

The noise level in the community from aircraft parked at the new terminal will be considerably reduced. This noise reduction will be realized by the residents of Hilo in the area south of Piilani Street and west of Kanoelehua Avenue.

b. Takeoff and Landing Noise

Presently, 64% of all commercial flights land on Runway 26 from ocean approaches, and 33% land from the west over Hilo onto Runway 8. Landing noise from this 2-way operation is not considered to presently exceed tolerable levels for the majority of Hilo residents. Similarly, with more than 94% of takeoffs on Runway 8 sending aircraft away from the populated areas, noise is kept to a minimum.

An informal runway use program has been utilized within the State of Hawaii to assist in noise reduction at residential and business areas adjacent to airports. Such a program if implemented through the FAA would continue the present practice of preferential use of Runway 26 for landings and Runway 8 for takeoffs. It is expected that this would maintain the present percentages of runway usage with only slight deviation since the pilot has the final decision with regard to safety of operations and the tower controller with regard to adequate spacing of aircraft. In the latter case, this opposite direction traffic on the same runway will become feasible less often as the traffic volume increases, regardless of the location of the terminal.

The requirement for preferential runway use is enforceable by the Federal Aviation Administration but may not actually result in exactly the same percentage of use patterns as are currently enjoyed due to weather, pilot preference, traffic control, and other factors. Therefore, the difficulties in enforcing prescribed runway usage and the air traffic spacing requirements of increasing traffic will jointly result in some increased noise west of the airport over the City of Hilo.

In the future, aircraft operators will be requested to continue the present landing and takeoff patterns even though the proposed terminal could, for an interim period, increase the taxiing distance for both inter-island and overseas carriers as compared with the existing terminal. However, by 1979 when the proposed Runway 26 extension is completed and the smaller jets are using mid-runway takeoffs, the round trip inter-island aircraft taxiing distance will be reduced to less than that presently required with the existing terminal.

The noise level created by the use of reverse thrust during landing of aircraft is not expected to be changed appreciably by the new terminal.

Therefore, the location of the new passenger terminal will have minor impact on the existing noise contour level for General Lyman Field. However, adjustments to existing aircraft, improved design of future aircraft, and modifications to operational procedures will keep noise level increases to a minimum despite a projected increase in air traffic.

7. Visual Impact

a. Existing Terminal

The project will constitute aesthetic or visual improvement as compared with the existing terminal. The present inter-island terminal was built in 1952 for inter-island traffic only, and in 1953 the existing air cargo building was constructed. In 1969, in the open space between these two structures, a "Butler-Type" building was provided to meet the immediate needs of the overseas carriers which were awarded routes into Hilo for the first time in 1967. The ultimate use of the existing overseas terminal is an air cargo building, for which it was originally designed and modified as necessary to use as an interim passenger terminal.

The existing terminal complex is thus an unplanned assortment of buildings that has grown periodically to meet the immediate needs of the airlines and can best be described as an interim facility with no long range growth potential because of site restrictions and its proximity to populated areas. Because of the random growth and the use of building materials that were popular at the time, or suitable for the ultimate use of the building, one finds a variety of construction materials side by side, not by design but by circumstances.

Contributing to the visual chaos of the existing complex is the mix of vehicular traffic in front of the terminal. Tour busses, baggage trucks, U-Drives, taxis, limousines and private autos are competing for what little curb space

exists. This problem is magnified because of the irregularity of the face of the terminal complex and the projection of the restaurant facilities and baggage claim into the vehicular circulation area which prevents the free flow of traffic in front of the terminal.

Also detracting from the appearance of the immediate terminal building environment are several World War II quonset huts which serve as the base yard maintenance facility, three prefabricated metal air cargo buildings and a similar type of structure which serves as a crash/rescue building. Because of the limited site available, these buildings become an undesirable visual part of the terminal complex even though they are not functionally related to it.

b. New Terminal

The proposed new terminal complex is designed to meet the projected needs through 1979 with planned expansion of the First Phase providing additional apron, terminal and parking space when required as air traffic grows. When this growth exceeds the expansion capabilities of the new terminal, the master plan allows for incremental growth of the terminal facility parallel to Runway 8/26. Since the new terminal complex is being planned and designed to serve immediate as well as long term needs it will be possible to provide an orderly, visually cohesive, complex initially and in the future.

To tie the various components of the terminal complex together and create a sense of order, similar details, materials and finishes will be used throughout. To create functional order with respect to vehicular traffic the various types of vehicles serving the complex have been segregated and assigned parking areas which best suit their relationship to passenger and vehicular traffic flow patterns.

The new development at Hilo provides for "airport related" land use area near the existing terminal complex. This area will be used for the construction of airport support activities in an area accessible to, but remote from, the new terminal complex.

Because of its nature, the existing terminal as previously described, did not recognize the environment in Hilo, with respect to sun, rain or the indigenous tropical foliage. The new complex by providing a variety of spaces, e. g., in terms of size, volume, quality of light and relationship to the outdoors, exposes passengers and visitors to a constantly changing spatial experience designed to make them more aware of their environment, rather than just plodding from curbside to departure gate.

8. Convenience of Access

The access road will be constructed to the latest design standards. It will have 12 foot wide lanes and be designed for 45 miles per hour speeds to the terminal. The auto parking lot will be less confusing than the existing passenger parking lot, where the public parking is broken into several areas by access roads.

The project will not physically divide or disrupt an established community. The City of Hilo lies to the west of the airport. The access road will provide a direct route to downtown Hilo using existing Kekuanaoa Street. The access road will change the location where airport traffic commingles with city traffic. Traffic presently leaves or enters the airport at Kanoelehua Avenue from either Hualani Street or Kamehameha Avenue. Traffic estimates by the State of Hawaii, Highways Division, indicate that a signalized intersection at Kanoelehua and Kekuanaoa will handle city and airport traffic beyond 1993. The roads adjacent to the intersection will be adequate.

The Highways Division is preparing plans for the widening of Kanoelehua from Kamehameha Avenue to several miles south of Kekuanaoa. This widening is expected to be constructed by the end of 1973. The County of Hawaii is preparing feasibility studies and has budgeted money for land acquisition to widen Kekuanaoa Street to four lanes. This widening is expected to be constructed by early 1974.

9. Points of Public Interest

Scenic sites, points of historic or otherwise unique interest are not known to exist in the immediate vicinity of the proposed passenger terminal (Reference Nos. 15 and 16).

10. Vegetation

The U. S. Department of the Interior has indicated (See Page 3-11 of Appendix 3) that the vegetation at the proposed terminal site is that of a low-growing rain forest comparable to the expanse of undeveloped land south of the existing airport. This forest is composed largely of rapid-growing, short-lived vegetation including:

Passion flower (Likikoi) - Passiflora sp.
Morning Glory - Ipomoea sp.
Wandering Jew - Tradescantia fluminensis
Sedge - Cyperus sp.
Johnson grass - Sorghum halapense
Hilo grass - Paspalum conjugatum
Beggar's Tick - Bidens pilosa
Trema - Trema orientalis
Hala - Pandanus ororotissimus
Guava - Psidium guajava
Banyan - Ficus sp.
Melochia - Melochia umbellata

This material re-establishes itself rapidly in cleared areas, supported by generous rainfall and the high germination rate of these wayside plants.

11. Wildlife

Two significant species of feral mammals, aside from field rats and mice, can be rarely seen in the area:

Mongoose - Herpestes auropunctata
Feral Pig - Sus scrofa

Birds frequently seen are:

English or House sparrow - Passer domesticus
Barried Dove - Geopelia Striata
Spotted Dove - Streptopelia chinensis
Indian Mynah - Acridotheres tristis
White-eye - Zosterops japonica
Cardinal - Richmondia cardinalis
Pacific golden plover - Pluvialis dominica
Ricebird - Lonchura punctata

The project will admittedly alter the living patterns of some individuals of species of birds exotic to Hawaii, but no rare or endangered species are known to inhabit the area. Although there will be some loss of habitat for some of the exotic species of birds, the U. S. Fish and Wildlife Service confirmed that this loss is not considered to be too significant and there will not be significant conflict of this project with fish and wildlife values.

12. Water Quality

In order to determine the effects terminal construction would have on water quality of the area, the existing drainage and ground water conditions were appraised. A study conducted by Bechtel Corporation in August 1972 (Reference No.17), indicated that the ground water at locations near the project site were unsuitable for drinking. Results showed that samples from 7 drainage wells exceeded the minimum levels of salinity or coliform concentrations established by State and Federal authorities. As was discussed elsewhere in this statement, storm drainage at General Lyman Field, especially in the vicinity of the proposed new terminal, is not a problem due to the extremely porous and highly permeable lava material. There are no definite drainage patterns or water courses at the site.

Further pollution of the ground water from petro-chemical residue washed from the aircraft apron will be virtually eliminated by the construction of traps installed in drainlines serving the apron. These traps will separate the lighter petro-chemicals from the runoff water and will be cleaned periodically. Upon project completion, storm runoff from the parking lot and terminal building roofs will flow into and through a drainline system eventually emptying into a low lying area where the water will percolate into the ground. Erosion, if and when a problem, will be controlled with rip-rap and soil stabilizing vegetation. The proposed sewage treatment plant will include primary and secondary treatment and has been accepted by the State Department of Health. The plant's effluent will be rigidly treated to meet Local, State, and Federal Health Standards then injected into the ground where it will be diluted by ground water and eventually flow into the sea.

Consequently, construction of the proposed passenger terminal is not expected to have a significant detrimental impact on water quality of the area. On the contrary, it will in some respects enhance water quality since airport sewage, currently handled by a cesspool, will be given more complete treatment before returning to the ground water.

13. Ambient Air Quality

Construction of the proposed new facilities at General Lyman Field will not produce appreciable adverse effects on the ambient air quality in the vicinity of Hilo. There will be a short term increase in pollutants due to a temporary increase in taxiing distances prior to the extension of runway 8/26 to 12,000 feet. However, as air traffic increases due to normal industry growth, the existence of the new terminal facilities and extended runway will result in lower emission levels because taxiing distances will be less than if the present terminal were to continue to be used.

The amount of emissions produced by taxiing aircraft under five different conditions were calculated and are summarized in Table 9.

A comparison of cases (1) and (2) in Table 9 shows the increase in emissions caused by the temporary increase in taxiing distance to be 116 tons per year. This increase will be reduced to 34 tons per year when Runway 8/26 is extended to 12,000 feet (programmed for fiscal year 1977/78).

If the existing terminal is utilized through 1985, the projected increase in air traffic will result in 76 tons per year increase in pollutants. However, if the new terminal is built, the increase will be only 23 tons per year. See cases (1), (4) and (5) in Table 9.

The increase in air traffic due to growth in the air travel industry will inevitably result in an increase in air pollutants. But by constructing the proposed facilities at General Lyman Field, the adverse effect of air pollution resulting from such growth can be minimized.

The present ambient air quality in the vicinity of Hilo is excellent. Table 10 shows a comparison of 24-hour concentration of contaminants for 1971 with the State Standards. Table 11 compares Federal and State ambient air quality standards. These two tables clearly indicate that the measured pollutant content of the ambient air in Hilo is far below the State and Federal Standards. The prevailing wind direction at General Lyman Field is southwesterly with an average speed of about 6 to 7 miles per hour. Aircraft emissions are therefore blown out to sea where they are dispersed.

The new generation of turbo-jet aircraft, such as B-747, L-1011, and DC-10, are being built with cleaner engines. When more of these aircraft are put into service, visual pollutants (particulates)

TABLE 9

COMPARISON OF EFFECT OF TERMINAL LOCATION AND RUNWAY LENGTH
ON EMISSIONS PRODUCED BY TAXIING AIRCRAFT

Case	Year ^a	Terminal Location	Runway 8/26		Emission ^b (Tons/Year)
			Length(Ft)	Mode of Operation	
(1)	1971	Existing	9,800	2 Way	134
(2)	1971	Proposed	9,800	2 Way	250
(3)	1971	Proposed	12,000	2 Way	168
(4)	1985	Existing	12,000	1 Way	210
(5)	1985	Proposed	12,000	1 Way	157

^a Emission quantities based on actual or projected volume of air traffic for year shown.

^b For Calculations see Section E, Appendix 4.

TABLE 10

COMPARISON OF 24-HOUR CONCENTRATION OF CONTAMINANTS
AT HILO WITH STATE STANDARDS^a

Contaminant	No. of Samples ^b	Range of Values	Concentration (Micrograms per Cubic Meter)	
			State Standard	Actual
Particulate Matter	58	14-95		
Arithmetic Mean			55	34
Max. 24-hour concentration			100	95
Nitrogen Dioxides	42	<20-36		
Arithmetic Mean			70	27
Max. 24-hour concentration			150	36
Sulfur Dioxides	43	<5-16		
Arithmetic Mean			20	<5
Max.24-hour Concentration			80	16

^a Data obtained from Hawaii State Department of Health, Air Sanitation Branch.

^b Samples taken April thru December, 1971 at sampling station located approximately one mile west of Airport.

TABLE 11

FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS
(Measured in Micrograms Per Cubic Meter)

Pollutant	Federal Standard ^a		State Standard ^b
	(Primary)	(Secondary)	
Carbon Monoxide			
Maximum 8-hour concentration	10,000	10,000	5,000
Maximum 1-hour concentration	40,000	40,000	10,000
Hydrocarbons			
Maximum 3-hour concentration (6 - 9 A. M.)	160	160	100
Particulates			
Annual Arithmetic Mean	--	--	55
Annual Geometric Mean	75	60	--
Maximum 24-hour concentration	260	150	100
Nitrogen Oxides			
Annual Arithmetic Mean	100	100	70
Maximum 24-hour concentration	--	--	150
Sulfur Oxides			
Maximum 3-hour concentration	--	1,300	--
Annual Arithmetic Mean	80	60	20
Maximum 24-hour concentration	365	260	80

^a Federal Standards are from the U. S. Environmental Protection Agency. Primary Standards are those necessary to protect the public health; Secondary Standards are those necessary to protect the public welfare (Reference No. 18).

^b State Standards are from the Public Health Regulations, Chapter 42: "Ambient Air Quality Standards", Department of Health, State of Hawaii (Reference No. 19).

created by aircraft will be reduced. In addition, airline companies are in the process of retro-fitting B-737 and DC-9 aircraft, the type used by the inter-island carriers, with new combustors which will emit fewer particulates.

Taking all the above factors into consideration, it may be concluded that the increase in visual and non-visual pollutants brought about by the growth in aircraft operations at General Lyman Field will not, in the foreseeable future, violate the ambient air quality standards established by the State of Hawaii. Furthermore, if the proposed terminal facilities are constructed, the adverse effect of air pollution caused by taxiing aircraft will be less than if the existing terminal with Runway 8/26 extended to 12,000 feet are used in the future.

14. Community Interests

The following steps have been taken to determine the reaction of the community and the impact on economic, environmental, social and transportation problems.

The Governor of Hawaii created an Airport Advisory Committee to make recommendations concerning future General Lyman Field development. Headed by the Chief, Airports Division, Department of Transportation, State of Hawaii, nineteen Hilo residents and five residents of other island areas representing business and community interest formed the group. The committee member's names, business affiliations, and addresses are included as Attachment 19. One of the committee's recommendations to the Governor was that the State proceed with the project as soon as possible.

A Preliminary Environmental Impact Statement was prepared in August, 1971, and the State of Hawaii Clearing House on Environmental Affairs solicited comments from State and Local Agencies, private groups and interested individuals. Twelve letters were received and the comments contained therein were incorporated into the Draft Environmental Impact Statement dated January 6, 1972. A summary of the comments and copies of the letters received are attached as Appendix 1. A Public Hearing was conducted at the Council Chambers in Hilo, Hawaii, on December 15, 1971, when further comments to the Preliminary Environmental Impact Statement were received. These comments were also incorporated into the Draft Environmental Impact Statement. A summary and the transcript of this meeting are attached as Appendix 2.

The proposed airport development has been elaborately discussed at the local level. Both of Honolulu's major daily newspapers and Hilo's Tribune-Herald have carried articles pertaining to the new terminal. Citizens of the County have frequently expressed their concern in numerous letters directed to agencies and departments of the State and Federal governments. These newspaper articles and letters clearly indicate the following:

1. Local opposition to terminal construction is primarily limited to the West Hawaii Committee, a Kona based group who regards Hilo as an illogical location for the State's second overseas airport.
2. The residents of Hilo, represented by numerous civic organizations and elected public officials to both City and County offices, are overwhelmingly in support of the project and have expressed their interest in completion at the earliest possible date.

Several of these newspaper articles and letters are attached as Appendix 5.

Copies of the Draft Environmental Impact Statement were sent to interested Federal Agencies by the Pacific Region of the Federal Aviation Administration. Nine agencies responded and their comments were incorporated into the Final Environmental Impact Statement. A summary of these responses and copies of the letters received are attached as Appendix 3. The Honolulu Airlines Committee on several occasions voiced their concern over some operational aspects of the proposed terminal complex. A report was prepared and forwarded to the Airlines Committee, outlining the studies performed and the conclusion reached regarding the adopted layout. An expanded version of this report is attached as Appendix 4.

D. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Although the total number of residences within half a mile of a passenger aircraft parking position will decrease from 140 residences to 29 residences, the residence that is now 7,000 feet away from the present aircraft parking area will be 2,300 feet away when construction of the proposed new passenger terminal is completed. See Attachment 7 for locations.

There will be a temporary adverse effect on the environment from the construction activities for the new terminal. They cannot be avoided; however, their effect will be minimized as described in Section B of this statement.

A clear sight line from the Control Tower to the new apron requires the selective clearing of trees and other vegetation over approximately 75 acres since clearing trees is less expensive than constructing a new Control Tower. Attachment 15 gives a cost comparison between a new Control Tower and clearing the line of sight for the existing Control Tower. Clearing and grubbing approximately 150 acres of rain forest area for the terminal, apron, and miscellaneous roads, will remove a minor portion of forest vegetation and wildlife habitat from the island's vegetal environment which will subsequently be replaced in part by extensive landscaping of the terminal and parking lot areas. There appears to be a correlation between the conversion of forest land and decline of birds and animals. However, the U. S. Department of Agriculture feels that information is not presently available to fully evaluate impacts of this nature (See Page 3-23 of Appendix 3). The fish and Wildlife Service of the U. S. Department of the Interior confirmed in their letter that destruction of existing vegetation will result in loss of habitat of exotic passerine birds. But they also added, they feel that, in general, there will not be significant conflict of this project with fish and wildlife values (see Page 3-11 of Appendix 3).

The proposed terminal will, for an interim period, increase the taxiing distance for landing and departing aircraft with a corresponding increase in emitted air pollutants. However, these distances will generally be reduced below existing conditions when Runway 26 is extended as planned for the fiscal year 1977/78.

E. ALTERNATIVES

Alternatives to the implementation of Phase One of the Master Plan for General Lyman Field have been investigated.

They are as follows:

- | | | |
|--------------------|----|--|
| Alternative No. 1. | | Do Nothing. |
| Alternative No. 2. | a. | Expand Existing Facility;
Runway 3/21 to Remain Active. |
| | b. | Expand Existing Facility;
Runway 3/21 to be Closed. |
| Alternative No. 3. | | Relocate Overseas Operations to
Ke-ahole. |

Alternative No. 1. - Do Nothing

1. Existing Facilities

Runway 8/26 with a length of 9,800 feet is adequate for the forecast period, and shoulder stabilization has been completed to accommodate current and forecast turbojet aircraft usage. However, the forecast increase in passenger traffic would severely tax the apron and terminal facilities and magnify the present deficiencies described as follows:

a. Landside Traffic Problems

Roadway and parking facilities are the result of a series of modifications to the original layout, resulting in:

- Inadequate curb length, creating competition for existing curb space among private autos and ground transportation operators.
- Confusing traffic flow, both at the airport entrance and adjacent to the terminal frontage.

b. Terminal Building Congestion

The terminal is incapable of accommodating current passenger volumes without excessive crowding and congestion. This is due to the airlines' scheduling policies and the inadequacy of the terminal facilities.

For example, in 1970 the inter-island carriers often processed 200 passengers per hour. The existing waiting space in the terminal is 1,250 square feet. Criteria recommended by the Airport Operators Council International (AOCI) allocates 12.5 square feet of space per passenger, or 2,500 square feet of waiting space for the inter-island passengers in 1970. Additional space is required to accommodate passengers' friends and family.

In the overseas area, 4,200 square feet of waiting area is available. In 1970, flow rates exceeding 450 passengers per hour occurred several times during the summer months. This would have required 5,600 square feet of space by AOCI standards.

In 1970, during peak hours, both the inter-island and overseas terminals were crowded. The projected passenger volumes, shown in Table 12, indicate that by 1980 annual overseas passenger traffic will be nearly double that of 1970. During this same period it is anticipated that annual inter-island traffic will triple.

c. Ramp Congestion

The present apron provides parking for 4 DC-9 type inter-island and 4 overseas DC-8 type aircraft which is inadequate for present as well as forecast needs. The introduction in 1972 of B-747 flights into Hilo on a daily basis further contributes to the ramp congestion problem. To meet the demand for ramp space, itinerant turbo-jet aircraft are required to park on the southeasterly side of Runway 3/21. Although permitted by the FAA on an intermittent basis at this time, they have indicated that the crossing of Runway 3/21 by service vehicles will not be acceptable in the future.

TABLE 12
GENERAL LYMAN FIELD ACTIVITY SUMMARY^a

Year	Passenger Volumes				Cargo & Mail		Aircraft Operations ^c Total
	Inter-Island		Overseas ^b		I/I Tons	O/S Tons	
	Enplaning	Deplaning	Enplaning	Deplaning				Total
Actual							
1968	230,000	260,000	127,000	88,000	7,500	6,100	63,900
1969	255,000	278,000	195,000	109,000	8,600	5,700	46,600
1970	280,000	299,000	181,000	108,000	10,300	6,700	52,000
1971	316,000	342,000	197,000	116,000	11,900	7,800	56,150
1972	422,000	444,000	165,000	114,000	15,100	9,200	50,350
Forecast							
1975	614,000 ^d	653,000 ^d	168,000	228,000	23,700	16,100	66,800
1980	872,000 ^d	927,000 ^d	241,000	331,000	36,100	22,100	79,650
1982	971,000 ^d	1,034,000 ^d	271,000	374,000	40,500	26,800	85,400

^a Forecast data are based on Airport Planning Model of December 1, 1972, supplied by State of Hawaii D. O. T., Advanced Transportation Planning. They are valid only if Hilo remains the sole overseas terminal on the Island of Hawaii. Historic data, also supplied by Advanced Transportation Planning, State of Hawaii D. O. T., has been rounded.

^b Transient passengers are not included.

^c Figure includes air taxi, general aviation, military, and scheduled and non-scheduled inter-island and overseas operations.

^d Assumes that present enplaning/deplaning passenger ratio continues.

d. Non-Compliance with FAA Criteria

Another consequence of inaction is continued non-compliance with current FAA criteria. B-747's parked adjacent to the terminal building do not comply with side slope clearance requirements. For a further discussion of this, see Page 6 of this statement.

e. Terminal Building Appearance

In addition to the functional and operational deficiencies of a "Do Nothing" approach, consideration should be given to the visual impact of the present terminal complex. It is presently a patchwork of "interim" facilities. The original complex built in 1952 consisted of the inter-island terminal, control tower and restaurant. In 1953, an air cargo building was added and the inter-island terminal modified. In 1967, the baggage claim areas were expanded and parking lot improvements made. The most recent modification was in 1969 and consisted of construction of an interim overseas terminal which will be converted to an air cargo building when the need arises.

2. Cost

None.

3. Conclusion

Air traffic will continue to grow at Hilo and because of the land-side traffic problems and terminal and ramp congestion, a "Do Nothing" approach to the existing facilities at General Lyman Field is unacceptable.

Alternative No. 2. - Expand Existing Terminal

1. Benefits

If the existing auto parking, terminal building and apron area were upgraded and expanded, the following benefits could be realized:

- a. Landside traffic problems alleviated.
- b. Functional relationships within the terminal building improved.

- c. Appearance of the terminal building made more attractive.
- d. Ramp congestion alleviated by:
 - Expanding aircraft parking to the southwest, or
 - Parking overseas aircraft on the National Guard apron.

A supplement to the alternative of upgrading and expanding the existing terminal would be the closing of Runway 3/21. This would eliminate the problem of non-compliance of parked aircraft with FAA Regulations.

2. Landside Traffic

Alleviating the landside traffic problems will require major modification of the existing road system and parking lots. There are presently two structures, a utility building housing the airport standby power generator and the swimming pool run by the Hawaii County Parks and Recreation Department, which unless relocated, restrict the orderly expansion of the auto parking lot.

Also required would be the realignment of "Operations Street" and the public access road parallel to Runway 3/21.

3. Terminal Building Expansion

To provide additional space and improve the functional relationships of the terminal building, the existing overseas terminal would have to be extended approximately 300 feet to the southwest. This would necessitate relocating the air cargo operation approximately 1,000 feet southwest of its present location. Expansion of the inter-island terminal requires extensive renovation in order to satisfy the space needs required by the forecast increase in inter-island traffic. Expansion potential of the inter-island terminal area is especially limited because of the constraints to orderly expansion on all sides. While expansion would provide a numerical increase in floor area for public and airline functions, their physical relationships are handicapped by restrictions of the existing terminal's

building depth, building height, column spacing, relationship to aircraft parking positions, and other limitations imposed by existing conditions.

4. Physical Appearance of Terminal

The physical appearance of the terminal building could be improved if this plan were pursued, but it would be severely handicapped by the limitations imposed on the architect by existing buildings, as mentioned above, and the budget dictated by the life expectancy of the renovated buildings.

5. Ramp Congestion

Ramp congestion could be alleviated in the following ways:

a. Expanding Existing Ramp to Southwest

This solution would provide a maximum of three new power-in/power-out, DC-8 type parking positions adjacent to the air cargo area. However, if this plan were adopted, it would mean that an aircraft parking position would be located less than 1,300 feet from a residential area.

Another consideration is that the existing ramp pavement was not designed for frequent use by overseas aircraft and, if so used, would have to be extensively rebuilt.

b. Park Overseas Aircraft on Existing National Guard Apron

Expansion of the General Lyman Field apron area by using the National Guard apron for parking of overseas aircraft would reduce expansion problems and increase the distance between parked aircraft and residential areas, but other problems would arise:

- The apron area is currently being used by the National Guard.
- The National Guard apron is not designed for the loading imposed by continuous use by overseas aircraft and would require extensive rebuilding.

- Intermittent use of the National Guard apron by overseas aircraft is presently allowed by the FAA, but the practice will not be allowed in the future because of service vehicle traffic across an active runway (3/21).

6. Closure of Runway 3/21

Closure of Runway 3/21 would resolve the problem of noncompliance with FAA criteria of the existing aircraft parking arrangement. However, it would result in a considerable increase in taxiing distance for general aviation aircraft which accounted for 26,468 operations in 1971. A minimum distance for arrivals and departures would require a taxi distance of approximately 3,000 feet respectively, assuming continued two-way operation, i. e., departures from Runway 8 and landings on Runway 26.

7. Cost

An order of magnitude estimate for the improvement of the existing facilities, based on conceptual drawings, is as follows:

a.	Terminal Building Expansion and Air Cargo Relocation	\$ 5,750,000
b.	Apron Expansion and Improvements	700,000
c.	Parking Lot, Roadway and Site Improvements	<u>350,000</u>
	Total	\$ 6,800,000

When escalation costs of approximately one million dollars are subtracted from the above total, it compares favorably with the estimate developed by the Honolulu Airlines Committee in May of 1971. Both estimates include design and construction management costs; however, the 6.8 million dollar figure assumes that construction will begin in early fall, 1973. The financing of this alternative would be by the sale of revenue bonds and Federal participation through ADAP funding.

8. Conclusions

Expand Existing Terminal (Runway 3/21 Active)

The expansion and improvement of the existing facility would only be an interim solution with a useful life, based on forecast traffic, of about 5 years.

This solution would allow the following improvements.

- a. Additional space in terminal for public and airline activities.
- b. Additional aircraft parking positions.
- c. Additional automobile parking.

However, this alternative is unacceptable for the following reasons:

- a. Virtually no future expansion possibilities.
- b. Aircraft parked within 1,300 feet of residential area.
- c. Does not comply with FAA clearance criteria for parked aircraft.
- d. Capital investment not recoverable within useful life of building.

Expand Existing Terminal (Runway 3/21 Closed)

The expansion and improvement of the existing facility would be an interim solution with a useful life, based on forecast traffic, of about 5 years.

This solution would provide the following improvements:

- a. Additional space in terminal for public and airline activities.
- b. Additional aircraft parking positions.
- c. Additional automobile parking.
- d. Comply with FAA criteria.
- e. Provide for future expansion east of Runway 3/21.

However, this alternative is unacceptable for the following reasons:

- a. Future expansion of inter-island and overseas activities are separated by apron and taxiways.
- b. Aircraft parked within 1,300 feet of residential area.
- c. Greatly increases taxiing distance of general aviation aircraft.

Cost

The cost of this alternative would be approximately the same as for the expansion of the existing facility with Runway 3/21 remaining active or about \$6,800,000. Financing of the project would be by the sale of revenue bonds and Federal participation through ADAP funding.

Alternative No. 3 - Relocate Overseas Operation to Ke-ahole

1. Ke-ahole - Existing Facility

Ke-ahole Airport on the west coast of the Island of Hawaii is approximately 8 miles north of Kailua-Kona and was constructed in 1970. It is restricted to inter-island traffic at this time because of its 6,500 foot runway and limited terminal facilities. It has parking for 10 inter-island aircraft as well as facilities for general aviation and commuter airlines.

2. Passenger Movements on the Island of Hawaii

On the mainland the number of passengers enplaned and deplaned at any station is usually roughly equivalent; this does not hold true for Ke-ahole and General Lyman Field.

Prior to the introduction of overseas flights to Hilo, a comparison of enplaned and deplaned inter-island passenger volumes at Kona Airport and General Lyman Field would suggest that many air travelers arrived on the Island of Hawaii by way of Hilo, and departed from Kona. The number of inter-island passengers deplaned at Hilo has historically exceeded the number of inter-island passengers enplaned. In contrast, the number of inter-island passengers enplaned at Kona substantially exceeded the number of passengers deplaned. As there are virtually no sources of leakage within the Island's transportation system, this data indicates a flow of tourists using ground transportation from Hilo to Kona, accounting for the apparent imbalance at the two destination stations. However, the introduction of mainland service to Hilo in 1967 has reversed this pattern. While the number of deplaned inter-island passengers at Ke-ahole has risen drastically, the enplaning passenger volume growth has been much slower and is due primarily to the general growth in air travel. See Table 13 for recent passenger traffic at both airports.

At Hilo, both enplaning and deplaning inter-island passenger volumes are increasing proportionately due to growth in the air travel industry.

As previously mentioned, the transportation system on the Big Island has virtually no leakage. Thus these data indicate that at present visitors arrive in Ke-ahole from another island, travel via surface transportation to Hilo and depart for the mainland from General Lyman Field.

3. Hotel Accommodations

West Hawaii, (Kamuela, Kawaihae, Kohala, Kona) presently has 2,326 units available with 1,180 units planned for future development (with completion dates announced). While East Hawaii (Hilo, Kau, Volcano) area has 1,569 existing units and 740 units in the planning stages for which completion dates have been announced. Thus the number of rooms expected to be available in Kona in 1974 is approximately 50 percent greater than in Hilo, or roughly the same ratio as presently exists. This fact has been stressed as one of the reasons why the overseas airport on the Big Island should be relocated to Ke-ahole.

The hotel operators in Hilo have stated that while Hilo is not the primary resort area on the Big Island, it does have visitor attractions and rooms will be available in sufficient numbers to accommodate visitors to these attractions.

The present policy of Hilo serving as the second gateway to the State ensures the economic health of East Hawaii, and at the same time, presents no threat to the West Coast tourism industry. The success of tourism in West Hawaii depends on Kona's "image" and the districts' warm, dry weather. The ability of Kona to attract visitors is evidenced by the number of present and planned hotel units in West Hawaii and the high rates of occupancy they enjoy.

4. Air Cargo/Air Mail

Because of the concentration of population and commerce in the Hilo area, General Lyman Field handles more air cargo and air mail than Ke-ahole. Because of this and the fact that

it is presently an overseas airport, Hilo will continue to provide service to the mainland regardless of where the passenger facility is located. Both Hilo and Ke-ahole have a need for inter-island air cargo service, but Hilo's need is far greater because of its size and commercial importance.

5. Expansion of Ke-ahole to Serve Overseas Traffic

When discussing Ke-ahole as an overseas facility the following factors must be considered:

- a. Additional land must be acquired to accommodate airport expansion (Runway lengthening, improve operational conditions).
- b. Aircraft operation facilities - Increased runway length and aircraft parking space requirements.
- c. Terminal facilities - Increased public, concession and airline space requirements.
- d. Support facilities - Construction of flight kitchens, fuel handling and storage areas, air cargo buildings, etc., required.
- e. Socio-economic impact on other areas of Hawaii County.

The present runway length is 6,500 feet and is adequate for inter-island jet aircraft but would require being extended to 9,800 feet to accommodate larger overseas aircraft, as would the existing parallel taxiway. Five parcels of privately owned lands totaling 623.13 acres would have to be acquired to provide for this extension.

Other improvements required to accommodate overseas aircraft are:

- Pave runway and taxiway shoulders to prevent erosion by jet blasts of larger aircraft.
- Increase apron area to accommodate additional aircraft parking positions.
- Enlarge automobile parking lot and periphery road.

The terminal building complex is presently designed to adequately handle the movement of inter-island passenger and cargo traffic. The expanded terminal complex at Ke-ahole would consist of the same features, (i. e., space for six overseas and two inter-island airlines) as the terminal development proposed for Hilo. However, since Ke-ahole presently serves the inter-island carriers, terminal and apron expansion would be required for overseas carriers only. Overseas operations at Ke-ahole would also require construction of support facilities, which would duplicate facilities existing at Hilo, e. g., air cargo buildings, flight kitchens, maintenance facilities, harbor facilities for off-loading fuel and fuel storage facilities.

6. Socio Environmental Impact - Kona Versus Hilo

The selection of a site for an airport must consider not only the impact on the immediate area, such as changes in noise levels, but many other factors as well. Other considerations relate to the airport's effect on the existing character of the area, such as, distance to population centers it serves, proximity to commerce and industry, availability of labor and housing, and the economic effect on land costs and housing.

a. Existing Character of the Areas

Kona:

The Kona districts have long attracted people because of their natural beauty. Although man-made structures are in some places dominant, the vast expanse of the Kona landscape is still the area's most striking feature. Large barren masses of lava interrupted by patches of different colored vegetation, make a powerful visual impression. The ocean is almost always visible and provides a strong contrast to the lava fields. The shoreline is generally rugged, with peaceful coves encompassed by lush vegetation.

Hilo:

Hilo is dominated by the 14,000 foot peak of Mauna Kea of which there are views from various locations about the city, Hilo Bay provides a picturesque front yard

for the City of Hilo. A prime visitor attraction in the Hilo area is the active volcano in Volcanoes National Park, 32 miles south of Hilo.

b. Commerce and Industry

Agriculture and tourism constitute the foundation of the Island's economy.

Kona:

The Kona district has traditionally been a coffee producing area but has experienced a downturn in revenues for the last 16 years. Current growth in Kona has been spurred primarily by the demands of tourism, and commercial development has been geared to this industry and this trend is expected to continue for some time. The effect is that Kona's economic stability caters to the desires of the travelling public and is therefore susceptible to outside influences, such as the recreational desires of people and the national economy.

Rapid development such as that experienced at Kona has an inflationary effect on land costs and housing prices. Also, investor interest has caused land prices, especially in coastal areas, to soar. This fact is emphasized by the land ownership pattern which is characterized by a few large landholders. The lease policies of some landholders can create an unfavorable climate for long-term investment. While development is related to employment and general economic growth, it should be in balance with social and physical goals as well as economic desires, and economic benefits from the visitor industry should be realized without paying too high a price in social and environmental costs.

The present population and industries in the Kona district are scattered, with strip development occurring along major highways. There also exist industries which are incompatible with the surrounding area.

Aside from small boat harbors at Kailua, Keahou and Honokohau, there are no shipping terminals in the Kona district. The harbor facility nearest Ke-ahole is Kawaihae Harbor, 25 miles to the north. Recent attempts to construct a boat harbor on the Kona Coast near Anaehoomalu

Bay have been rejected because of possible adverse effects of water quality.

Hilo:

The major governmental, service, commercial, transportation and educational center is Hilo, with 40 percent of the Island's population within the city limits. Hilo Harbor is the primary shipping point for the sugar industry and a number of related industries -- fertilizer and petroleum product distributors, machine and equipment dealers and some light manufacturing operations. Several crop and livestock businesses are located in Hilo, which is also known as the orchid capitol of the world. Seventy-five percent of the Island's industrially zoned land is in Hilo and several manufacturing operations are located there, including food, fruit, sugar and livestock processing, garment manufacturing, small-scale lumber milling, with forest reserves representing a large untapped resource. A four-year college, the Hilo Campus of the University of Hawaii, is located there with a potential for further research and development.

Commercial endeavors have been expanded recently with construction of a six million dollar shopping center and numerous other office buildings and shops.

c. Environmental Factors

Because of its relatively isolated location and generally favorable weather, Ke-ahole has been said to have certain environmental advantages over Hilo as the location for the overseas airport. These advantages, if in fact they do exist, must be weighed against the long-term impact of an overseas airport as previously discussed.

The arguments for the relocation of the overseas activity at Ke-ahole are, in part, motivated by the desire to get the tourists closer to "where the action is", which in this case translates into the Big Island's primary tourist destination -- the Kona Coast. However, the great appeal of the Kona Coast to the tourist lies in its attractive climatic

conditions and natural beauty which to a great extent have remained unspoiled by industrial development.

The expansion of Ke-ahole to an airport capable of accommodating overseas aircraft requires more than enlargement of the terminal and increased aircraft parking and runway length, and land acquisition for the expansion thereof. Construction of air cargo facilities, flight kitchens, fuel off-loading facilities, fuel storage areas and other industrial type activities would also be required. Not only would these be detrimental to the character of the Kona district, they would duplicate facilities which exist in Hilo.

In addition to the primary support industries essential to their operation, major transportation facilities such as overseas airports, also attract secondary industries. One only has to consider the type of development that has been generated between Honolulu International Airport and Waikiki for example, to realize what this would do to the Kona Coast's prime attraction, its natural beauty. Secondary industries are primarily commercial and industrial in nature and in themselves would contribute to atmospheric pollution and Highway traffic problems.

Proponents of overseas service to Ke-ahole, suggest that the weather at Ke-ahole is ideal from an airport planners viewpoint. However, the conditions which exist could contribute to a serious air pollution problem for the mid-Kona coast as discussed in Reference 20. This area has the same weather pattern as leeward Oahu and Lahaina, Maui, where tall mountains cut off the Tradewinds and form a barrier which can cause local concentrations of pollutants. The Kona Coast is located on the Leeward side of the island and is thus sheltered from the prevailing northeast trades. Thus, rather than being a part of the larger tradewind system the circulation on the leeward side is diurnal land and sea breeze pattern and is self contained within a limited area. Because of this condition, a concentration of

pollutants may occur. The potential is great for smog conditions to develop, especially if vehicular and other sources of air pollution increase. While this factor is not critical at the level of operation generated by inter-island aircrafts, the introduction of four engine trans-pacific jets would diminish the air quality proportionately. In addition to the increased air traffic, an overseas facility would generate more highway traffic and air pollution.

Hilo was initially established as the State's second gateway because of its weather pattern. Ke-ahole's weather pattern is similar to Honolulu's and the opposite of Hilo's. Thus, when a storm "closes in" Honolulu and Ke-ahole, chances are that Hilo will be clear.

In terms of airport planning, "environmental" factors such as Ke-ahole's clear weather and relative isolation may appear to be logical reasons for establishing overseas operations at Ke-ahole, but when viewed in the longer range and broader perspective of the general planner, the impact, both environmental and socio-economic, is undesirable.

7. State and County Policy Regarding Overseas Airport Location

There are, at present, two airports in the State providing direct mainland service, General Lyman Field and Honolulu International Airport. Since it does not appear to be practical or necessary to provide two overseas airports on the Big Island, the continued use of Hilo as the second gateway to the State is dictated by the following facts:

- a. Hilo has been serving in this capacity since 1967 and has the runway length and support facilities, i. e., flight kitchens, fuel storage, cargo facilities, etc., required for current overseas operations.
- b. Use of General Lyman Field for mainland service, serves the best interests of the general economic growth of the Big Island as well as the tourism industry.
- c. Overseas service is a fact at Hilo and the construction of a new terminal building would have minimum disturbance on the socio-economic and natural environments

as compared to the introduction of a completely new level of air service at Ke-ahole.

- d. While future air traffic volumes may dictate that overseas service is needed at Ke-ahole (and this option may be exercised at some time in the future) for the present only one overseas airport is required and Hilo should be maintained as the overseas facility on the Island of Hawaii.
- e. The proposed expansion of the Hilo Airport Terminal conforms with the County of Hawaii General Plan (Reference No.20). The area has been designated for industrial uses on the General Plan Land Use Allocation Guide Map, a designation which makes the proposed use possible. Also, one of the Transportation Courses of Action for the South Hilo District in the General Plan document states that "The County shall encourage the implementation of air terminal and runway plans". For those basic reasons, the Hawaii County Planning Commission recently recommended to the County Council that approximately 289 acres of land be rezoned from Unplanned to Limited Industrial (ML-20) to allow for the development of the new terminal facilities at General Lyman Field. The County Council on November 9, 1972, voted to approve the change of zone request.

8. Cost

An order of magnitude estimate for the construction of the expansion of the existing facilities is as follows:

a. Terminal Expansion	\$ 8,000,000
b. Apron Expansion, Runway Extension, Shoulder Stabilization, and Relocation of Flight Instrument Systems	15,500,000
c. Parking Lot and Periphery Road Improvements	1,150,000
d. Land acquisition (Jury award May 1971 for Highway Division land Acquisition \$.32/SF)	<u>1,000,000</u>
	\$25,650,000

The above total: assumes construction begun in early fall 1973, includes design and construction management costs, includes overseas terminal costs only since inter-island facility opened at Ke-ahole July 1970.

This alternative would, as would any of the alternatives proposed, be financed by the sale of revenue bonds and Federal participation through ADAP funding.

Not included in this total is the cost of construction of support facilities such as fuel storage, flight kitchen, and cargo facilities.

9. Conclusion

The relocation of the overseas operations from Hilo to Ke-ahole would provide a long term solution to overseas service to the Big Island.

The following benefits would be realized:

- a. Airport site not close to populated areas.
- b. Takeoff/Landings over water.
- c. Located near primary Big Island resort area.

However, this alternative is unacceptable for the following over-riding factors:

- a. Airport expansion and development of secondary support facilities and commercial (non-resort) activities would be harmful to the existing character of the area.
- b. Location does not serve the best interests of general economic growth for the Big Island.
- c. Climatological conditions contraindicate the desirability of heavy air traffic.
- d. Expansion of Ke-ahole does not have a broad base of community support.
- e. One overseas airport is adequate for the needs of the County of Hawaii and since General Lyman Field presently has an overseas capability, this function should remain in Hilo.

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

1. Short-Term Benefits

The immediate and short-term benefits of the proposed development can be summarized as follows. The congested conditions in the terminal area which may grow worse in the near future will be relieved. Noise pollution of residential districts from aircraft parking will be reduced. The new terminal is located so that sufficient land is available and pavement can be added to park aircraft as the need arises. This contrasts with the present terminal that can park only one 747.

2. Long-Range Development

All studies performed to determine the long-range development of General Lyman Field indicate that air traffic to and from Hilo will grow in the future, irrespective of the terminal size. The result of such studies is contained in a report by Peat, Marwick and Livingston (Reference No. 2). This report anticipates future growth in the economy of Hawaii including local industry and tourism and anticipates the need for additional terminal facilities and runways. The proposed new passenger terminal facilities with considerable future expansion possibilities will accommodate the predicted passenger traffic increase. Not included in the proposed new facilities, but part of the long-range development plan for General Lyman Field, is consideration for constructing new runways, when needed, to direct aircraft operations away from existing populated areas. The general area for future runways is indicated on Attachment 5.

3. Effects of Tourism

The proposed new passenger terminal will increase the capacity of General Lyman Field to accommodate the anticipated growth in passenger traffic. The majority of these passengers will be visitors. How visitors affect the economy of Hawaii is covered in "Tourism in Hawaii, Volume I", by the State of Hawaii, Department of Planning and Economic Development, 1972 (Reference No.21), portions of which are excerpted in the following paragraphs.

Visitor expenditures have increased over the past decade from \$131 million in 1960 to \$570 million in 1970 for all the Hawaiian Islands. Immediate and "long-run" multiplier effects of increases in the level of visitor expenditures illustrate the importance of visitor expenditures for Hawaii's economy. Rising levels of visitor expenditures increase demand in other sectors of the economy and act as a major stimulant to general economic growth. The one-year impact of a \$1.00 increase in the level of visitor expenditures increases personal income by \$.457. If the long-run effects, whereby the money is repeatedly spent, are taken into account, the personal income increases by \$1.75 after five years. This effect and also the effect of \$1.00 spent in other major industries is shown in Table 14.

TABLE 14

INDUSTRIAL EXPENDITURES

ONE YEAR AND FIVE YEAR INCOME MULTIPLIERS FOR 1970^a

<u>Selected Expenditure</u>	<u>One Year Income Multiplier</u>	<u>Five Year Income Multiplier</u>
Visitor Expenditures	.457	1.759
Sugar	.590	1.659
Pineapple	.364	1.251
Public Construction	.502	1.38
Government Expenditures	1.243	

^a Based on material found in "Economic Forecasts for the State of Hawaii to 1975 and 1980", DPED, July 1971, by A. Pomponi, and "An Econometric Model for Forecasting Income and Employment in Hawaii", Economic Research Center, June 1970 by L. Chau (Reference Nos. 22 and 23 respectively).

Tourism immediately also affects the support and service industry in the area. With increased visitors, more hotels, hotel rooms and workers will be needed. The workers will need more schools, roads, housing, etc. The issue as to whether Hawaii's visitor industry has been paying for itself in terms of tax revenues generated in relation to the requisite government expenditures has been analyzed by a study conducted by the Mathematica firm. The report determined that visitors to Hawaii do repay their costs to the State Government, and private net income provided to the Islands by visitor expenditures was found to be substantial. This is shown by the benefit - cost ratio in Table 15.

TABLE 15

BENEFIT-COST RATIO BY AGE AND INCOME^a

	If 20 percent of growth in labor force is composed of in-migrants	If 60 percent of growth in labor force is composed of in-migrants
By Age:		
Under 30	5.28	3.22
31 - 49	5.32	3.14
Over 50	4.63	2.80
By Income:		
Under \$7,500	4.68	2.88
\$7,501 - \$14,999	5.40	3.29
Over \$15,000	5.41	3.11

^a Based on material found in "The Visitor Industry and the Hawaiian Economy: A Cost-Benefit Analysis, 1970", by Mathematica (Reference No. 24).

The Mathematica study found that although the visitor industry now more than pays for itself, the benefit-cost ratios, although remaining positive, will decline. This decline will result from two factors. First, government costs have been increasing faster than the general price level; therefore, the costs of the public services and capital improvements will rise. Second, induced public costs incurred on behalf of additional visitors to Hawaii arise when labor force requirements are filled by in-migrants. If the increase in the visitor industry's labor force is the result either of in-migration or change of residency from one county to another, there will be increased public costs for provision of social services. In instances of intra-State relocation, part of the social capital investment in the original jurisdiction may have to be abandoned, with consequences similar to those accompanying in-migration. If workers relocate from low-cost areas to high-cost areas, the cost of living for residents and acquisition of sites for public facilities will exceed costs in the original jurisdiction.

Continued dispersion of the visitor industry to the neighbor islands could also reduce the benefit cost ratio. According to the Mathematica Study, expenditures on the neighbor islands are 15 to 20 percent lower than expenditures per visitor day on Oahu. One of the reasons for the lower per day expenditures is that the neighbor islands do not possess a developed retail trade sector to attract visitor dollars. Conversely, the increase in visitors to the neighbor islands, including Hawaii County would encourage a developed retail trade.

Table 16 lists the number of hotel rooms available in Hawaii County each year from 1962 through 1970. It is evident that the hotel industry in Hawaii County has been able to meet the demand of the expanding tourist industry.

TABLE 16

INDICATORS OF VISITOR INDUSTRY DEVELOPMENT

HAWAII COUNTY

Year	Visitor Arrivals ^a	Visitor Expenditures ^b (\$1,000,000)	Hotel Room Inventory ^c	Average Occupancy Rate ^d	Hotel Employment ^e
1960	91,000	9.2	N.A.	N.A.	480
1961	97,000	8.5	N.A.	N.A.	460
1962	96,200	6.8	692	N.A.	470
1963	102,000	9.3	742	N.A.	500
1964	126,000	13.6	865	70.1	540
1965	162,000	17.5	1,387	71.9	850
1966	177,700	20.3	1,790	68.7	1,140
1967	286,600	28.3	2,188	71.3	1,410
1968	369,500	42.6	2,480	78.4	1,830
1969	411,000	50.0	3,166	76.4	1,920
1970	462,800	53.7	3,486	68.3	1,750

a-d Based on data from Hawaii Visitors Bureau Annual Reports and Records.

e Based on data from Department of Labor and Industrial Relations - State of Hawaii

TABLE 17

POTENTIAL HOTEL UNITS BASED ON CURRENT ZONING AND DENSITY

HAWAII COUNTY^a

<u>Acres Zoned For Hotel Use</u>	<u>Acres In Hotel Use</u>	<u>Current Average Density</u>	<u>Vacant or Non-Conforming Acres</u>	<u>Potential New Units at Current Density</u>	<u>Total Existing and Potential Units</u>
677	73	36/Acre	604	21,744	25,182

^a Based on material from Reference No. 25.

The amount of land in use and available land already zoned for hotel development, is shown in Table 17. There will be over 25,000 hotel rooms available when all the land zoned for hotel use is developed. In addition, there are several major landholders who have land for hotel development. For example, Signal Properties and Bishop Estate (at Honaunau) have plans to rezone 248 acres of their land for hotel development.

4. Effects on Local Economy

The relocation and expansion of airport facilities and development of a new access road system will influence the land use pattern adjacent to the airport. The General Plan anticipates this influence and is discussed in Section C of this statement. Table 17 shows that there is considerable urban acreage available for development, and by 1985 a large portion will still be vacant.

A major economic sector on the Island of Hawaii is agriculture and related industries. Besides sugar, the three principal products presently exported are macadamia nuts, papayas and flowers. Potential products for export are seeds for use on the mainland. The existing overseas passenger terminal will be converted to air cargo use when the new passenger terminal is occupied. Thereby the facilities for speedy processing of perishable cargo will be improved. The ultimate Airport Development Plan envisions the following land area allocations:

<u>Allocation</u>	<u>Area</u>
Passenger Terminal Site, Ultimate	330 Acres
Airport-Airline Services (Air cargo, and airline maintenance)	290 Acres
General Aviation/Fixed Base Operations	60 Acres
Airport Services Lease Parcels (Auto Rental, Post Office, Freight Forwarders, etc.)	<u>270 Acres</u>
	950 Acres

This potential acreage is more than is presently being used at some large airports. For instance, Los Angeles International Airport has slightly over 800 acres devoted to passenger terminal, air cargo, and airline maintenance uses.

Over an extended period of time, land use patterns adjacent to the airport will change. Attachment 7 shows the existing zoning for the areas surrounding the airport. To the north and southwest, the land is zoned "Industrial", whereas the areas to the east and southeast are shown as "Unplanned". When the permanent access road to the future terminal facilities is constructed, there will be a demand for commercial development along this road to serve airport and tourist oriented purposes. Consequently, it can be anticipated that the unplanned areas to the south of the airport are going to be designated for light industrial and similar uses. Noise-sensitive developments will thereby tend to avoid the zones of higher noise levels which are located in the immediate vicinity of the airfield as shown by the noise contours on Attachments 11, 12 and 13.

In summary, the proposed terminal facilities will, as the first phase of a long range development plan for General Lyman Field, maintain and enhance the long term productivity of the Hilo area.

The County of Hawaii has considerable potential to absorb increased visitors, and visitors provide more tax dollars to the State than the State spends on public improvements for visitors. The passenger terminal expansion will allow the visitor and air cargo industry to grow, creating economic benefits to the industrial as well as agricultural sectors of this island's economy.

G. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WILL RESULT

Land, as it is considered a resource, will be committed irretrievably to airport use. The past and present use of the land for the project is for military purposes. This land has been set aside by Executive Order, primarily to support the administration and training of the Hawaii National Guard. It is, and has been in the past, made available upon request for other governmental and public uses when such uses do not adversely affect the mission accomplishment of the Hawaii National Guard.

Many kinds of materials and products will be committed to the project. Native materials will be used extensively both in construction of the terminal building and for landscaping. Grading and paving of the apron, parking lot, and miscellaneous roads will require broken lava for fill and asphalt products for pavement. Construction of the project will require a variety of skilled craftsman and maximum use of machinery to reduce the expenditure of labor.

Approximately 230 acres of low-growing rain forest will be selectively cleared as a result of the plan. While wildlife in this area is not over-abundant, selective clearing will remove the habitat for some of the fauna seen in the area. It is hoped that many of the displaced animals will take refuge in the largely unspoiled rain forests nearby. Certainly some will return when landscaping of the project area is completed.

Money, as it is considered a resource, will be committed to airport use. The money will come from two sources:

1. State Revenue Bonds
2. Airport Development Aid Program (ADAP).

H. SUMMARY AND CONCLUSIONS

The existing terminal complex at General Lyman Field in Hilo, can best be described as an interim facility, which has grown periodically to meet the immediate needs of air traffic at Hilo. It is located close to populated areas with little or no room to grow and exceeds the criteria of modern airport safety standards. The decision was therefore made to relocate the terminal complex to a site south of the existing main runway, where a new passenger terminal with related facilities is to be built. Construction of the first phase is scheduled to be completed in 1974. This new terminal is included in the State of Hawaii, General Plan Revision Program.

The environmental impact during construction of this new terminal will be only of a temporary nature and will be held to a minimum by strict controls imposed on the various contractors working at the site. This is confirmed by a letter from the Governor of Hawaii addressed to the Director, Pacific Region Federal Aviation Administration, assuring that the New Passenger Terminal will be located, designed, constructed and operated in compliance with the Water Quality and Air Quality Standards of the State of Hawaii (see Page 3-29 of Appendix 3).

The permanent impact on the human environment is characterized by the following. No residences will have to be relocated due to this project. The activities in front of the terminal will be located farther away from the Hilo population centers. The buildings will be more pleasing and more convenient to the users.

Construction of the new passenger terminal will tend to cause minor increases in noise levels over the City of Hilo until the extension of Runway 8/26 is completed, (See Attachment 3, Sheet 1). However, as air traffic increases, a condition independent of terminal location, higher noise levels will be offset by gains in improved aircraft engine technology and noise abatement programs.

Only a very small area at the edge of the expanse of a large rain-forest will be occupied by landscaped vehicle parking lots and terminal buildings, and a very insignificant effect will be exerted on flora and fauna of the general area. There will be a short term increase in pollutants due to a temporary increase in taxiing distances prior to the extension of runway 8/26 to 12,000 feet. However, as air traffic increases due to normal industry growth, the existence of the new terminal facilities and extended runway will result in lower emission levels because taxiing distances will be less than if the present terminal were to continue to be used.

There is no acceptable alternate solution to the problem of providing an adequate airport terminal at General Lyman Field.

In summary, the construction of a new passenger terminal has only a modest environmental impact on the immediate area. In general, it will not adversely affect the environment of the Hilo region. The aesthetics and visual effects on the users will be significantly improved and it will exert a beneficial influence on the orderly development of the Island of Hawaii.

ATTACHMENTS

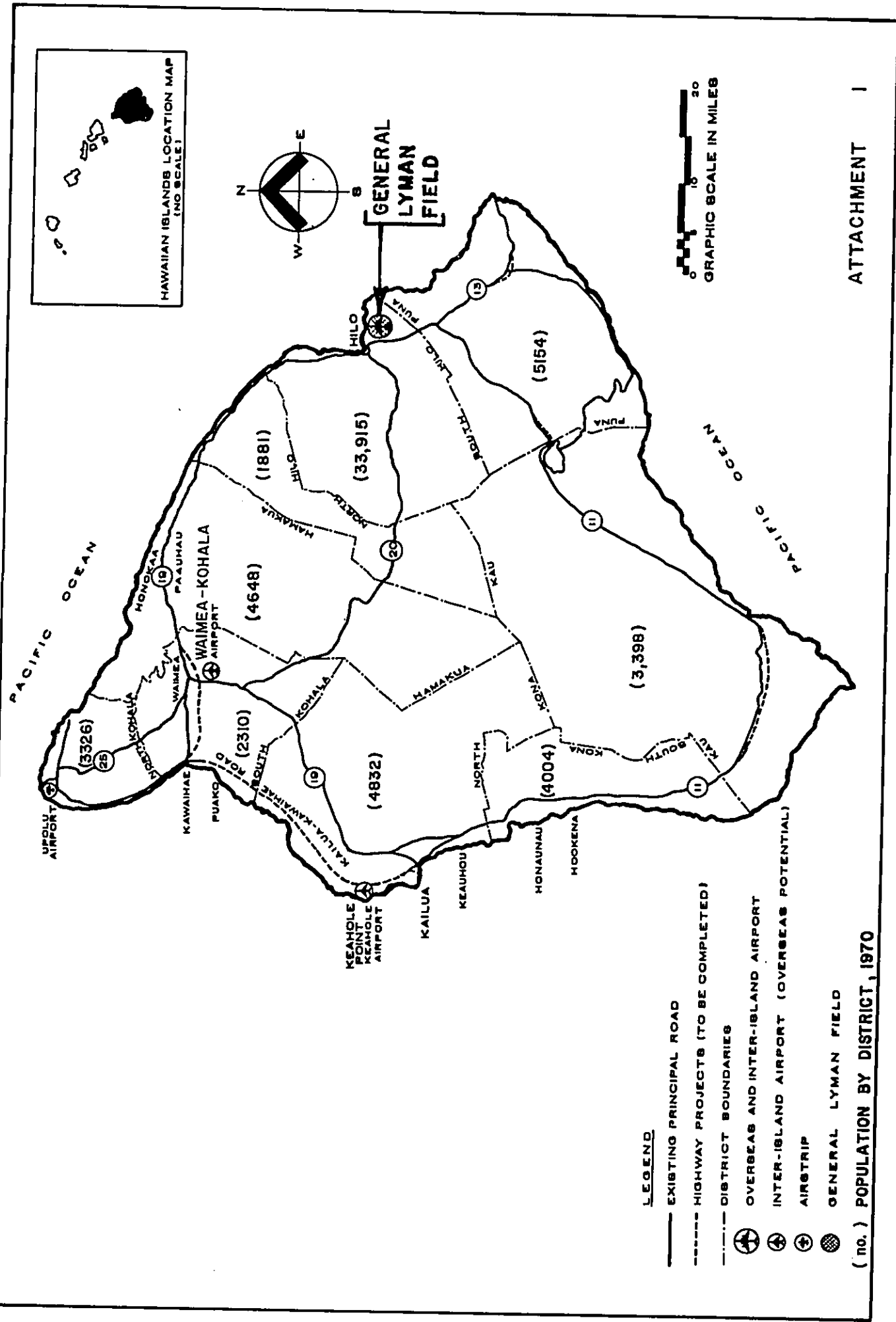


Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

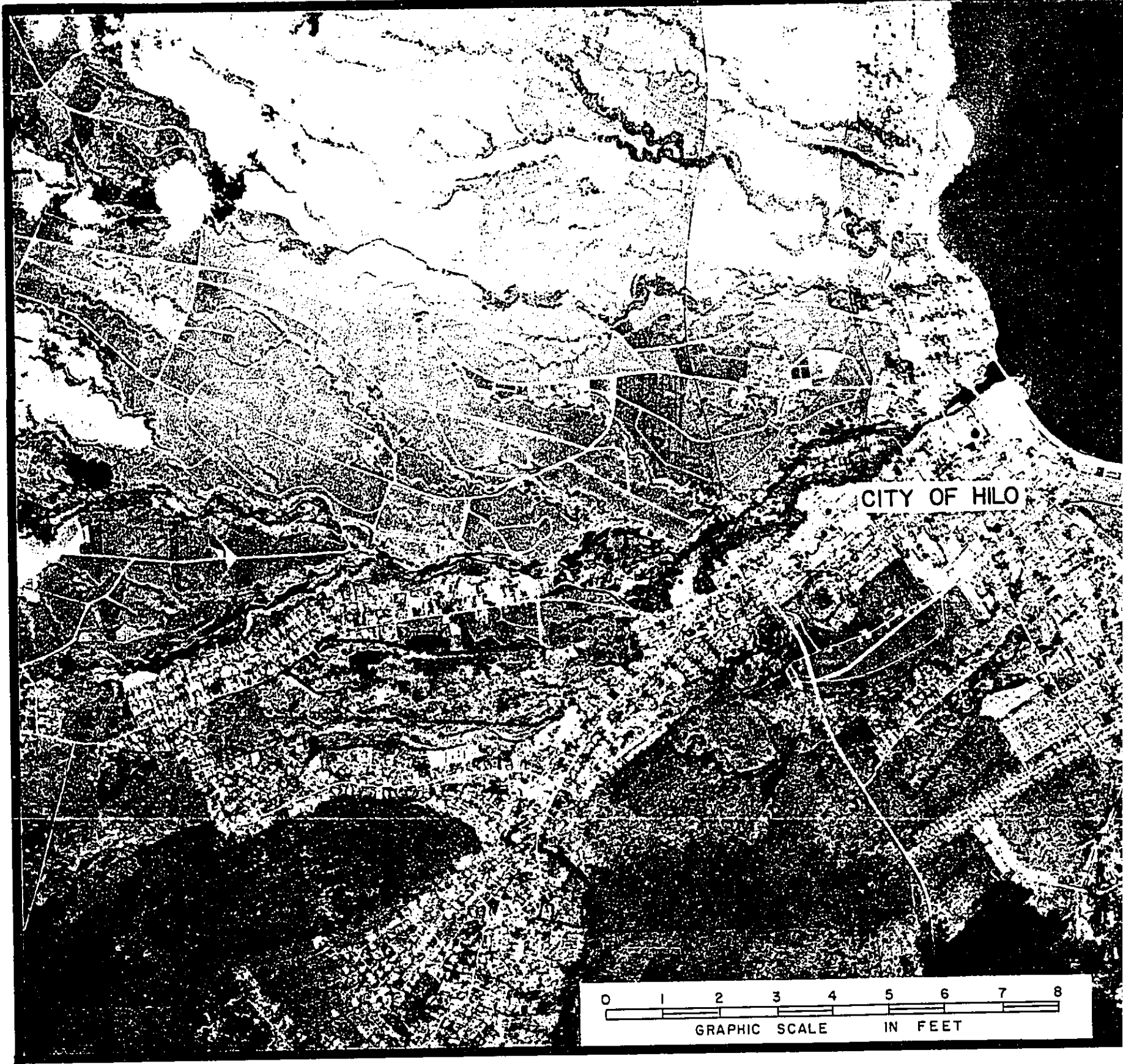
ATTACHMENTS

Attachment	1	.....	Location Map - Island of Hawaii
Attachment	2	.....	General Lyman Field - Airport and Vicinity
Attachment	3	.....	Airport Layout Plan, Sheets 1 and 2
Attachment	4	.....	Existing Terminal
Attachment	5	.....	Proposed Airport Development
Attachment	6	.....	New Terminal - Artist's Rendering
Attachment	7	.....	County Zoning and Existing Residences
Attachment	8	.....	Location of Parks and Recreational Areas
Attachment	9	.....	Noise Contours (PNdB) Overseas DC-8
Attachment	10	.....	Noise Contours (PNdB) Overseas B-747
Attachment	11	.....	Noise Contours (CNR) 1972
Attachment	12	.....	Noise Contours (CNR) 1975 - 1985; Runway Percent Use Same as 1972
Attachment	13	.....	Noise Contours (CNR) 1975 - 1985 If Increased Percentage of Takeoffs to West
Attachment	14	.....	Terminal Security System
Attachment	15	.....	Cost Comparison, Tower vs. Tree Clearing

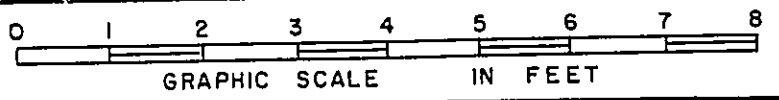
Attachment 16	Notices of Public Hearing, Sheets 1 & 2
Attachment 17	Requirement for Displaced Persons Assurance
Attachment 18	Executive Order No. 02653
Attachment 19	Hilo Airport Advisory Committee
Attachment 20	Summary of Opposition per ADAP Act of 1970



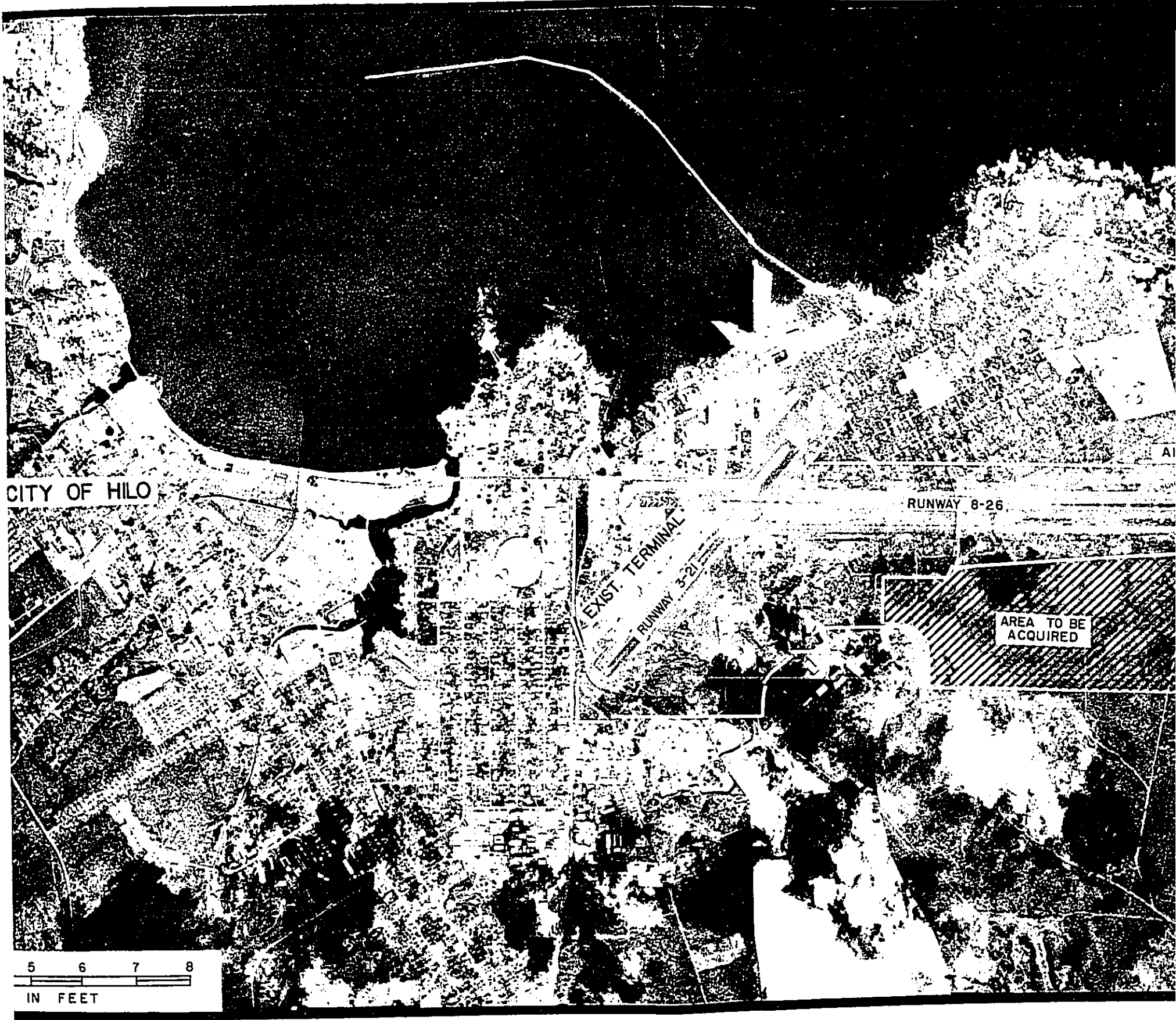
LOCATION MAP — ISLAND OF HAWAII
GENERAL LYMAN FIELD
 STATE OF HAWAII • DEPARTMENT OF TRANSPORTATION



CITY OF HILO



GRAPHIC SCALE IN FEET



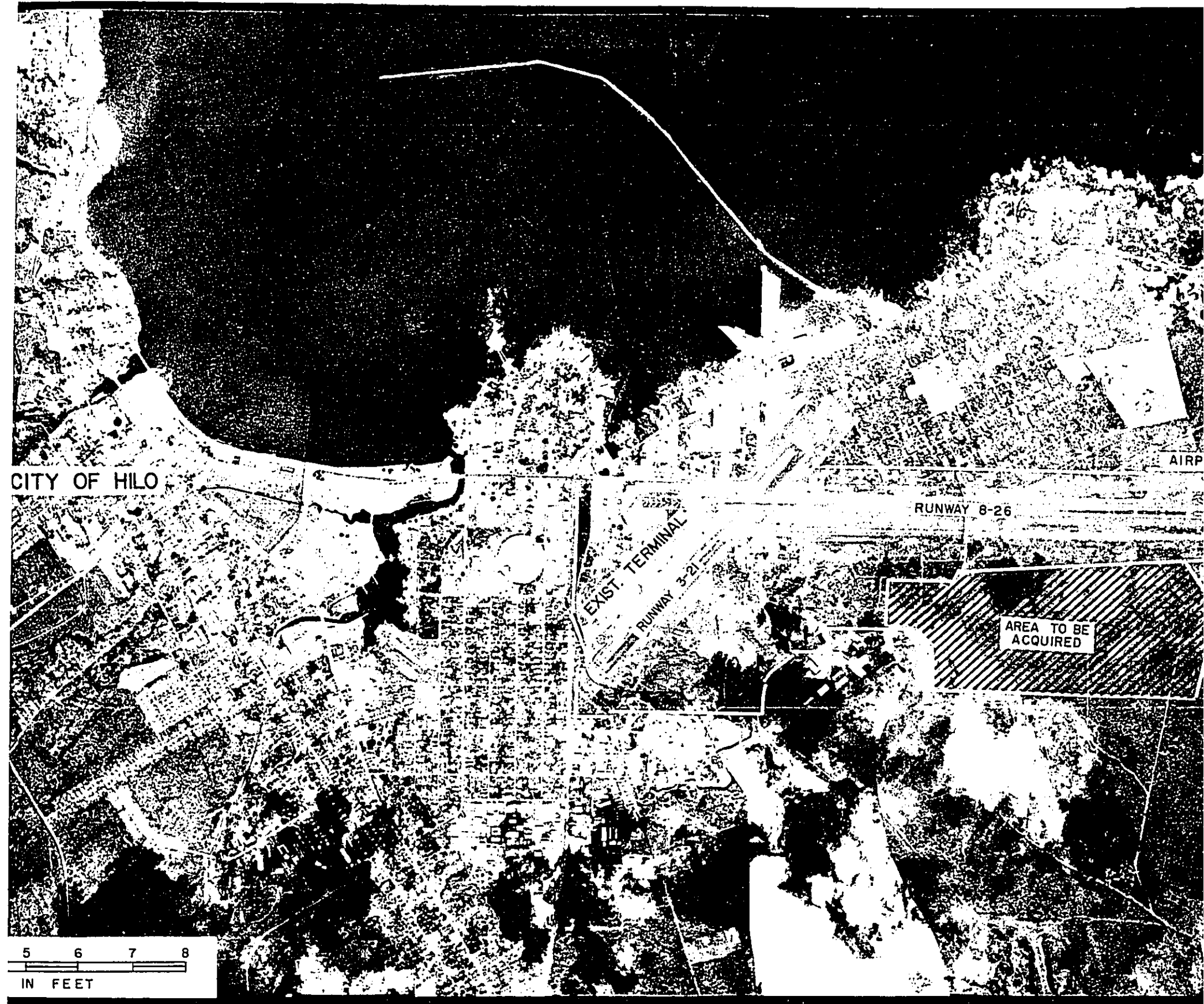
CITY OF HILO

EXIST. TERMINAL
RUNWAY 3-21

RUNWAY 8-26

AREA TO BE ACQUIRED

5 6 7 8
IN FEET



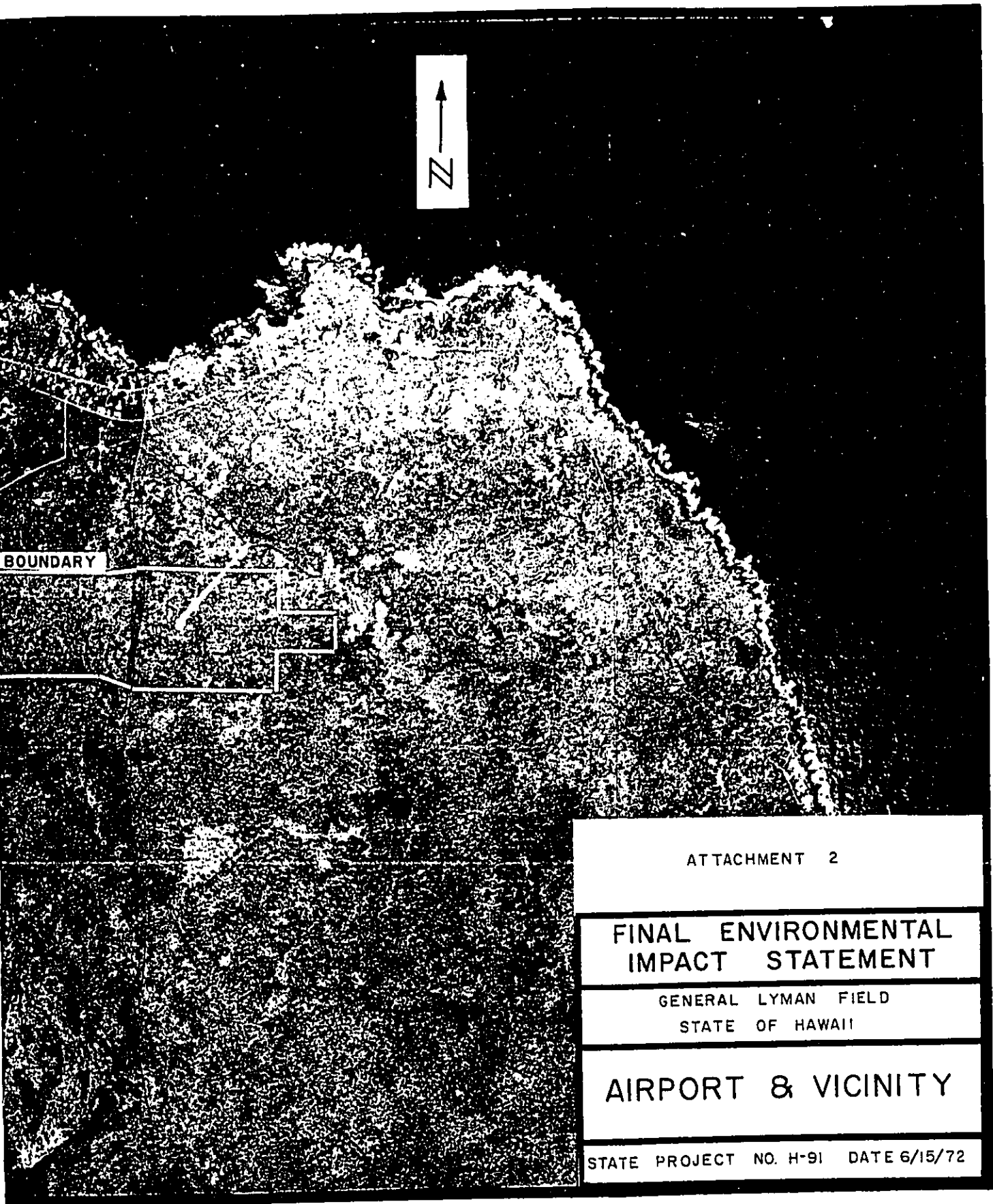
CITY OF HILO

EXIST. TERMINAL
RUNWAY 3-21

RUNWAY 6-26

AREA TO BE ACQUIRED

5 6 7 8
IN FEET



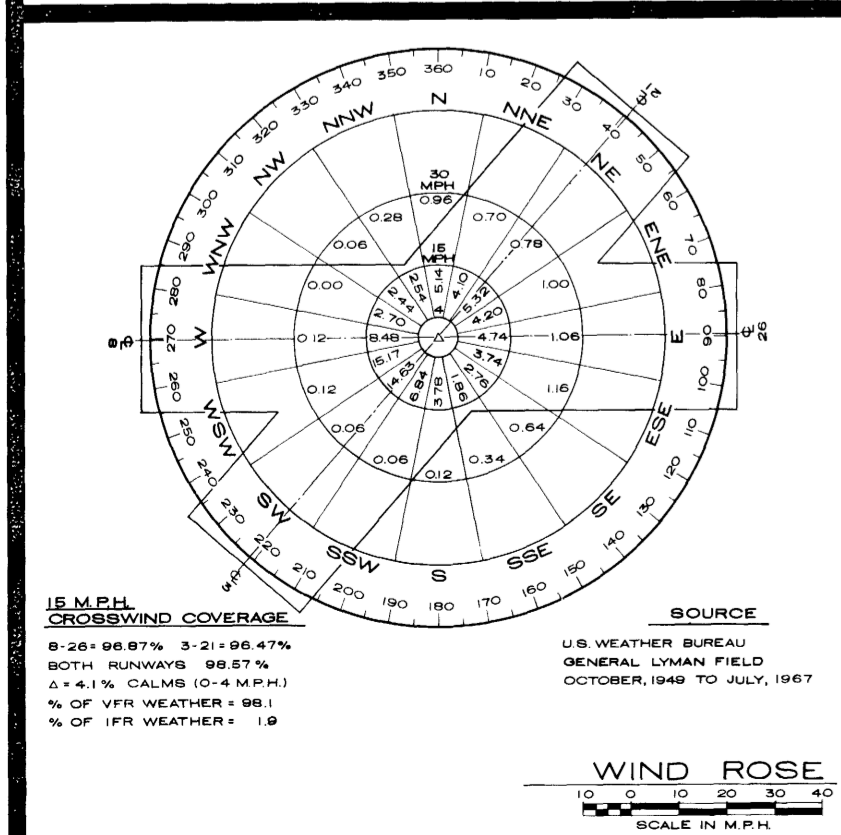
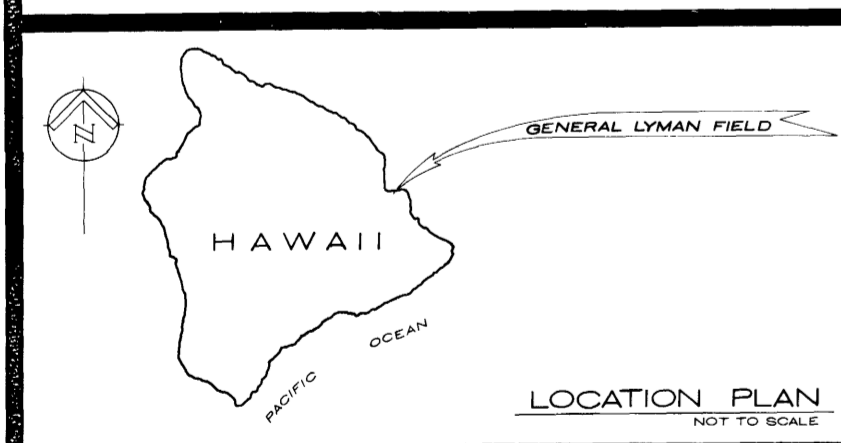
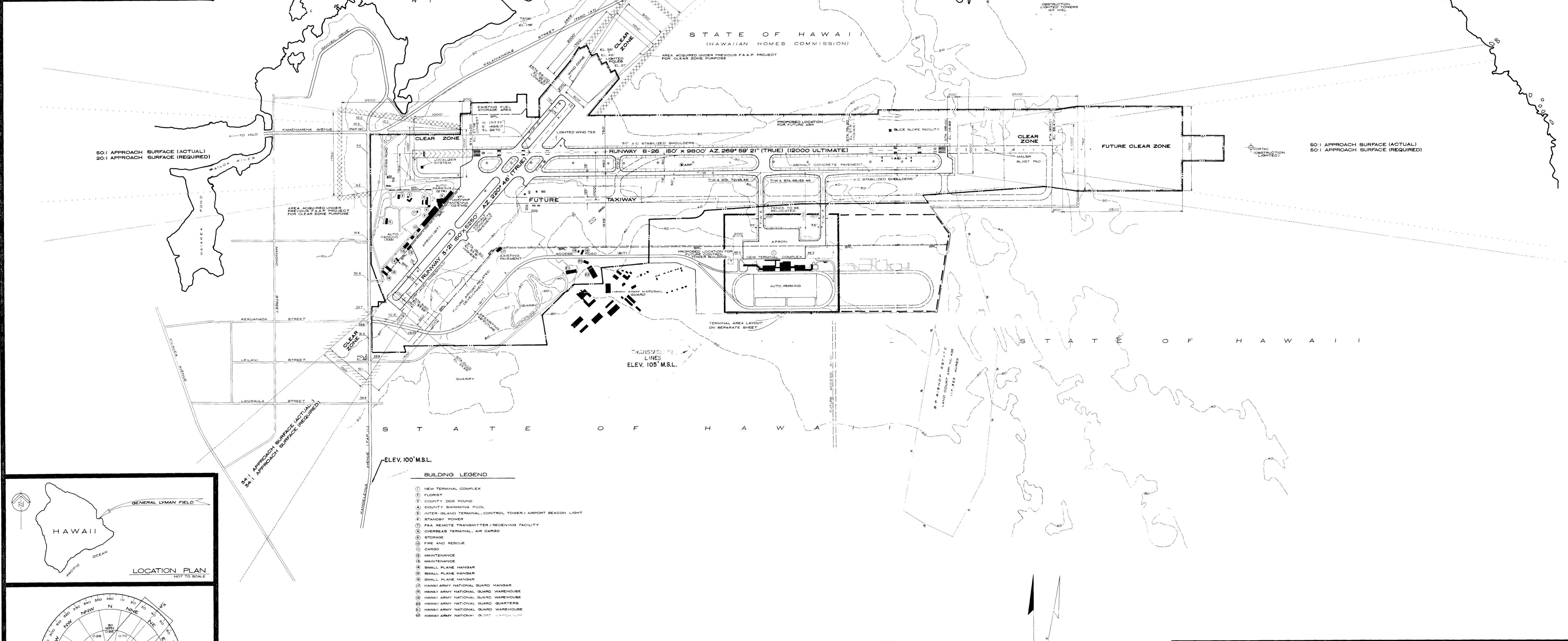
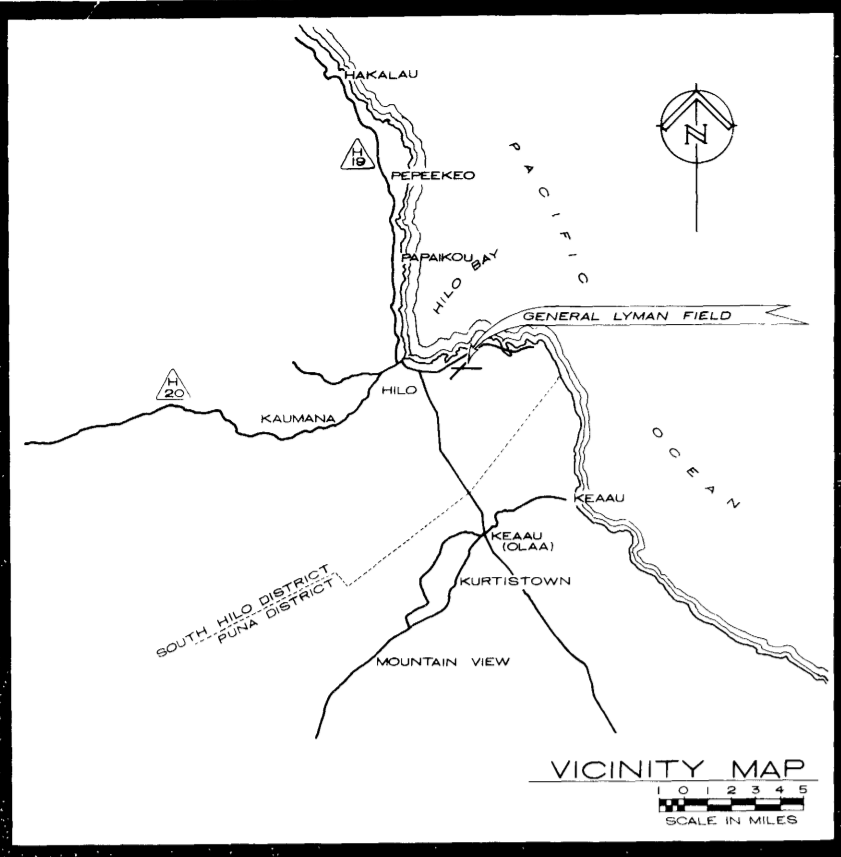
ATTACHMENT 2

FINAL ENVIRONMENTAL
IMPACT STATEMENT

GENERAL LYMAN FIELD
STATE OF HAWAII

AIRPORT & VICINITY

STATE PROJECT NO. H-91 DATE 6/15/72



BUILDING LEGEND

- 1 NEW TERMINAL COMPLEX
- 2 FLORIST
- 3 COUNTY DOG POUND
- 4 COUNTY SWIMMING POOL
- 5 INTER-ISLAND TERMINAL, CONTROL TOWER/AIRPORT BEACON LIGHT
- 6 STANDBY POWER
- 7 FAA REMOTE TRANSMITTER/RECEIVING FACILITY
- 8 OVERSEAS TERMINAL AIR CANOPY
- 9 STORAGE
- 10 FIRE AND RESCUE
- 11 CANTINA
- 12 MAINTENANCE
- 13 MAINTENANCE
- 14 SMALL PLANE HANGAR
- 15 SMALL PLANE HANGAR
- 16 SMALL PLANE HANGAR
- 17 HAWAII ARMY NATIONAL GUARD HANGAR
- 18 HAWAII ARMY NATIONAL GUARD WAREHOUSE
- 19 HAWAII ARMY NATIONAL GUARD WAREHOUSE
- 20 HAWAII ARMY NATIONAL GUARD QUARTERS
- 21 HAWAII ARMY NATIONAL GUARD WAREHOUSE
- 22 HAWAII ARMY NATIONAL GUARD QUARTERS

AIRPORT DATA		LEGEND		RUNWAY DATA			
EXISTING	ULTIMATE	EXISTING	ULTIMATE	RUNWAY B-26		RUNWAY 3-21	
AIRPORT REFERENCE POINT (ARI) COORDINATES	1943 273' LAT 155 02 57.00 W	SAME		EXISTING	ULTIMATE	EXISTING	ULTIMATE
NORMAL MAX. TEMP. HOTTEST MONTH	83°	SAME		OJO	O.OB	O.14B	O.16I
AIRPORT ELEVATION (MSL)	37.31'	SAME		% WIND COVERAGE (15 MPH)	96.87	SAME	96.47
AIRPORT & TERM. NAV. AIDS	CONTROLLER TOWER LIGHT (C-T)	CONTROLLER TOWER LIGHT (C-T)		INSTRUMENT RUNWAY	YES	YES	NO
				NAVIGATIONAL AIDS	NONE	VAS-4	NONE
				APPROACH SURFACES	8' 28' 20' 20' 20'	3' 21' 3' 21' 3' 21'	3' 21' 3' 21' 3' 21'
				RUNWAY LIGHTING	HI LB02	SAME	MI LB02
				RUNWAY MARKING	ALL WEATHER	SAME	BASIC
				PAVEMENT STRENGTH	116(8) 181(D) 250(DT)	SAME	130(8) 200(D) 360(DT)

REVISIONS

REVISIONS	DATE

APPROVED:

John B. Long
DIRECTOR, DEPARTMENT OF TRANSPORTATION, STATE OF HAWAII

DATE: 12-10-71

SCALE: AS SHOWN

NOVEMBER, 1971

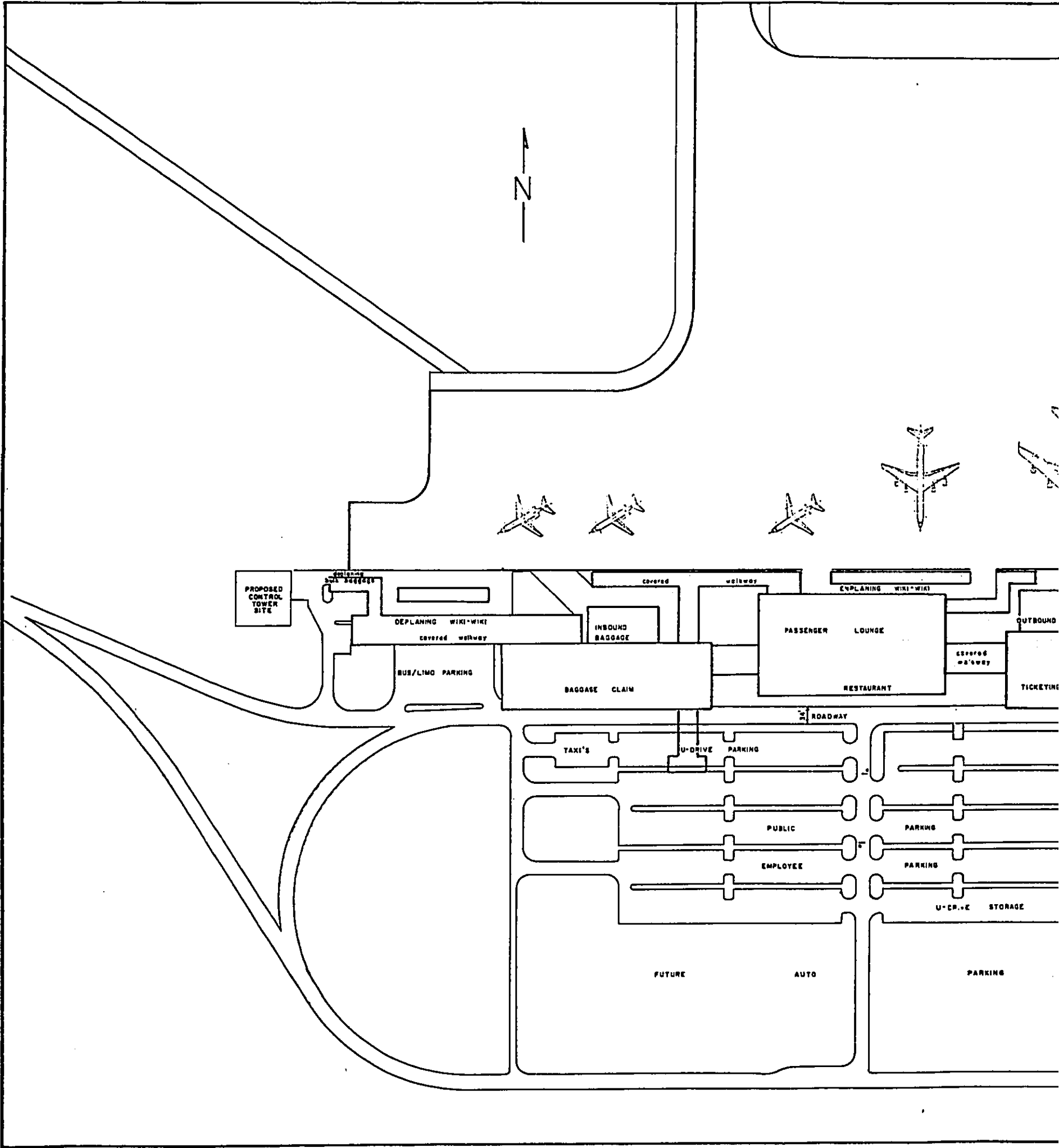
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
AIRPORTS DIVISION

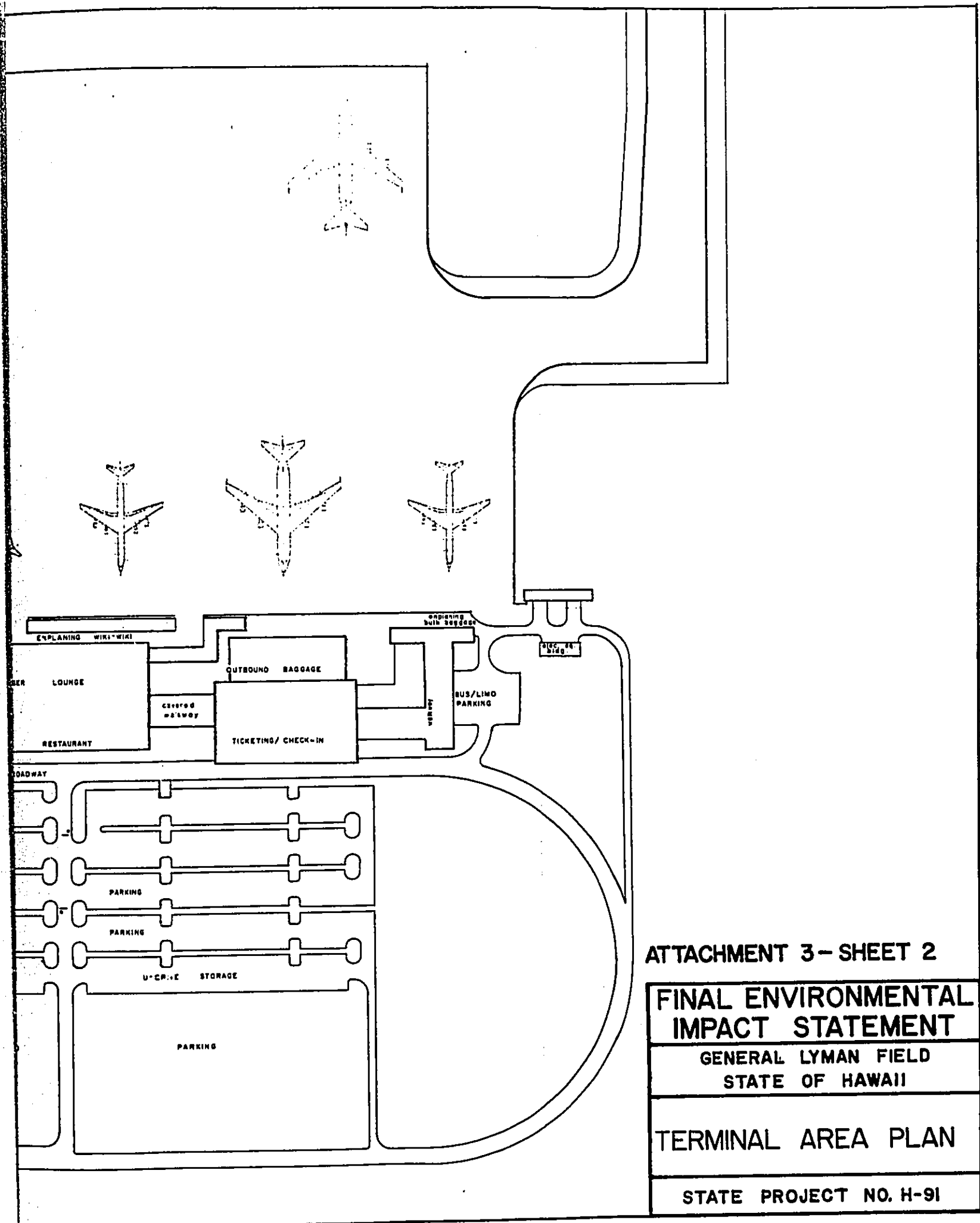
GENERAL LYMAN FIELD

AIRPORT LAYOUT PLAN

SCALE: AS SHOWN

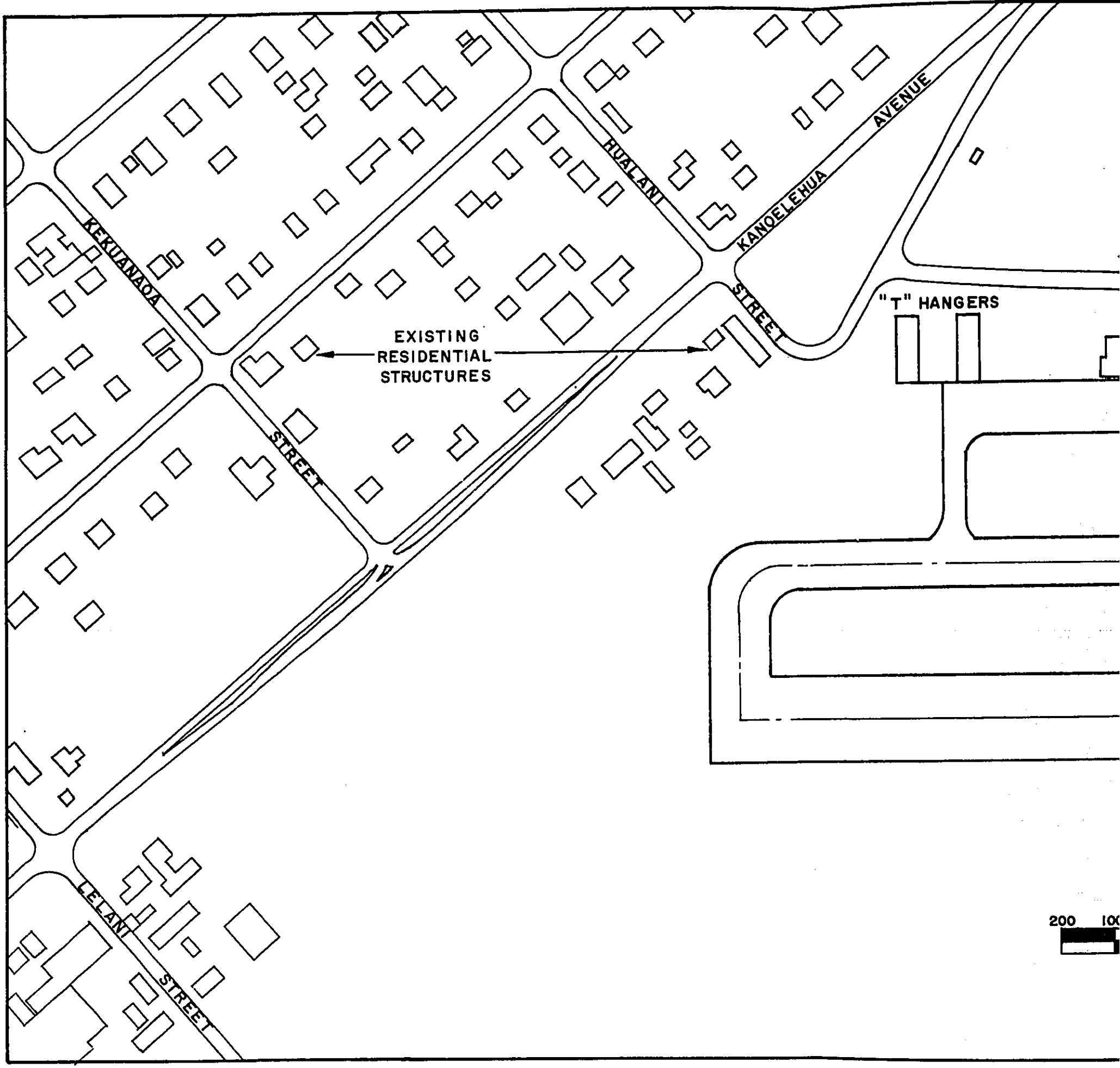
NOVEMBER, 1971





ATTACHMENT 3 - SHEET 2

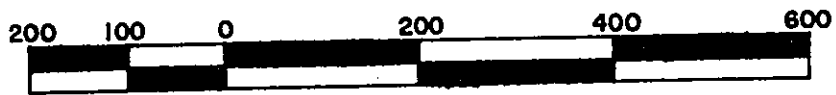
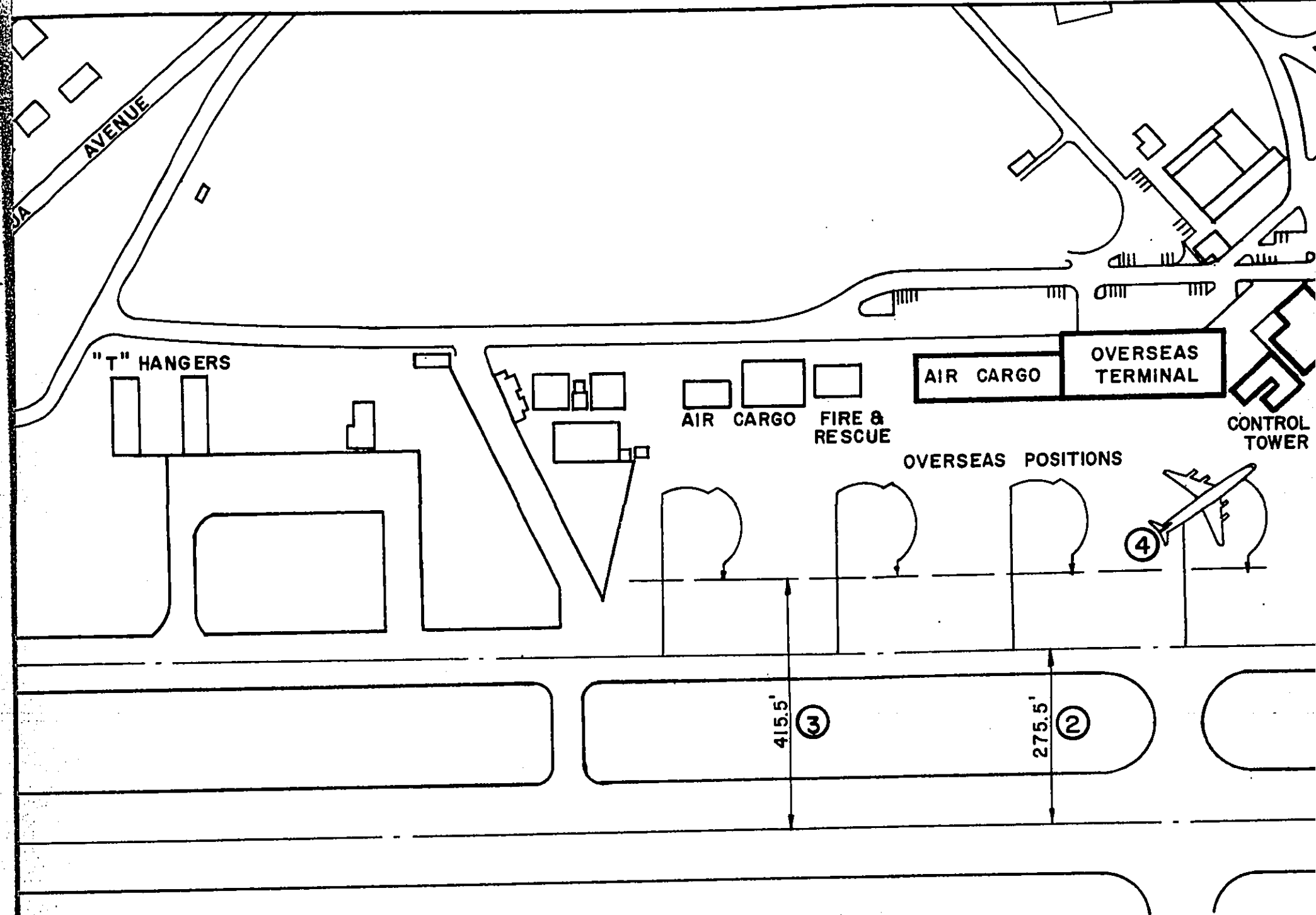
FINAL ENVIRONMENTAL IMPACT STATEMENT
GENERAL LYMAN FIELD STATE OF HAWAII
TERMINAL AREA PLAN
STATE PROJECT NO. H-91



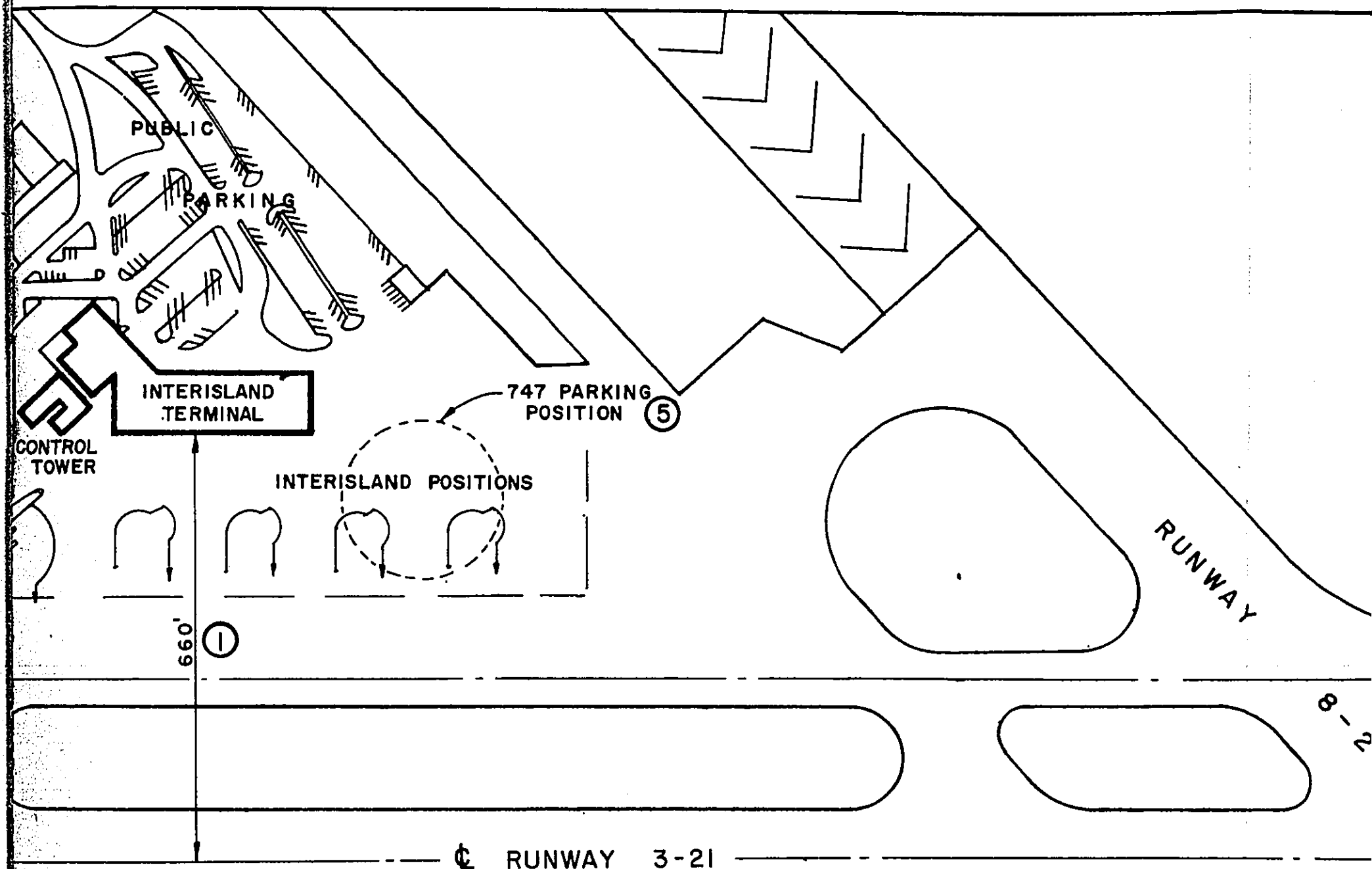
EXISTING
RESIDENTIAL
STRUCTURES

"T" HANGERS

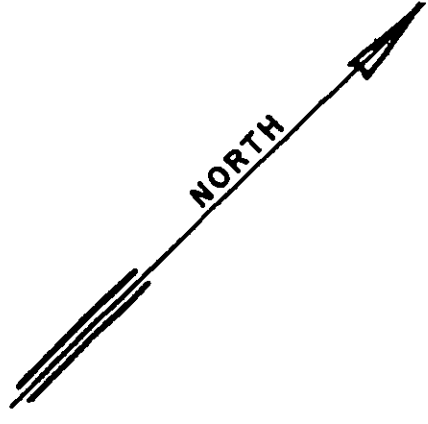
200 100



GRAPHIC SCALE IN FEET



- ① - CURRENT FAA CRITERIA RECOMMEND 750' FROM BUILDING TO RUNWAY CENTERLINE.
- ② - CURRENT FAA CRITERIA RECOMMEND 400' FROM RUNWAY CENTERLINE TO TAXIWAY CENTERLINE.
- ③ - CURRENT FAA CRITERIA RECOMMEND 505' FROM RUNWAY CENTERLINE TO AIRCRAFT PARKING POSITION.
- ④ - DC-8-61 HEIGHT EXCEEDS PART 77 FEDERAL AVIATION REGULATIONS BY 10 FEET.
- ⑤ - 747 TAIL HEIGHT EXCEEDS PART 77 FEDERAL AVIATION REGULATIONS BY 47 FEET AT RUNWAY 3-21.



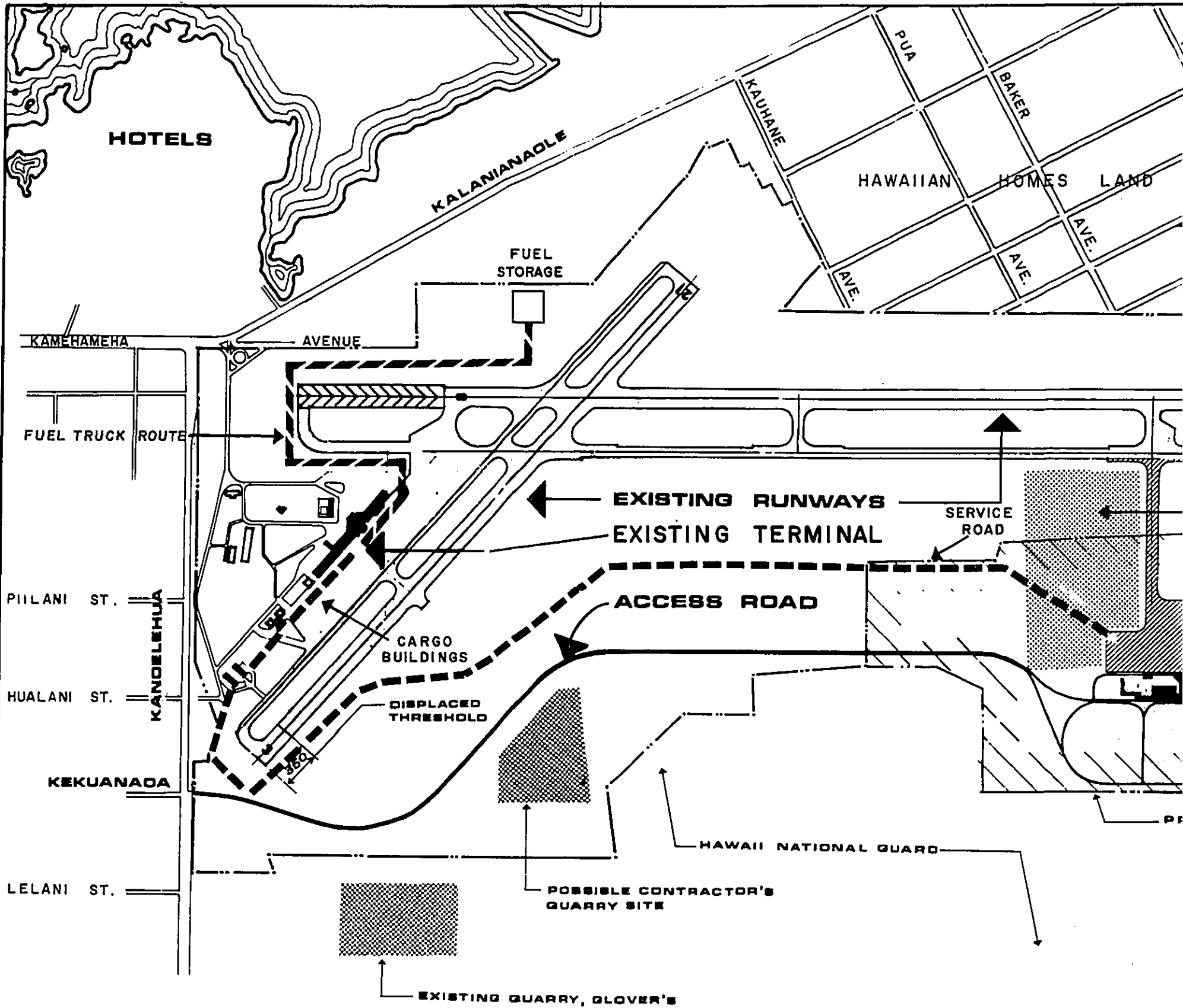
TAXIWAY "C"

8-26

ATTACHMENT 4

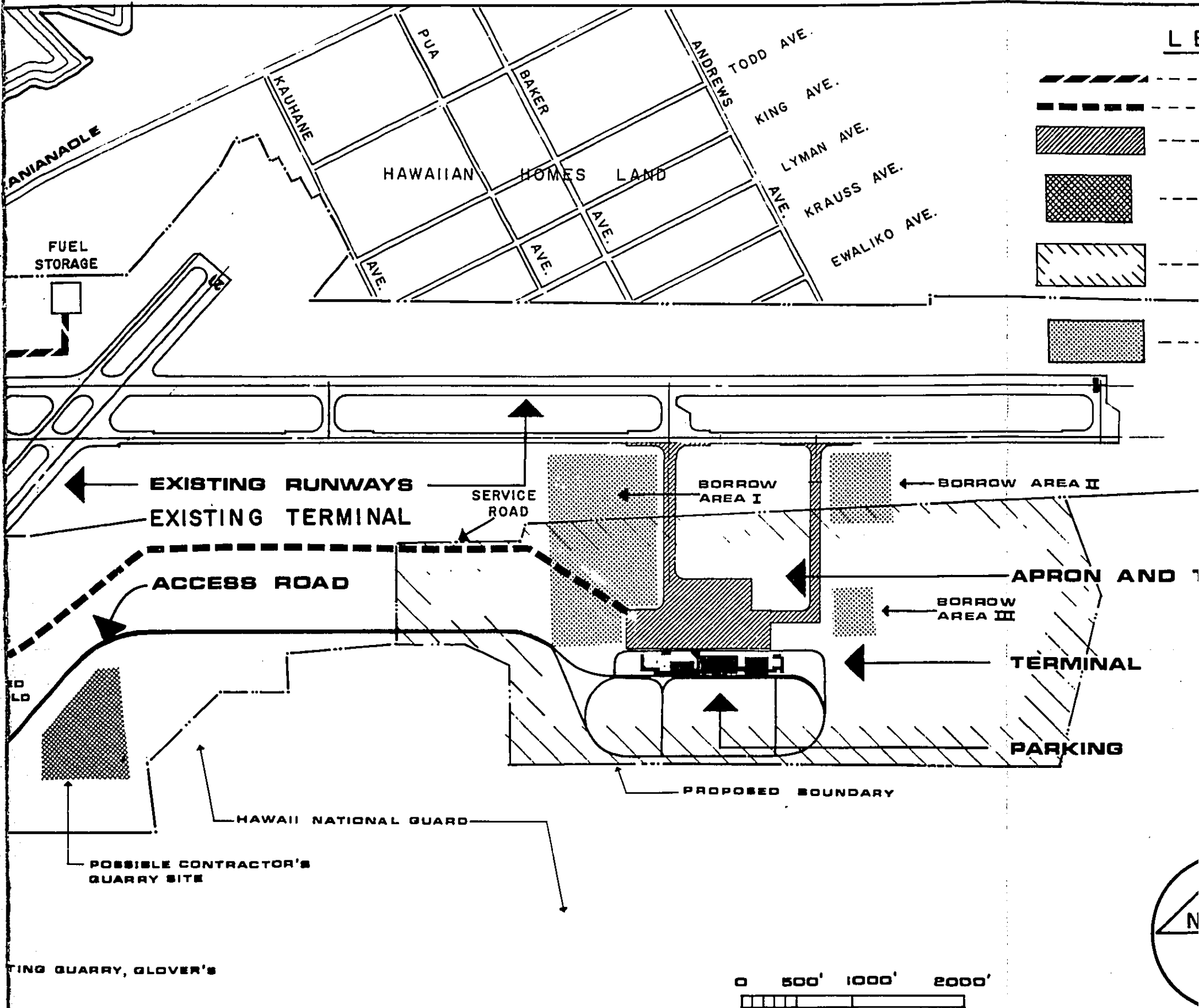
FINAL ENVIRONMENTAL IMPACT STATEMENT
GENERAL LYMAN FIELD STATE OF HAWAII
EXISTING TERMINAL
STATE PROJECT NO. H-91 DATE 6/15/72

ION.
Y 3-21.

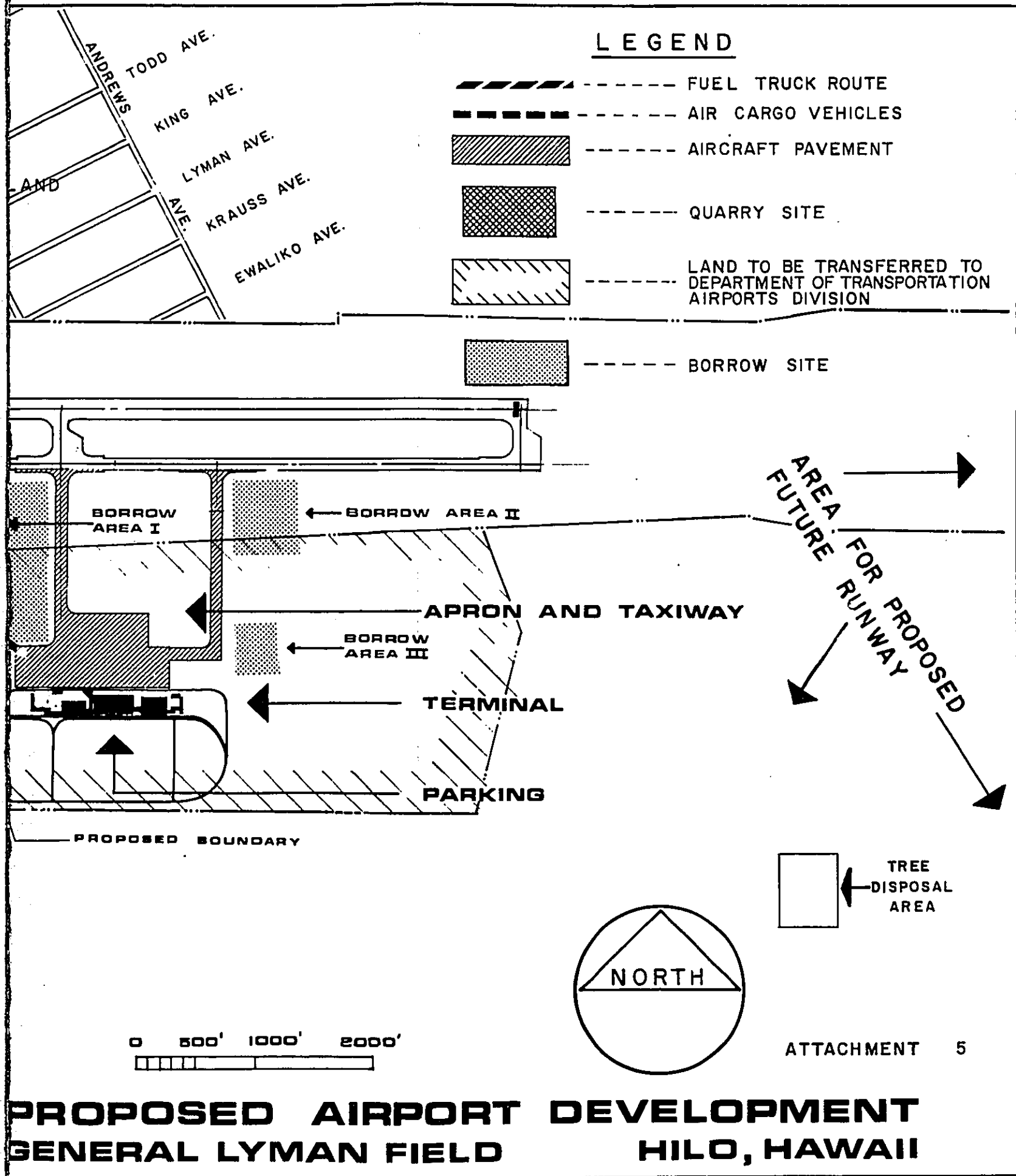


3 NOVEMBER 1971

PRO
GENI

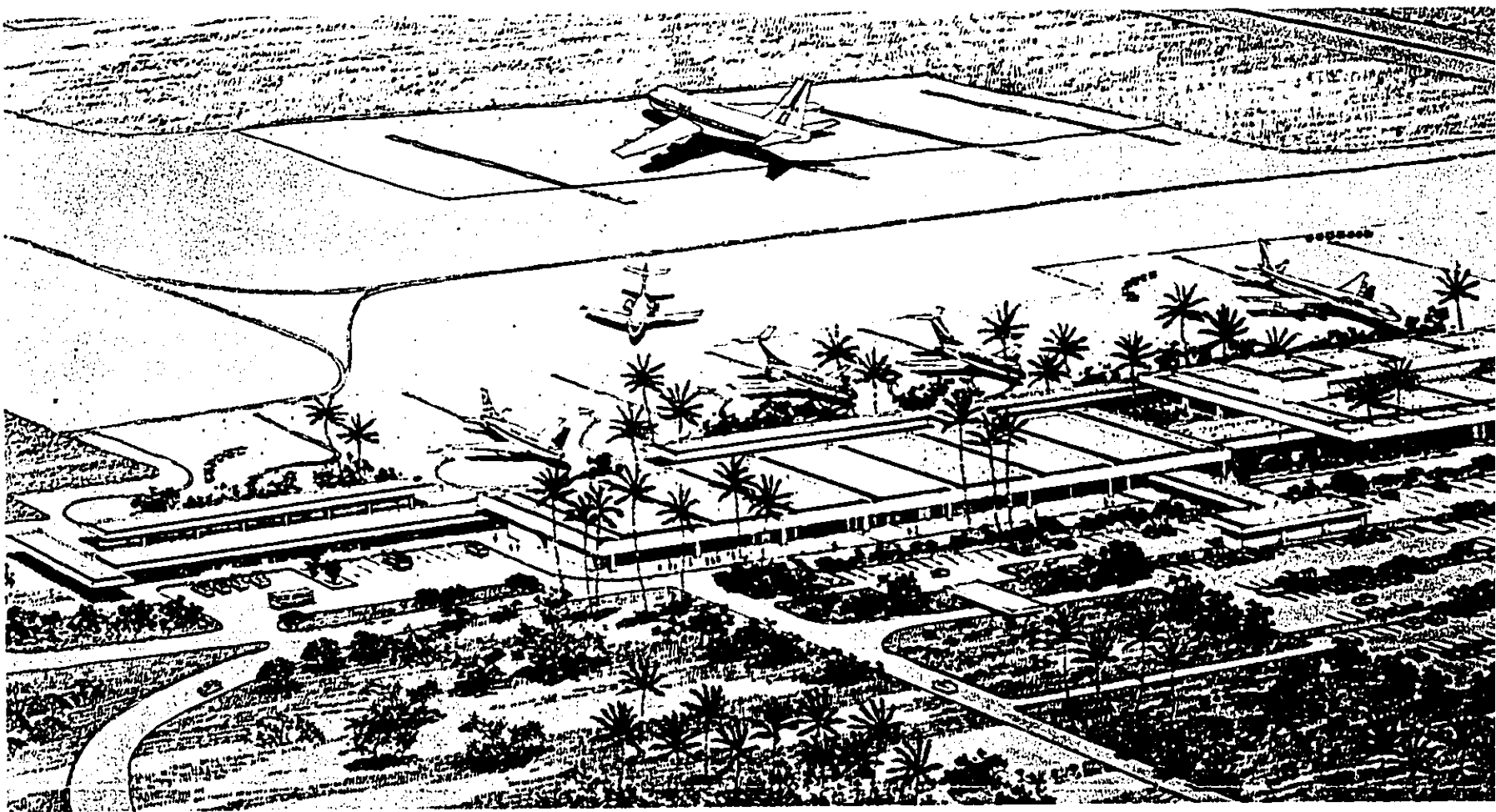


PROPOSED AIRPORT DEVELOPMENT GENERAL LYMAN FIELD

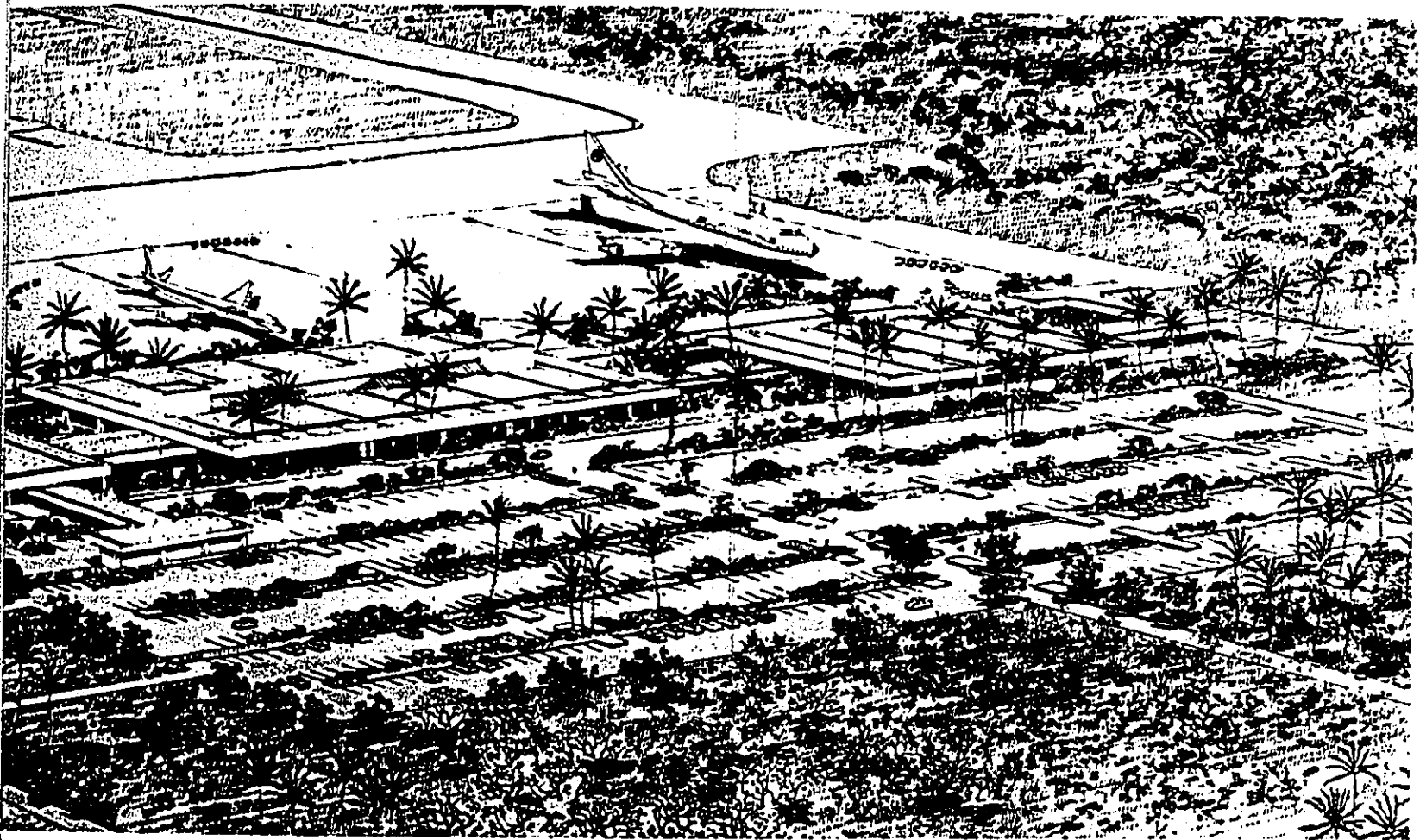


**PROPOSED AIRPORT DEVELOPMENT
GENERAL LYMAN FIELD HILO, HAWAII**

RECEIVED AS FOLLOWS



NEW PASSENGER



NEW PASSENGER TERMINAL, GENERAL LYMAN FIELD, HILO HAWAII

Artist's Rendering

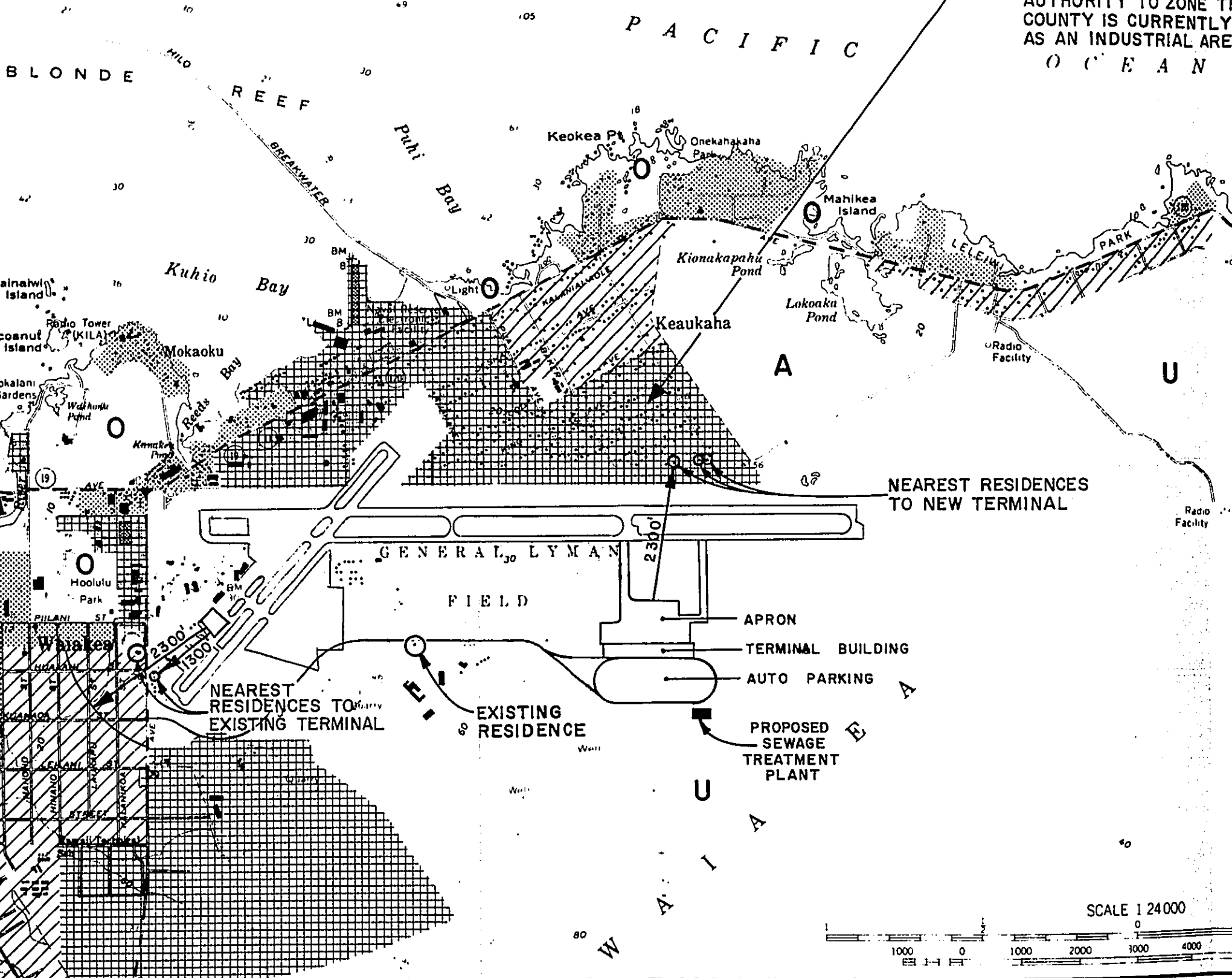
Attachment 6

19° 45'
2185000m N.



42' 30"
A.P.O. 56 MI

COUNTY CORPORATION C
IN 1971 THAT THE COUNT
AUTHORITY TO ZONE TH
COUNTY IS CURRENTLY
AS AN INDUSTRIAL AREA
O C E A N



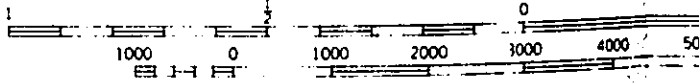
NEAREST RESIDENCES TO NEW TERMINAL

NEAREST RESIDENCES TO EXISTING TERMINAL

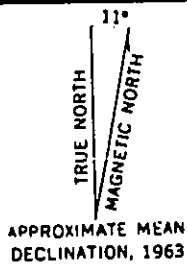
EXISTING RESIDENCE

- APRON
- TERMINAL BUILDING
- AUTO PARKING
- PROPOSED SEWAGE TREATMENT PLANT

SCALE 1 24 000



ATION COUNSEL ADVISED
 COUNTY DOES NOT HAVE
 ONE THIS AREA. THE
 ENTLY TREATING THIS
 L AREA.





O C E A N

LEGEND

ZONING

 ----- RESIDENTIAL

 ----- COMMERCIAL

 ----- INDUSTRIAL

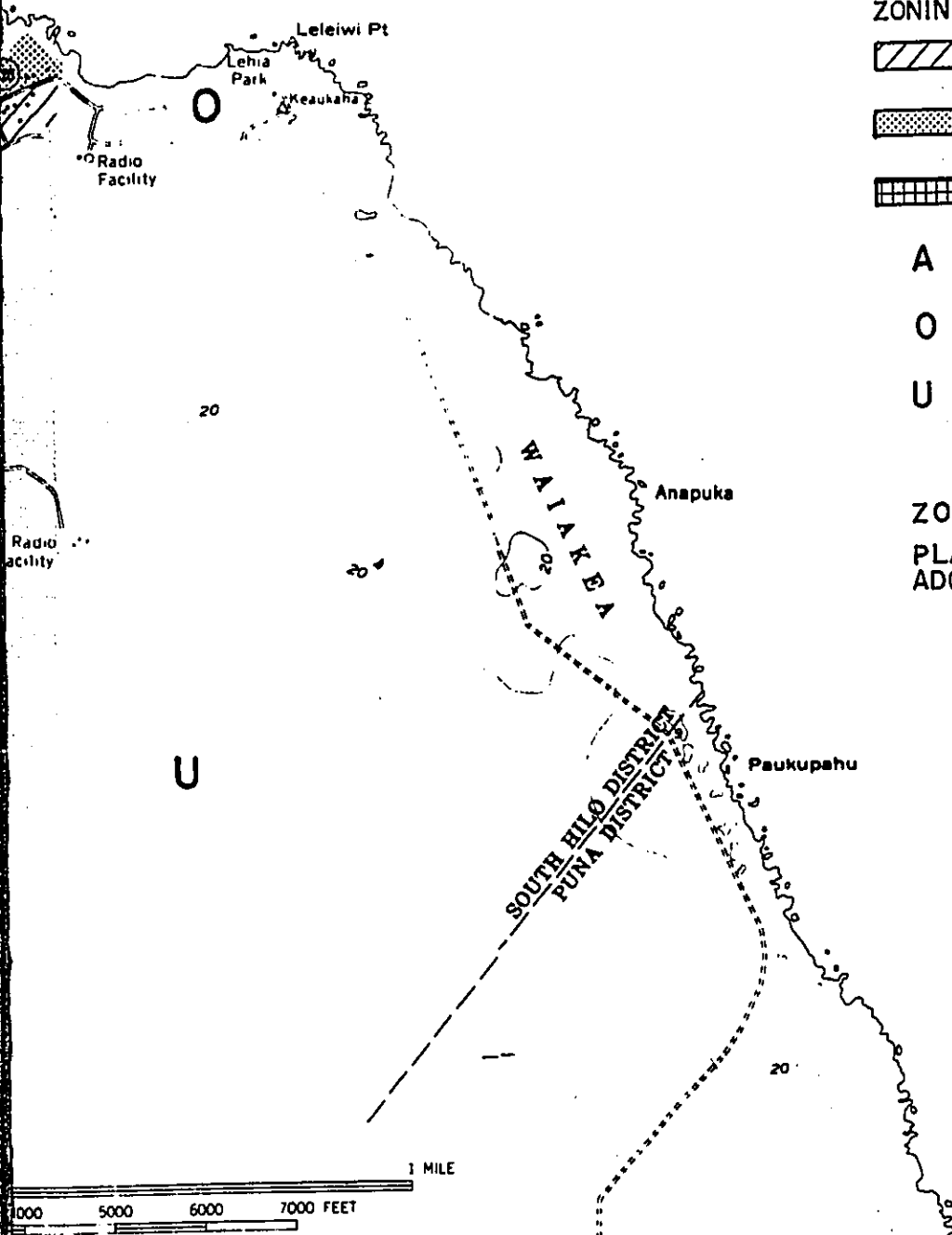
A ----- AGRICULTURE

O ----- OPEN, PARK & RECREATIONAL

U ----- UNPLANNED

ZONING SOURCE :

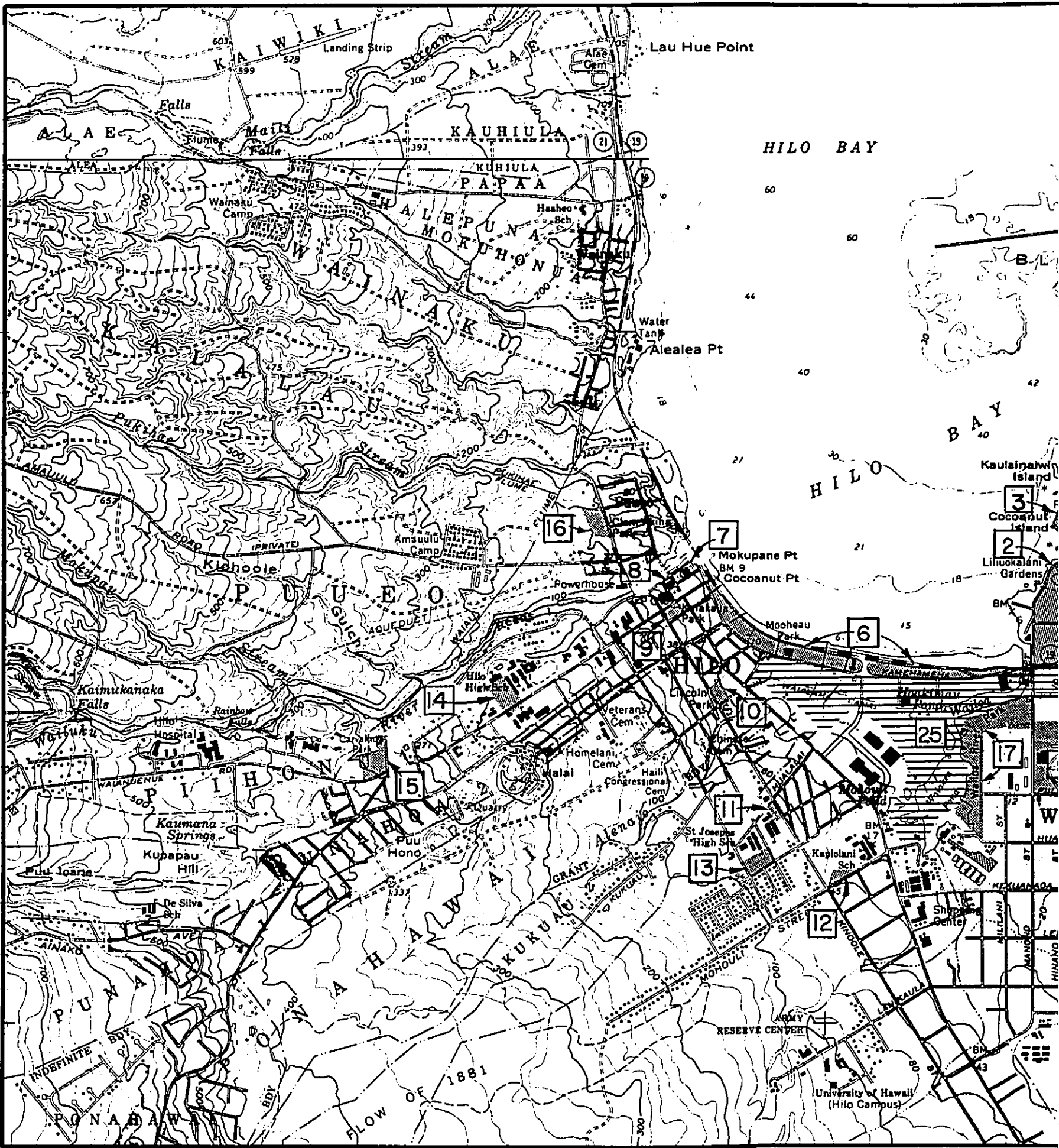
PLANNING COMMISSION, COUNTY OF HAWAII
 ADOPTED BY BOARD OF SUPERVISORS, 12-26-68



ATTACHMENT 7

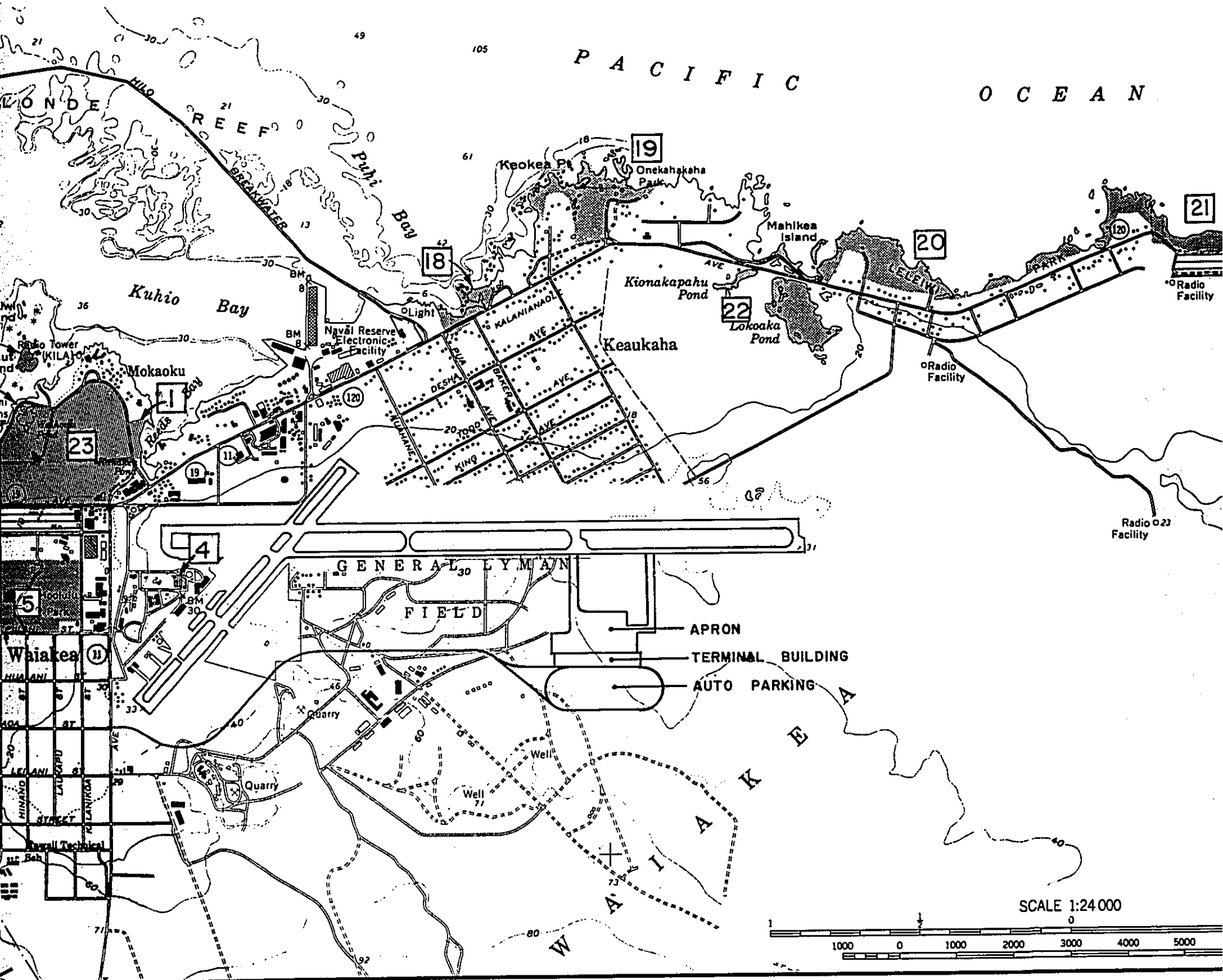
FINAL ENVIRONMENTAL IMPACT STATEMENT
GENERAL LYMAN FIELD STATE OF HAWAII
COUNTY ZONING AND NEAREST RESIDENCES
STATE PROJECT NO. H-91 DATE 6/15/72

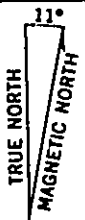
13° 45'
2185000m. N.



42'30"

LA P.O. 56 MI.





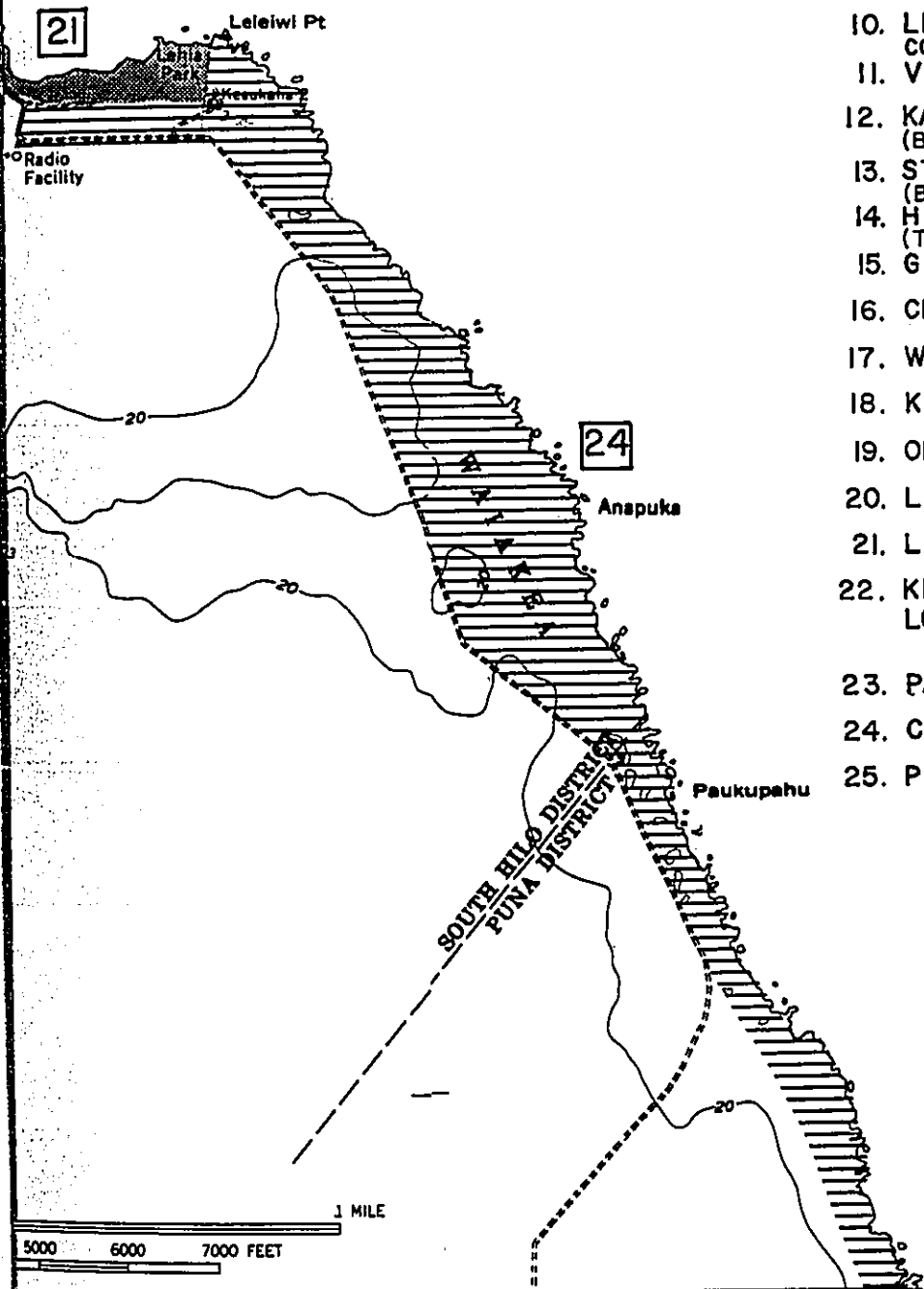
 TRUE NORTH

 MAGNETIC NORTH

 11°

 APPROXIMATE MEAN DECLINATION, 1963

PARK DESIGNATION	TRUE BEARING FROM TERMINAL BUILDING	DISTANCE IN MILES
1. REEDS BAY	300	1.5
2. LILIUOKALANI GARDENS	294	1.8
3. COCONUT ISLAND	301	2.0
4. HILO SWIMMING POOL	282	1.2
5. HOOLULU PARK	280	1.6
6. BAYFRONT PARK	282	2.4
7. HILO ARMORY	286	3.0
8. BAND ROOM & DRAMA	285	3.0
9. KALAKAUA PARK	282	3.0
10. LINCOLN PARK & TENNIS COURTS.	278	2.8
11. VILLA FRANCA PARK	271	2.6
12. KAPIOLANI SCHOOL GROUNDS (BASEBALL & SOFTBALL PROGRAMS)	265	2.4
13. ST. JOSEPHS HIGH SCHOOL (BASEBALL & SOFTBALL PROGRAMS)	267	2.7
14. HILO HIGH SCHOOL (TRACK & FIELD, SWIMMING POOL)	277	3.5
15. GILBERT CARVALHO PARK	273	3.9
16. CLEM AKINA PARK	287	3.3
17. WAILOA STATE PARK	270	1.0
18. KEAUKAHA BEACH PARK	349	1.2
19. ONEKAHAKAHA PARK (LIHIKAI PARK)	008	1.5
20. LELEIWI PARK	045	1.7
21. LEHIA PARK	059	2.6
22. KIONAKAPAHU POND AND LOKOAKA POND (CONSERVATION AREAS)	031	1.4
23. PAR 3 GOLF COURSE	295	1.8
24. CONSERVATION ZONED	EAST	3.3±
25. PROPOSED PARK	WEST	2.3



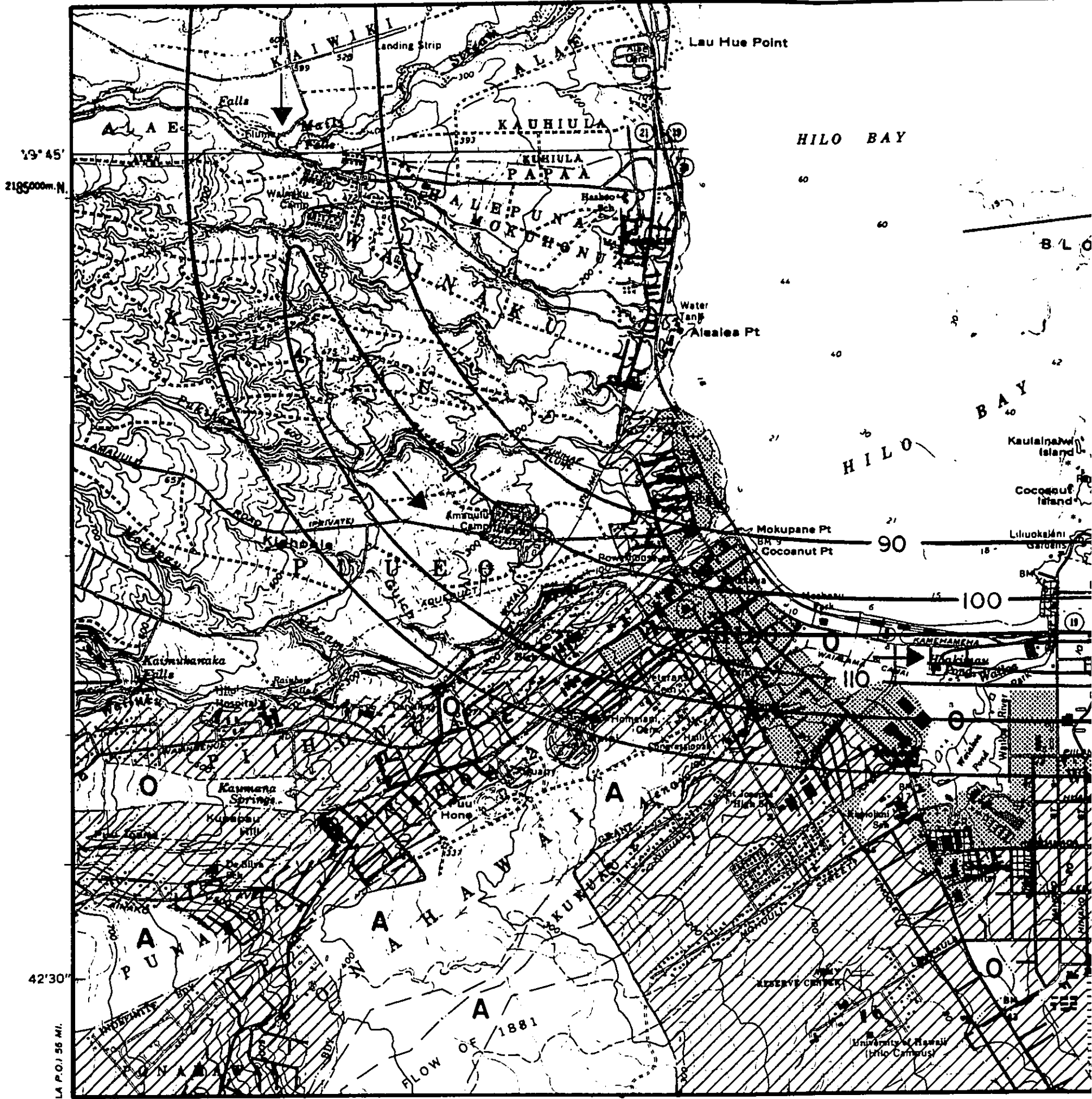
ATTACHMENT 8

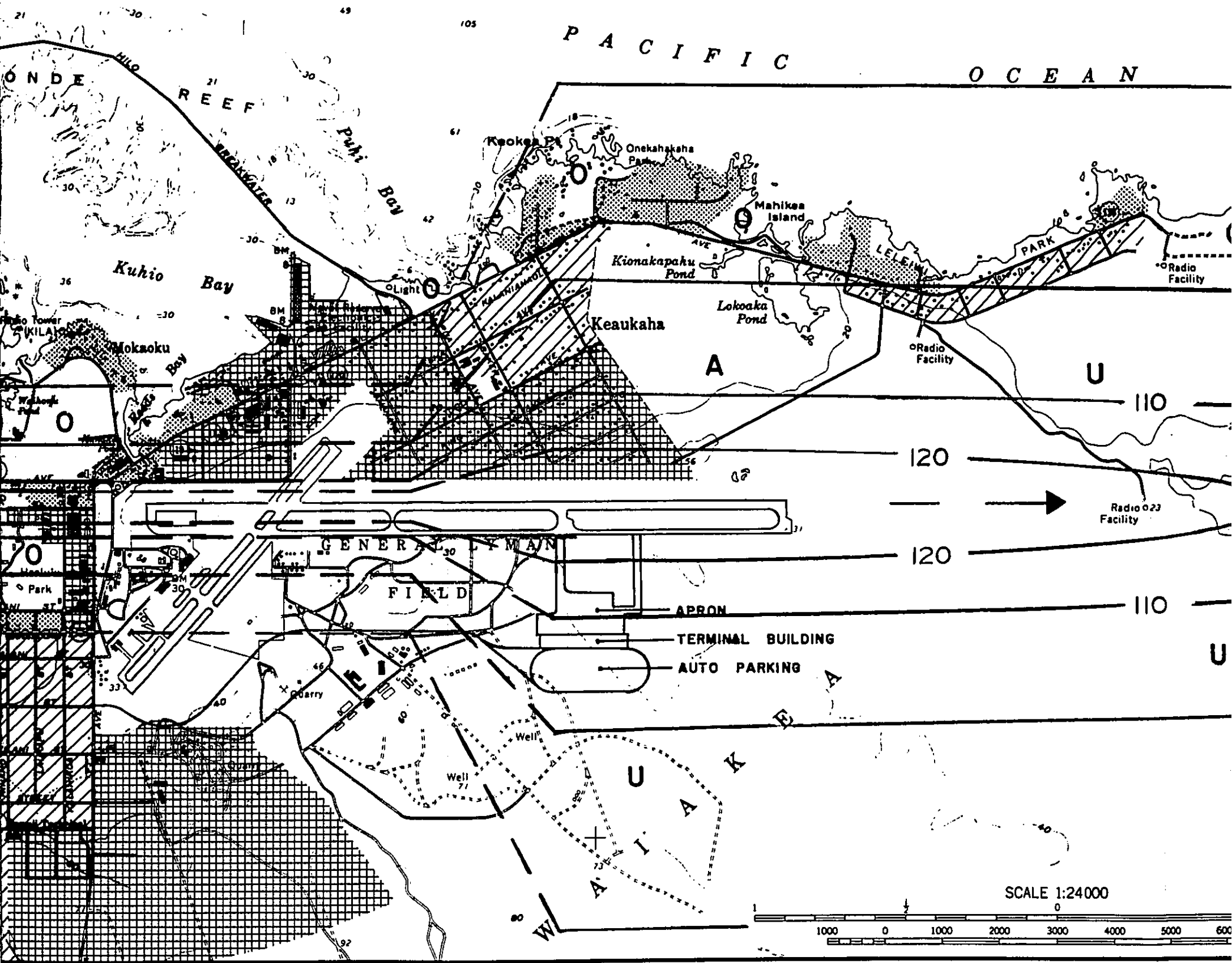
**FINAL ENVIRONMENTAL
IMPACT STATEMENT**

GENERAL LYMAN FIELD
STATE OF HAWAII

LOCATION OF
**PARKS AND
RECREATIONAL AREAS**

STATE PROJECT NO. H-91 DATE 6/15/72





11°
 TRUE NORTH
 MAGNETIC NORTH
 APPROXIMATE MEAN
 DECLINATION, 1963

90

LEGEND

ZONING



RESIDENTIAL



COMMERCIAL



INDUSTRIAL

A

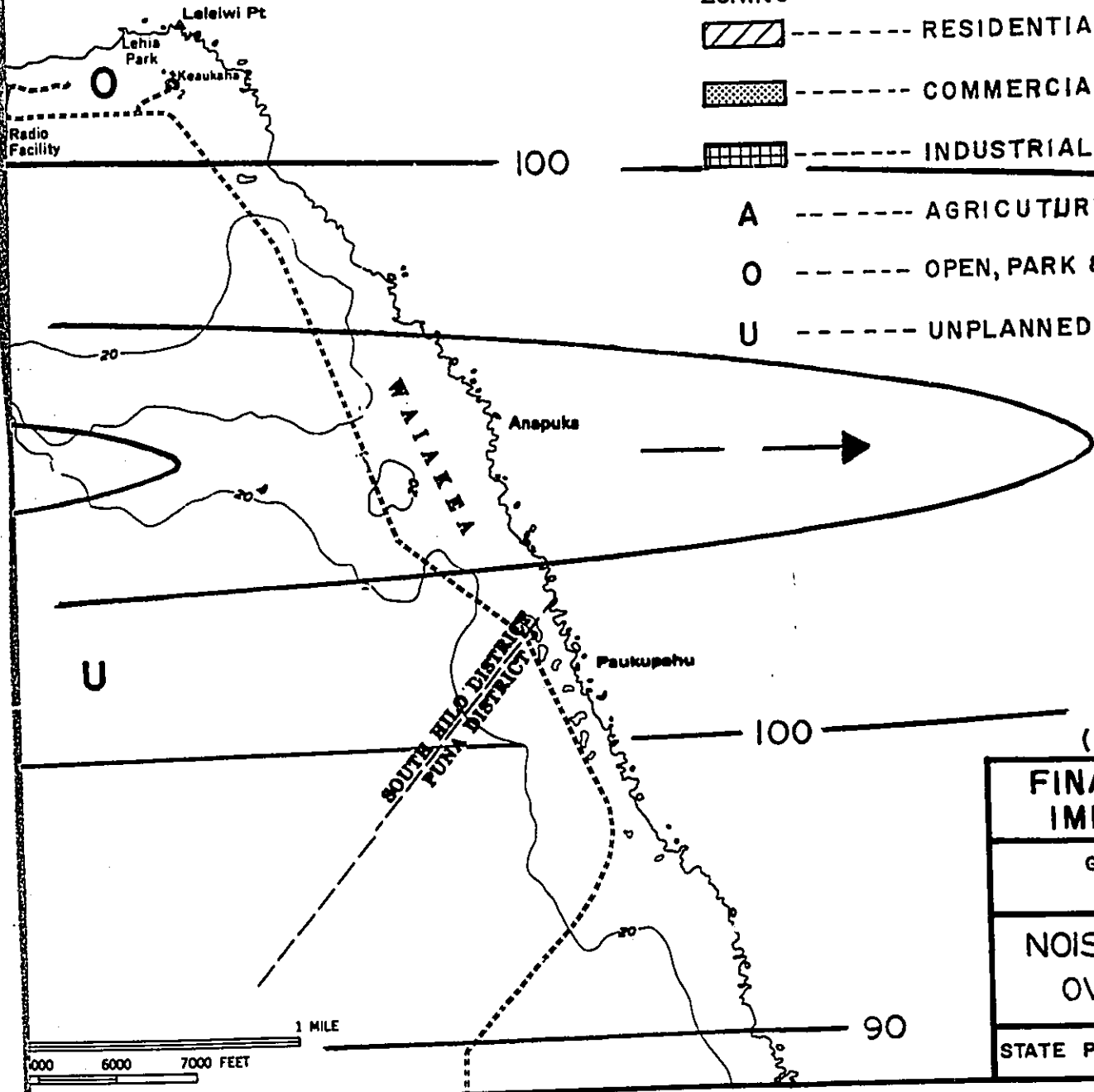
AGRICULTURE

O

OPEN, PARK & RECREATIONAL

U

UNPLANNED



ATTACHMENT 9

(AFTER REFERENCE NO.12)

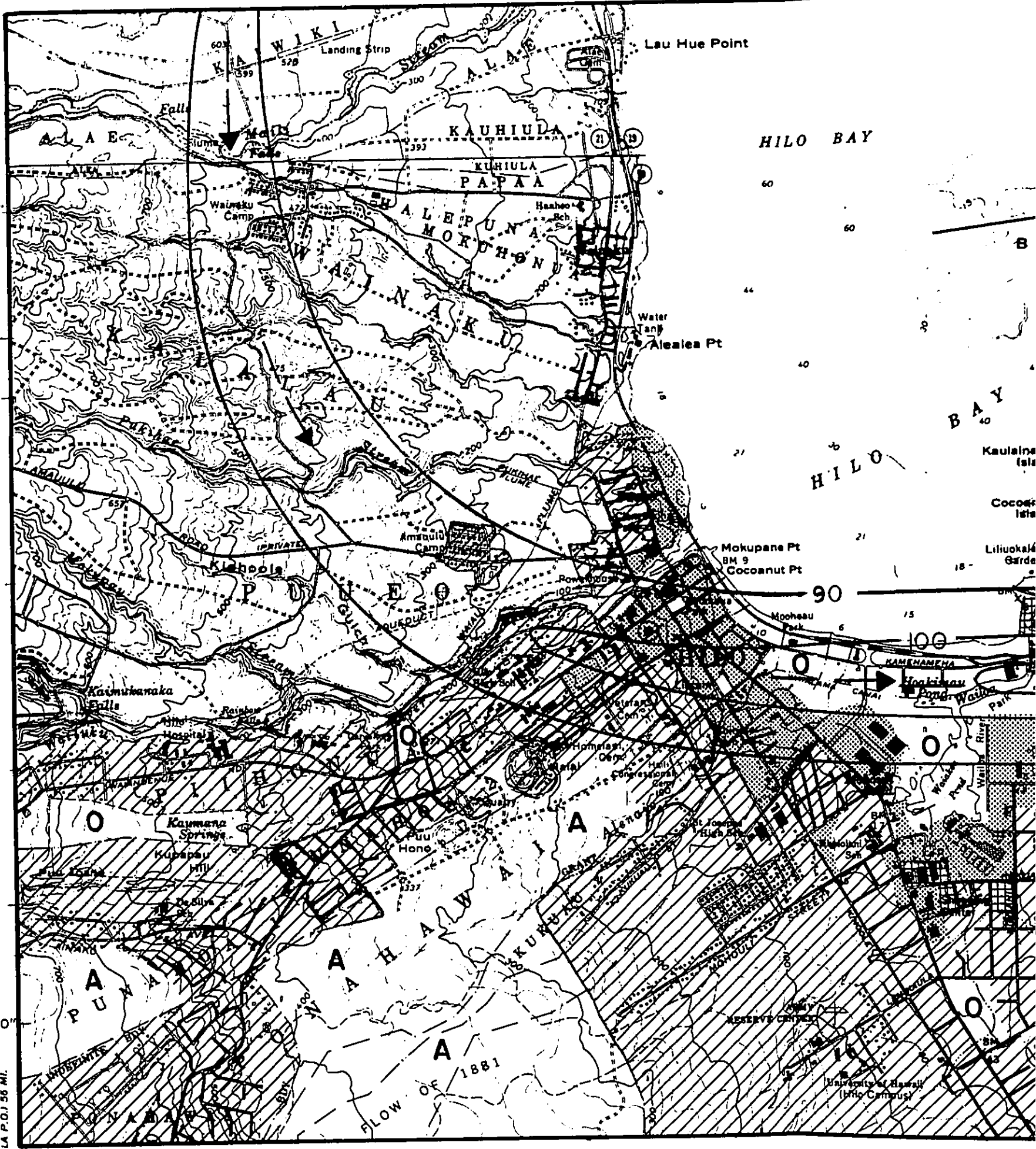
**FINAL ENVIRONMENTAL
 IMPACT STATEMENT**

GENERAL LYMAN FIELD
 STATE OF HAWAII

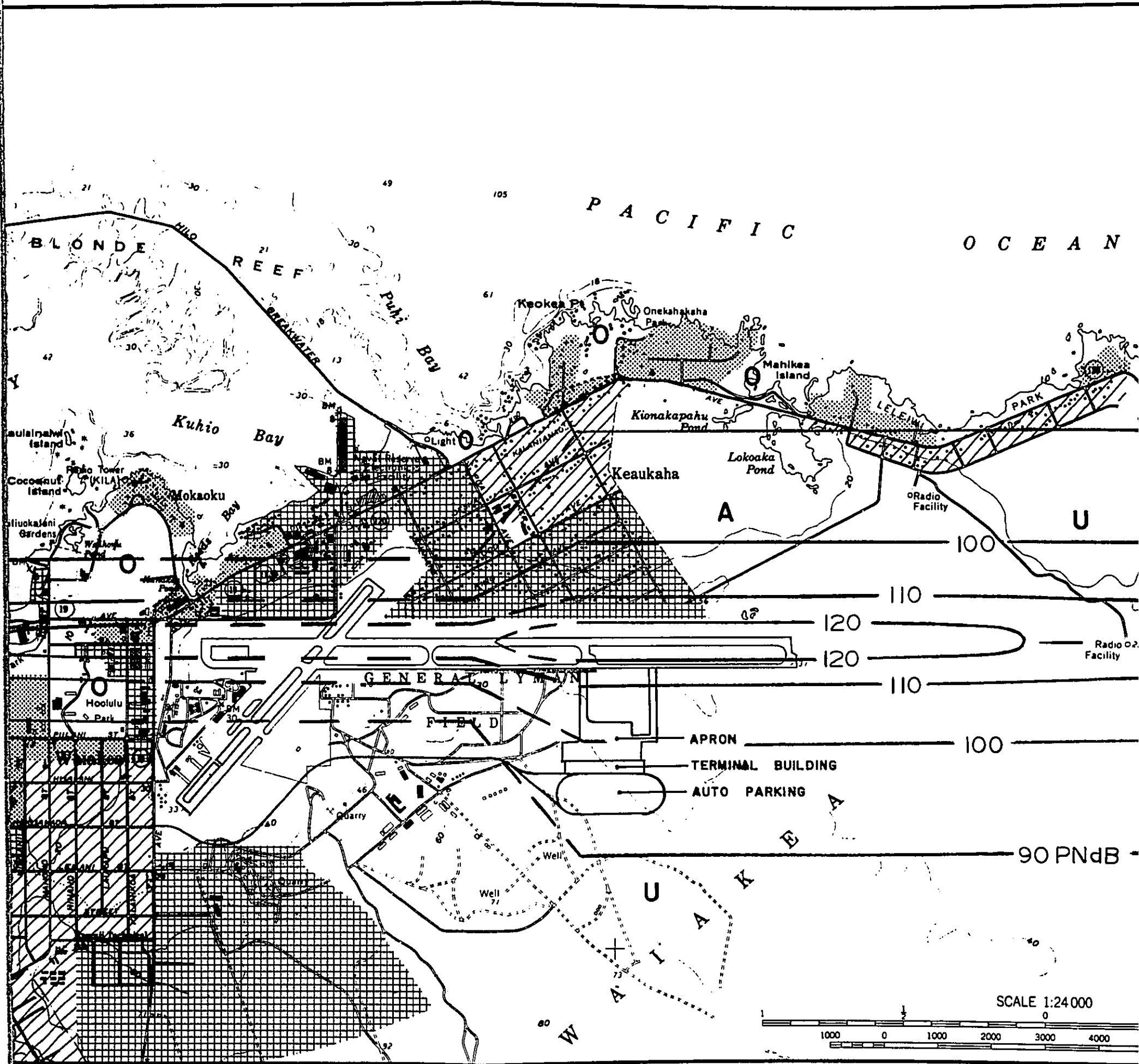
**NOISE CONTOURS (PNdB)
 OVERSEAS DC-8**

STATE PROJECT NO. H-91 DATE 6/15/72

19° 45'
2185000m. N.



42'30"
LA. P.O. 1 56 MI.



PACIFIC OCEAN

BLONDE REEF

Kuhio Bay

Keaukaha Pt

Kionakapahu Pond

Keaukaha

Lokoaka Pond

Radio Facility

GENERAL LYMAN FIELD

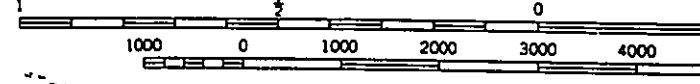
APRON

TERMINAL BUILDING

AUTO PARKING

90 PNdB


SCALE 1:24 000





11°
 TRUE NORTH
 MAGNETIC NORTH
 APPROXIMATE MEAN
 DECLINATION, 1963

LEGEND

ZONING

 RESIDENTIAL

 COMMERCIAL

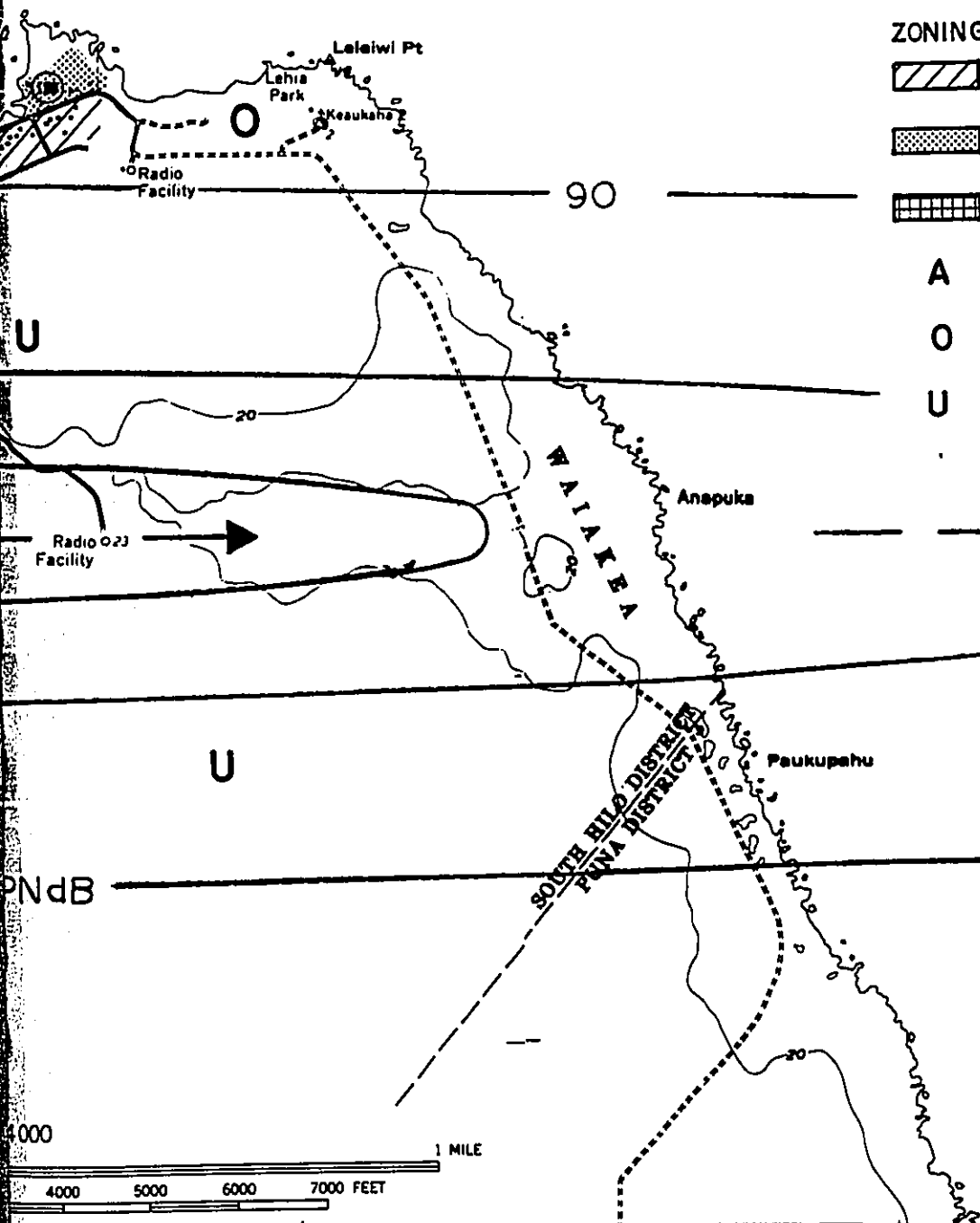
 INDUSTRIAL

A AGRICULTURE

O OPEN, PARK & RECREATIONAL

U UNPLANNED

A N



ATTACHMENT 10
 (AFTER REFERENCE NO.12)

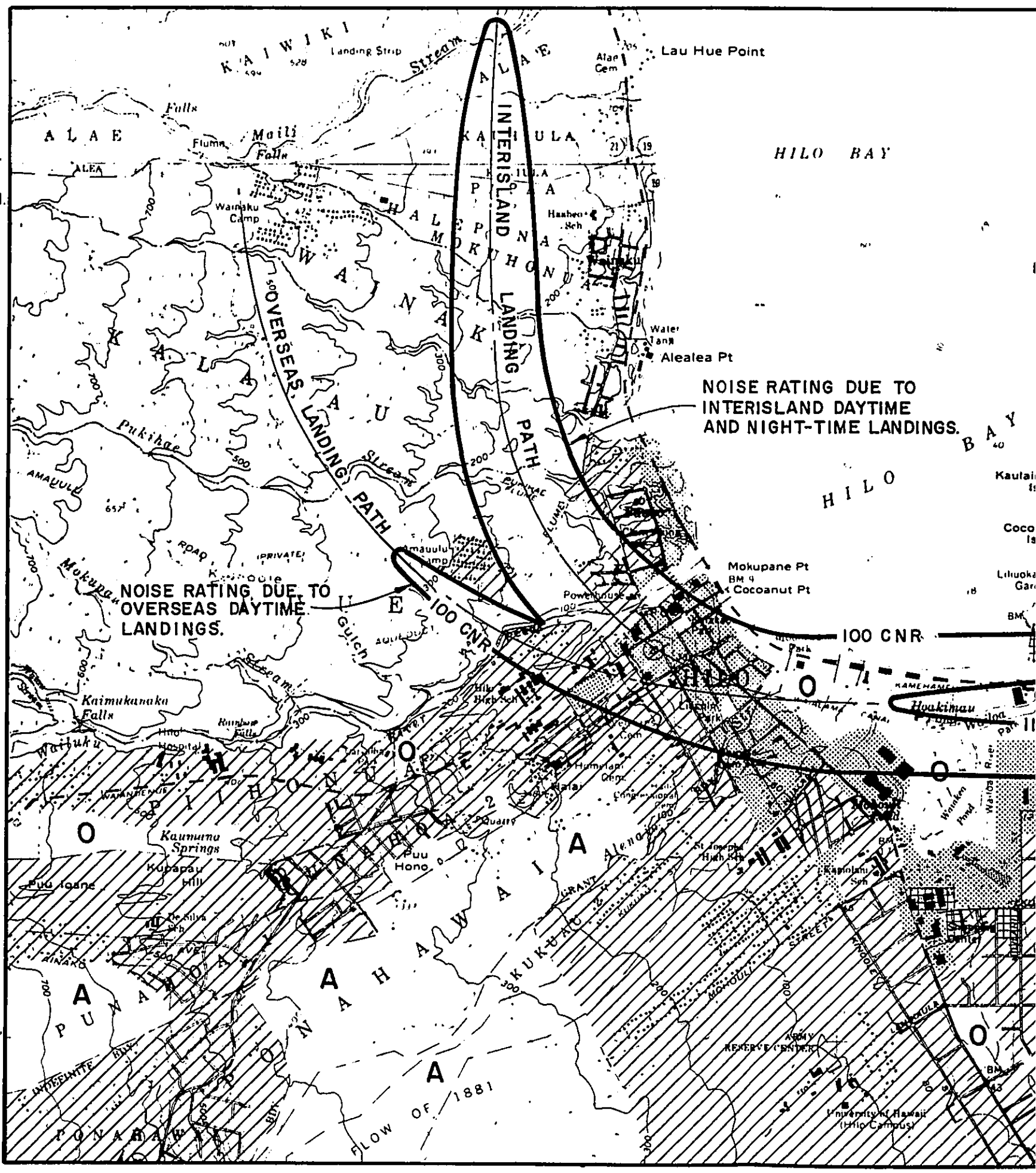
**FINAL ENVIRONMENTAL
 IMPACT STATEMENT**

GENERAL LYMAN FIELD
 STATE OF HAWAII

**NOISE CONTOURS (PNdB)
 OVERSEAS B-747**

STATE PROJECT NO. H-91 DATE 6/15/72

19°45'
2185000m N.

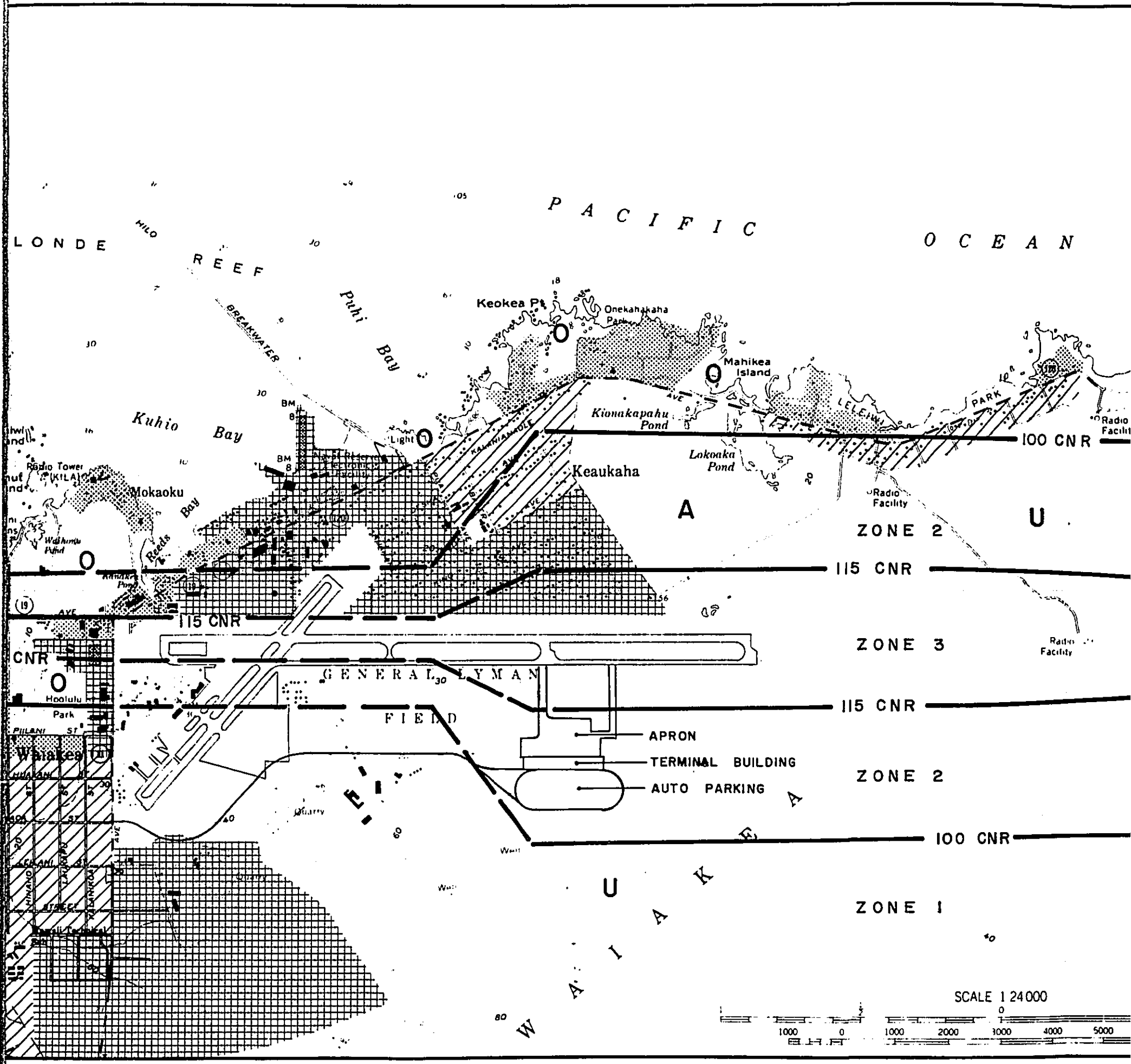


NOISE RATING DUE TO OVERSEAS DAYTIME LANDINGS.

NOISE RATING DUE TO INTERISLAND DAYTIME AND NIGHT-TIME LANDINGS.

42'30"
A.P.O. 156 MI

FLOW OF 1881



P A C I F I C

O C E A N

L O N D E

H I L O
R E E F

P u h i
B a y

Keokea Pt

Ohekaheka

Mahioka Island

Kionakapahu Pond

Lokoaku Pond

Keaukaha

Kuhio Bay

Mokaoku Bay

Radio Tower

Radio Facility

ZONE 2

U

115 CNR

ZONE 3

Radio Facility

115 CNR

ZONE 2

APRON

TERMINAL BUILDING

AUTO PARKING

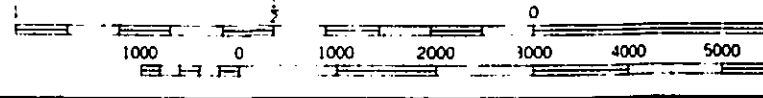
100 CNR

ZONE 1

GENERAL LYMAN

FIELD

SCALE 1:24000




W
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11°
 TRUE NORTH
 MAGNETIC NORTH
 APPROXIMATE MEAN
 DECLINATION, 1963


NOISE RATING DUE TO
 NIGHT-TIME OVERSEAS
 TAKEOFFS.

LEGEND

ZONING

 ----- RESIDENTIAL

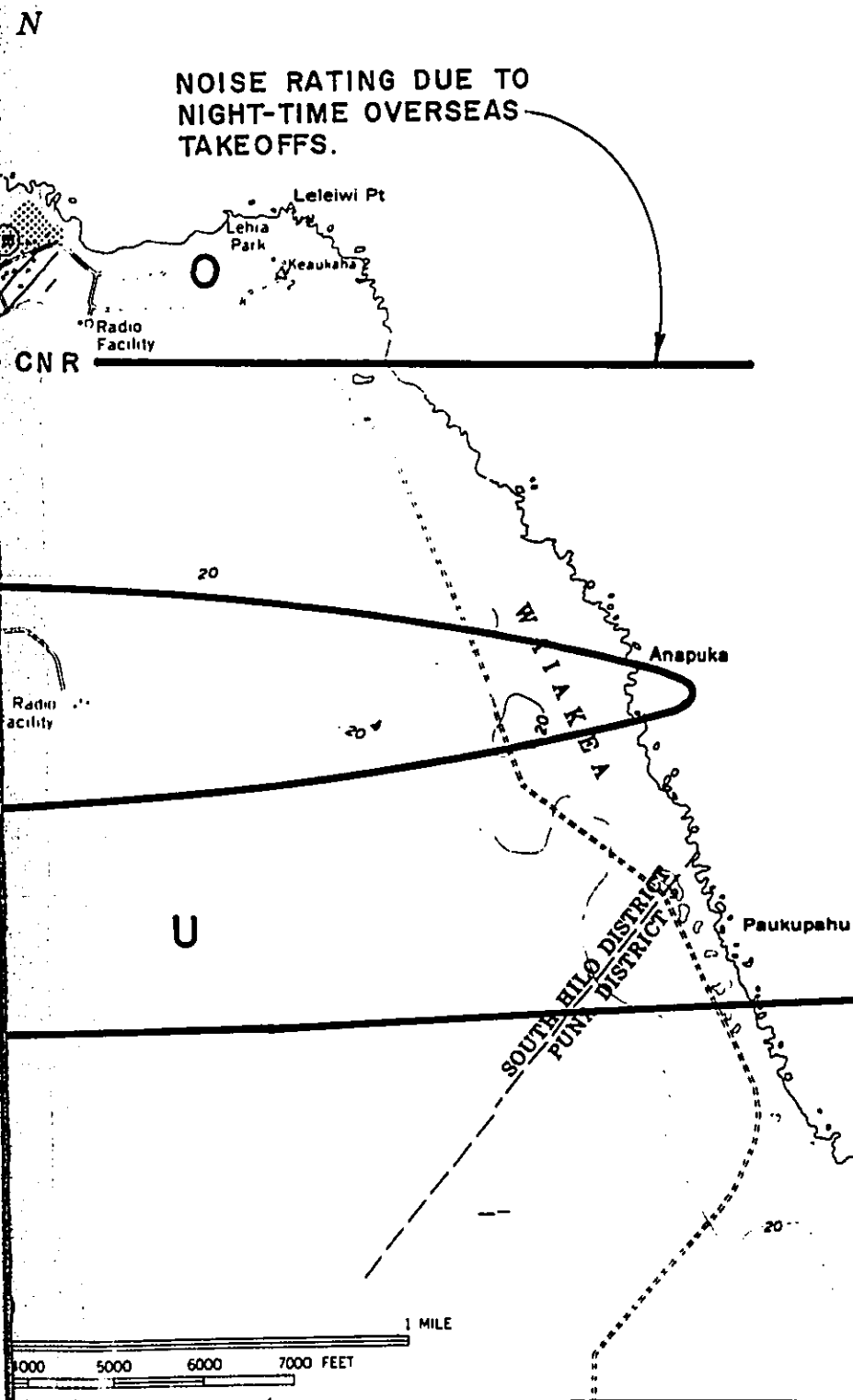
 ----- COMMERCIAL

 ----- INDUSTRIAL

A ----- AGRICULTURE

O ----- OPEN, PARK & RECREATIONAL

U ----- UNPLANNED



ATTACHMENT II

(AFTER REFERENCE NO.12)

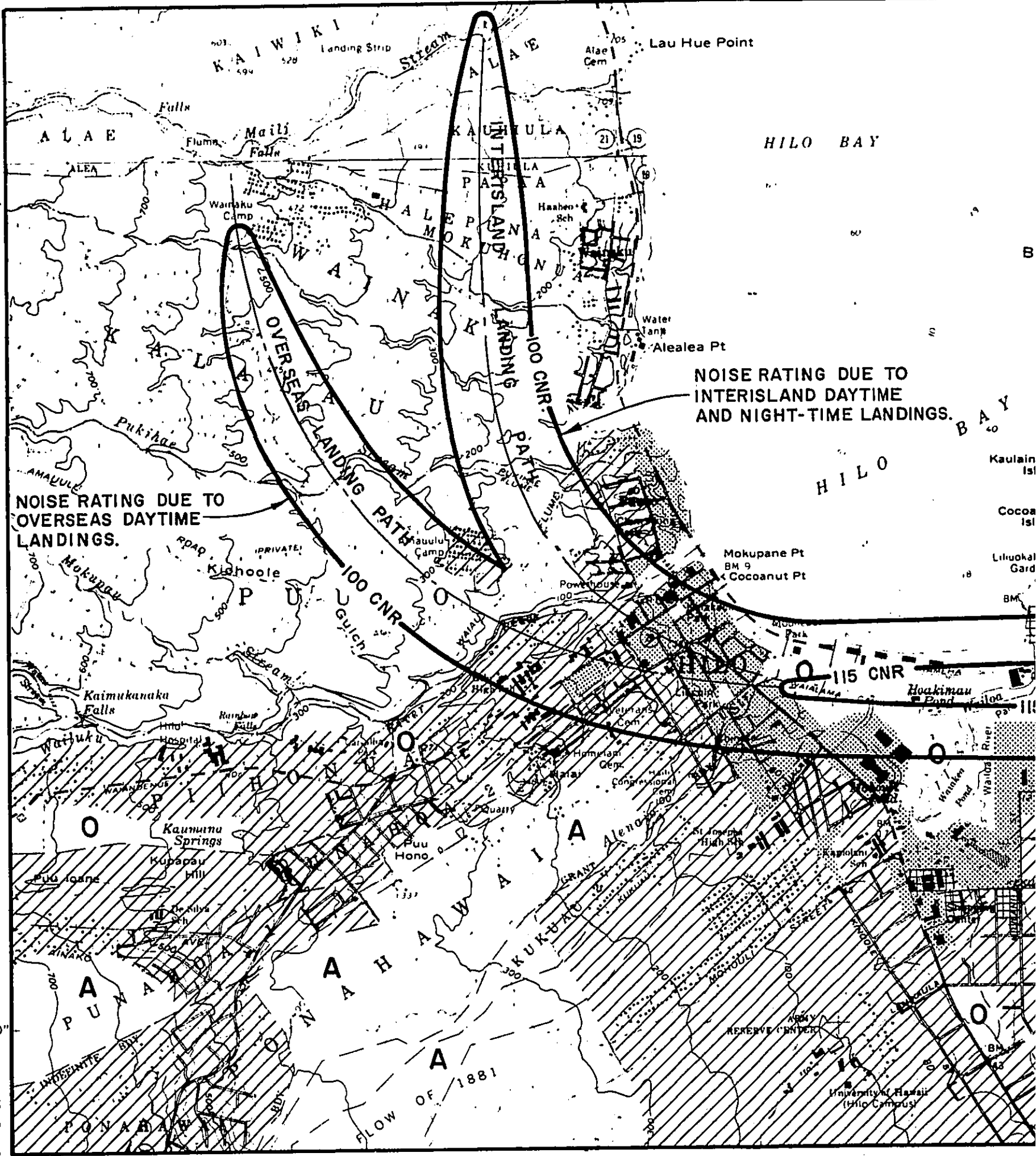
**FINAL ENVIRONMENTAL
 IMPACT STATEMENT**

GENERAL LYMAN FIELD
 STATE OF HAWAII

**NOISE CONTOURS
 1972**

STATE PROJECT NO. H-91 DATE 6/15/72

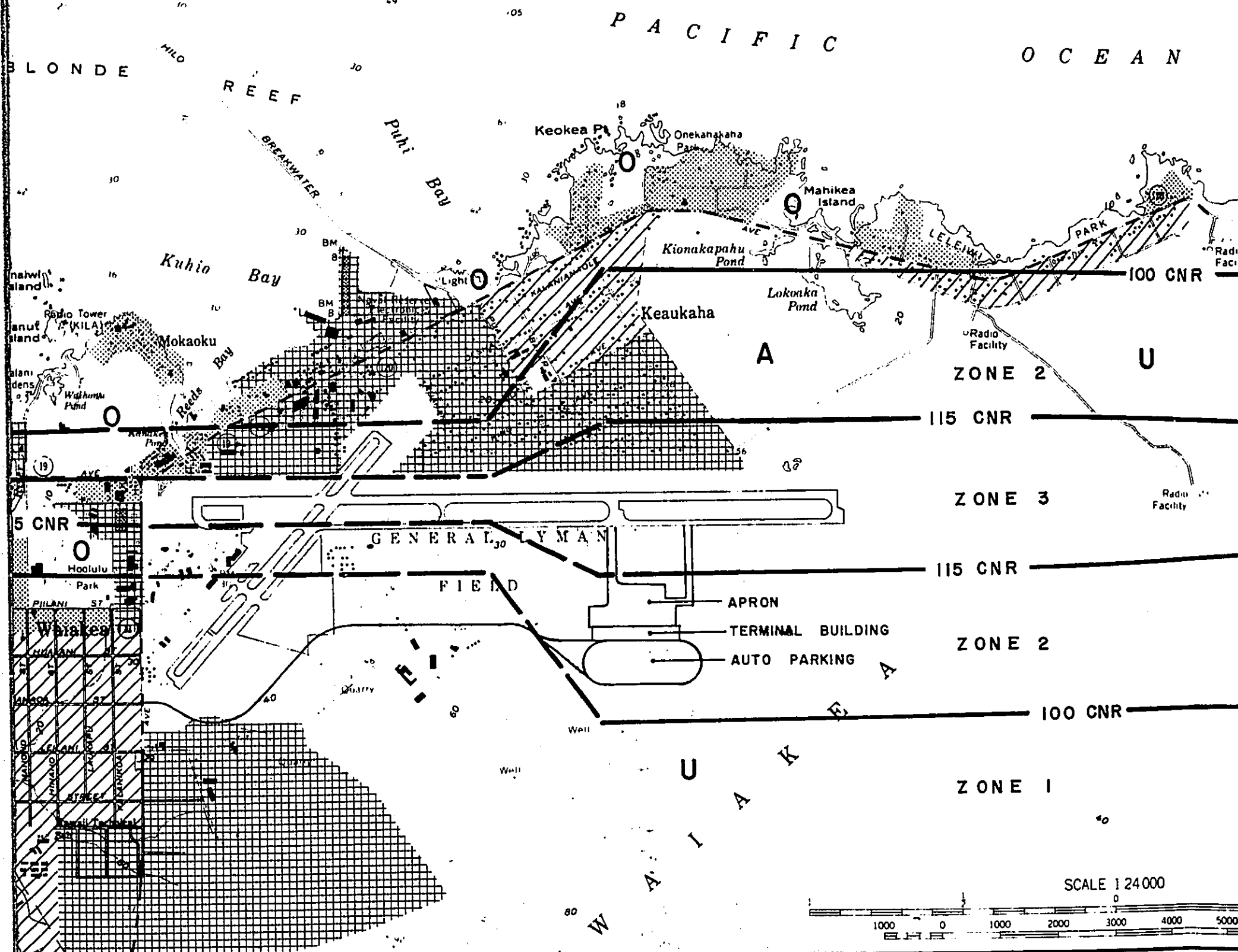
19° 45'
2185000m N.



NOISE RATING DUE TO OVERSEAS DAYTIME LANDINGS.

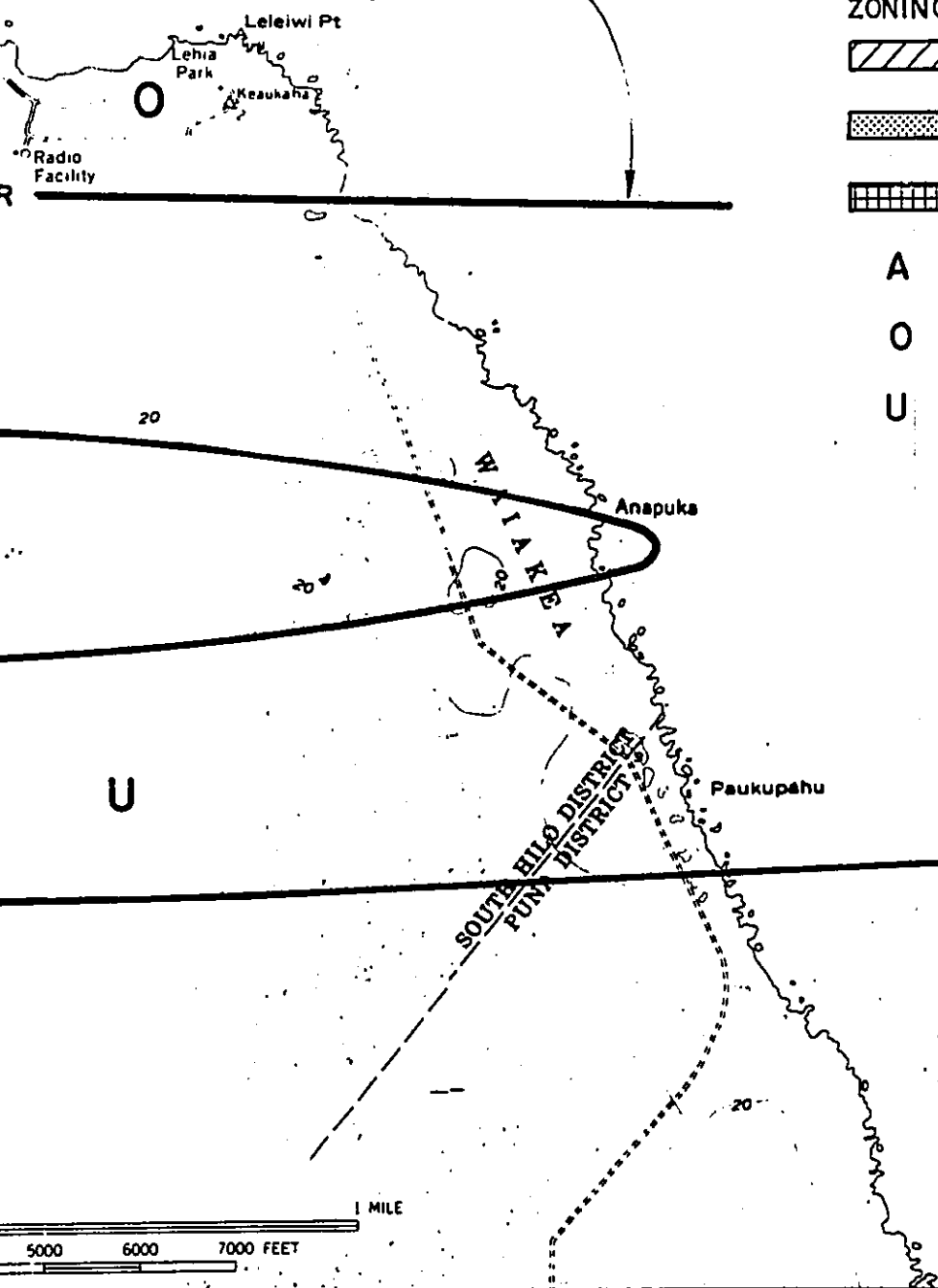
NOISE RATING DUE TO INTERISLAND DAYTIME AND NIGHT-TIME LANDINGS.

42' 30"
A.P.O. 56 MI






11°
 TRUE NORTH
 MAGNETIC NORTH
 APPROXIMATE MEAN
 DECLINATION, 1963

NOISE RATING DUE TO
 NIGHT-TIME OVERSEAS
 TAKEOFFS.



LEGEND

ZONING

-  ----- RESIDENTIAL
-  ----- COMMERCIAL
-  ----- INDUSTRIAL
- A ----- AGRICULTURE
- O ----- OPEN, PARK & RECREATIONAL
- U ----- UNPLANNED

ATTACHMENT 12

(AFTER REFERENCE NO.12)

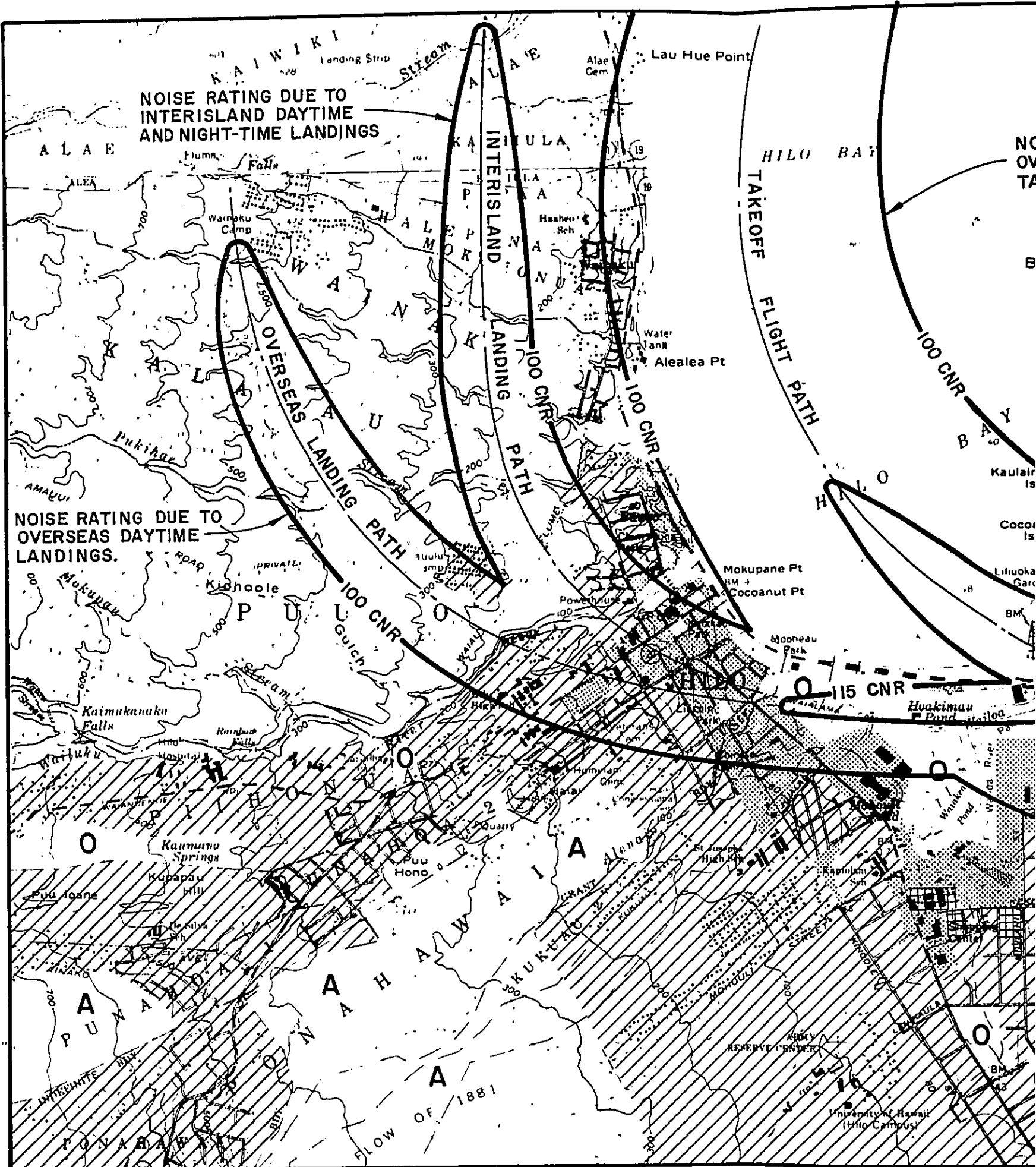
**FINAL ENVIRONMENTAL
 IMPACT STATEMENT**

GENERAL LYMAN FIELD
 STATE OF HAWAII

**NOISE CONTOURS 1975-1985
 RUNWAY PERCENT USE
 SAME AS 1972**

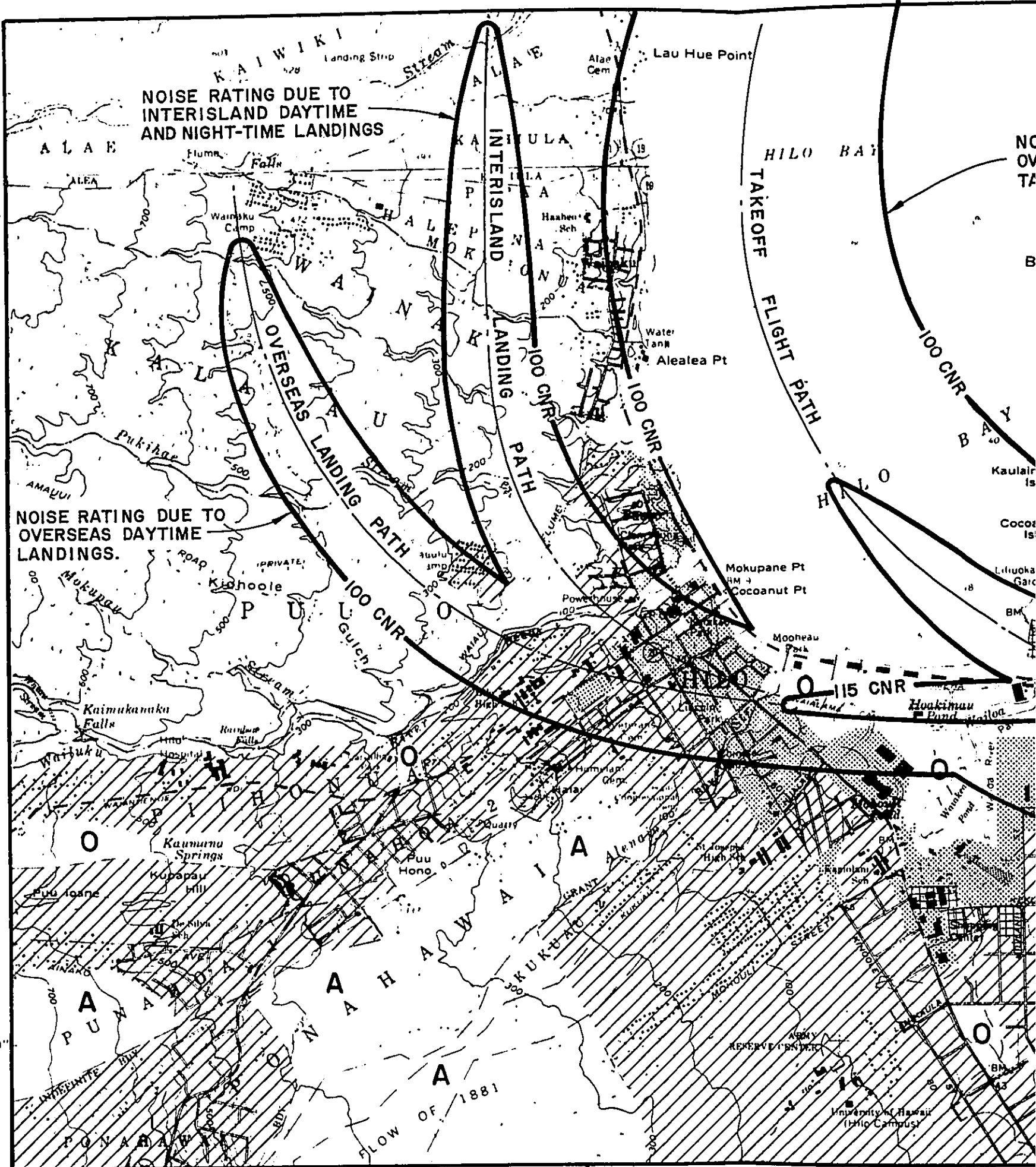
STATE PROJECT NO. H-91 DATE 6/15/72

19° 45'
2185000m N.



42° 30'
A.P.O. 56 MI

19° 45'
7185000m N



NOISE RATING DUE TO INTERISLAND DAYTIME AND NIGHT-TIME LANDINGS

NOISE RATING DUE TO OVERSEAS DAYTIME LANDINGS.

42° 30''




1:50,000

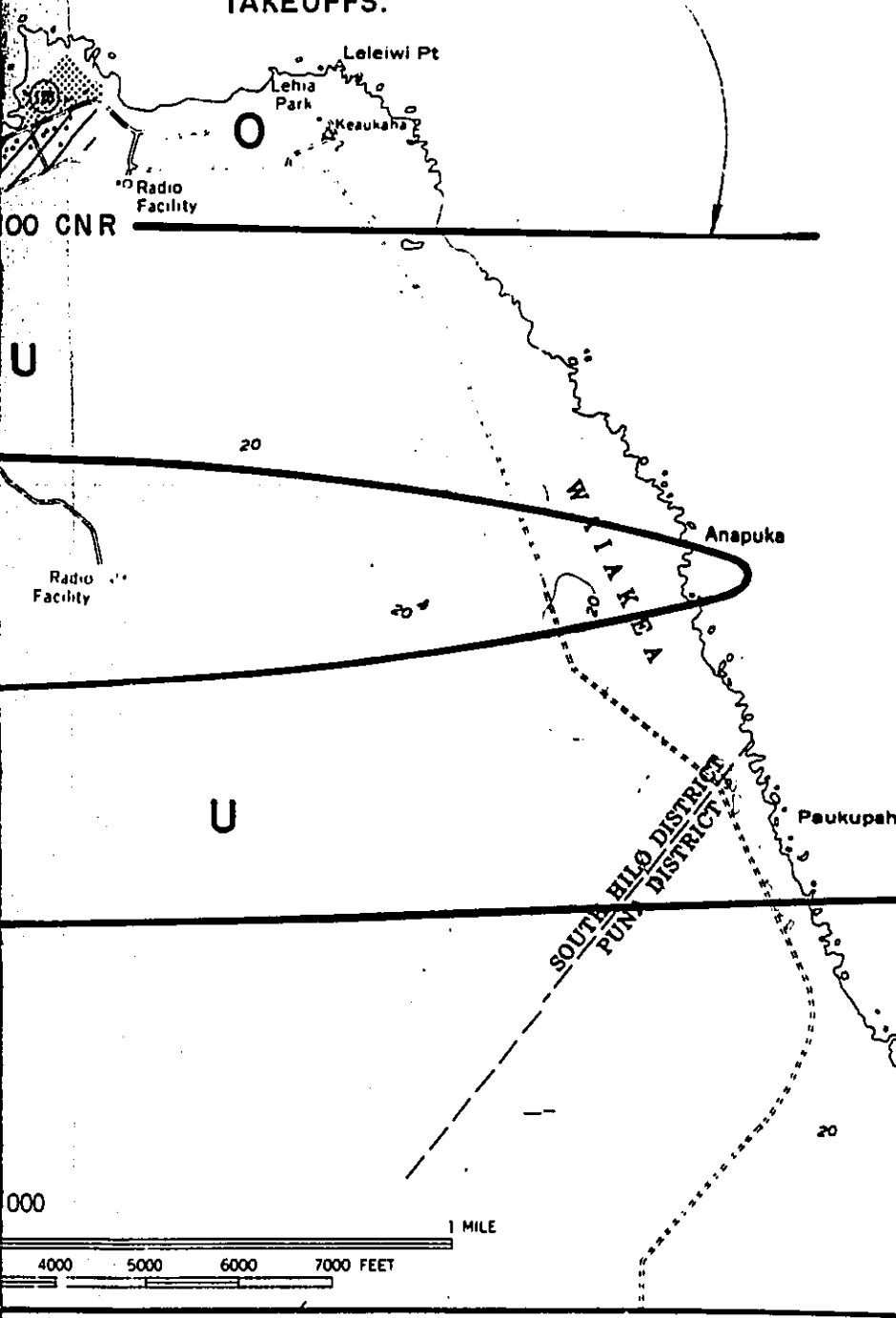
11°
 TRUE NORTH
 MAGNETIC NORTH
 APPROXIMATE MEAN
 DECLINATION, 1963

NOISE RATING DUE TO
 NIGHT-TIME OVERSEAS
 TAKEOFFS.

LEGEND

ZONING

-  ----- RESIDENTIAL
-  ----- COMMERCIAL
-  ----- INDUSTRIAL
- A ----- AGRICULTURE
- O ----- OPEN, PARK & RECREATIONAL
- U ----- UNPLANNED



ATTACHMENT 13

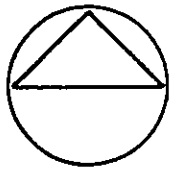
(AFTER REFERENCE NO.12)

**FINAL ENVIRONMENTAL
 IMPACT STATEMENT**

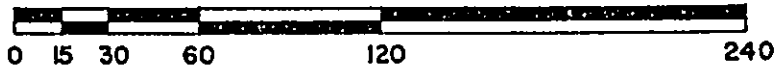
GENERAL LYMAN FIELD
 STATE OF HAWAII

**NOISE CONTOURS 1975-1985
 IF INCREASED PERCENTAGE
 OF TAKEOFFS TO WEST**

STATE PROJECT NO. H-91 DATE 6/15/72



SCALE



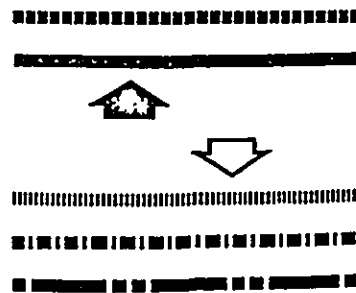
COMMUTER AIRLINES

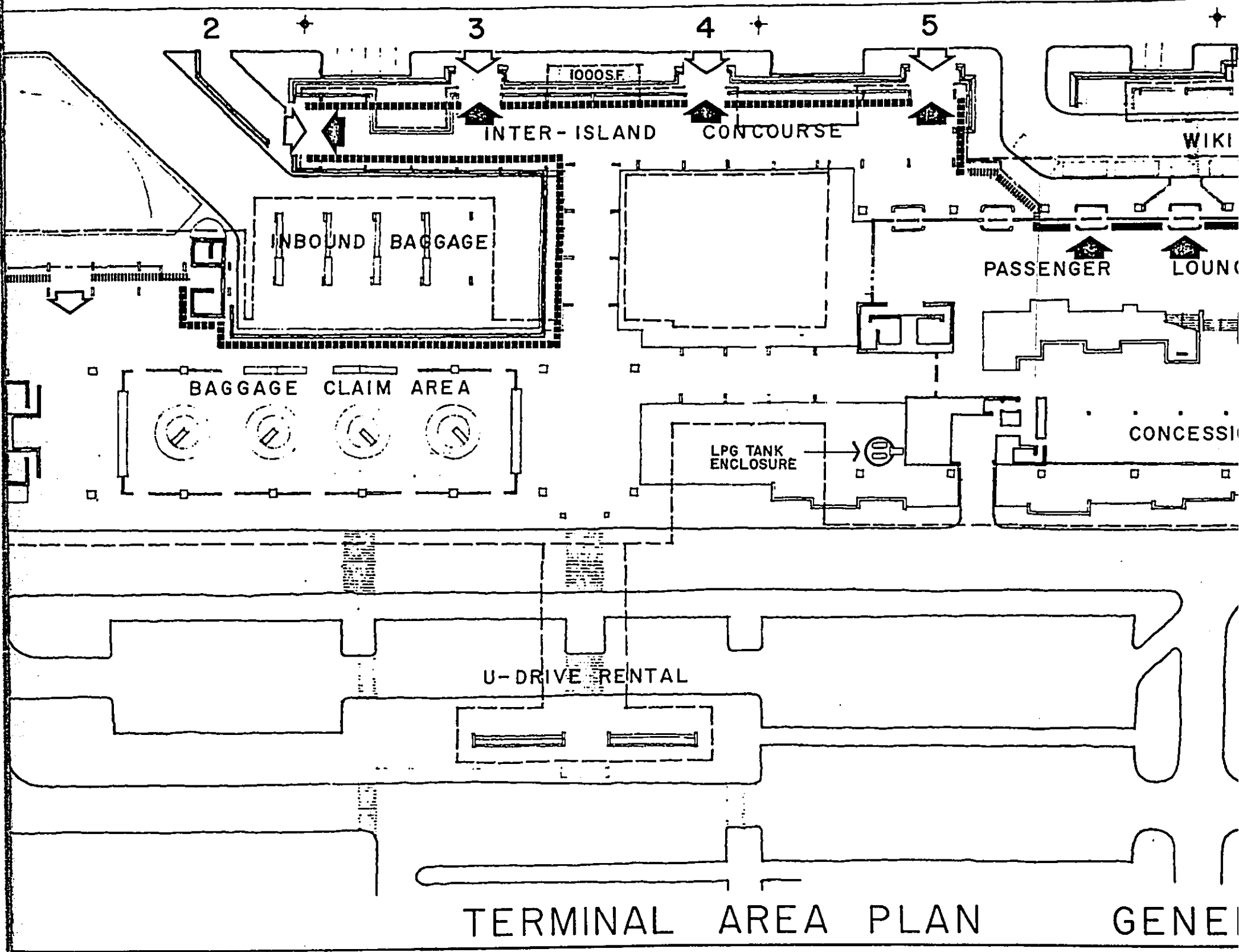
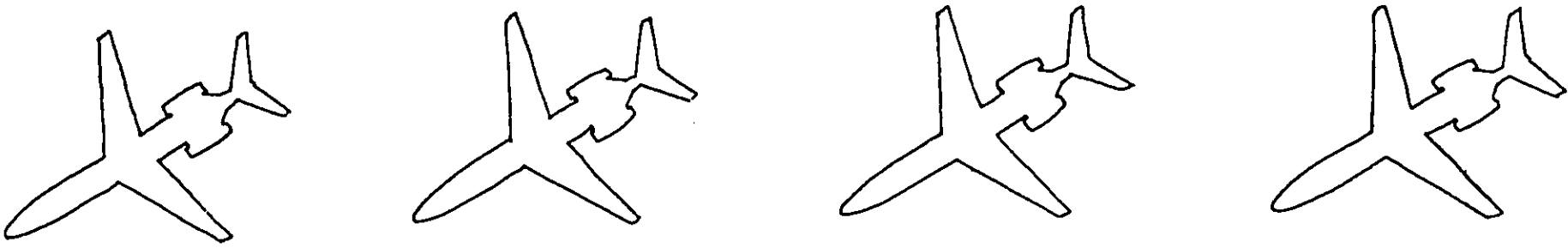
WIKI - WIKI

TOUR BUSES

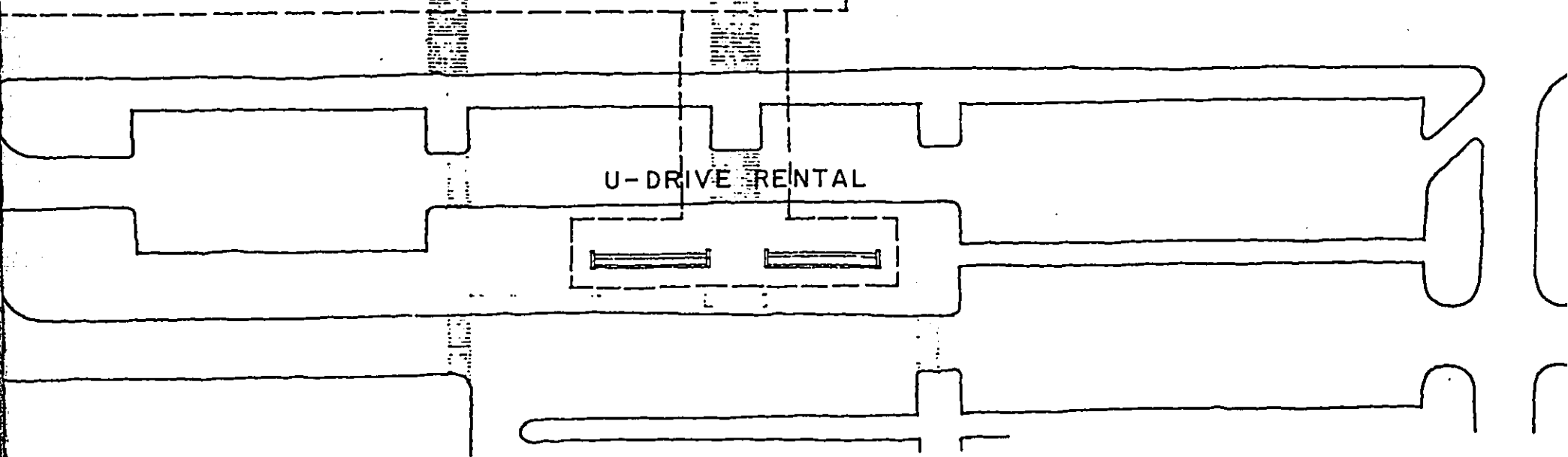
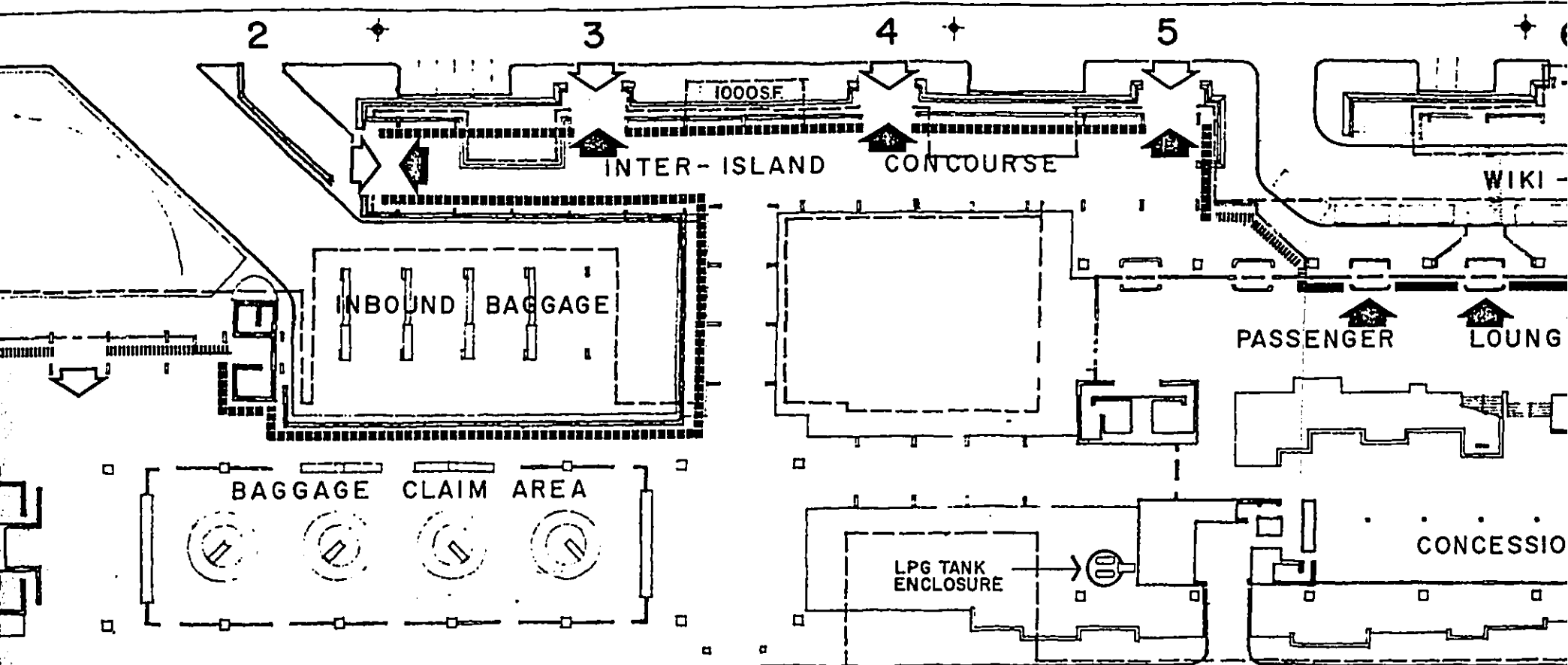
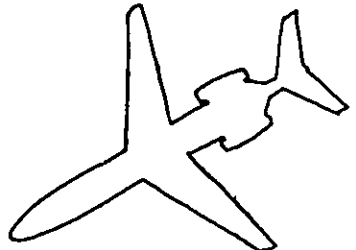
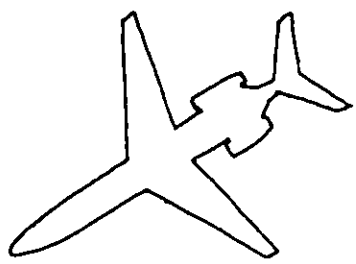
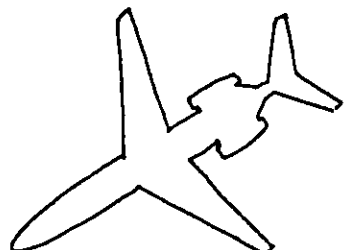
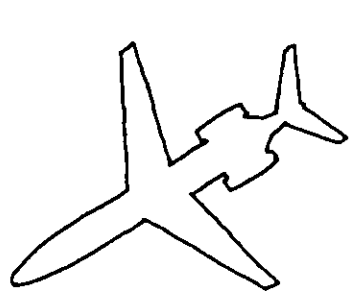
SECURITY SYSTEM LEGEND

- BUILDING WALL (MASONRY, 7' HIGH MIN.)
- BUILDING WALL (ALUM./GLASS, 7' HIGH MIN.)
- OUTBOUND PASSENGER SECURITY
- INBOUND PASSENGER SECURITY
- SECURITY SCREEN (MET. GRILLE, 7' HIGH MIN.)
- VEHICULAR SECURITY GATE
- AIRPORT BOUNDARY FENCE



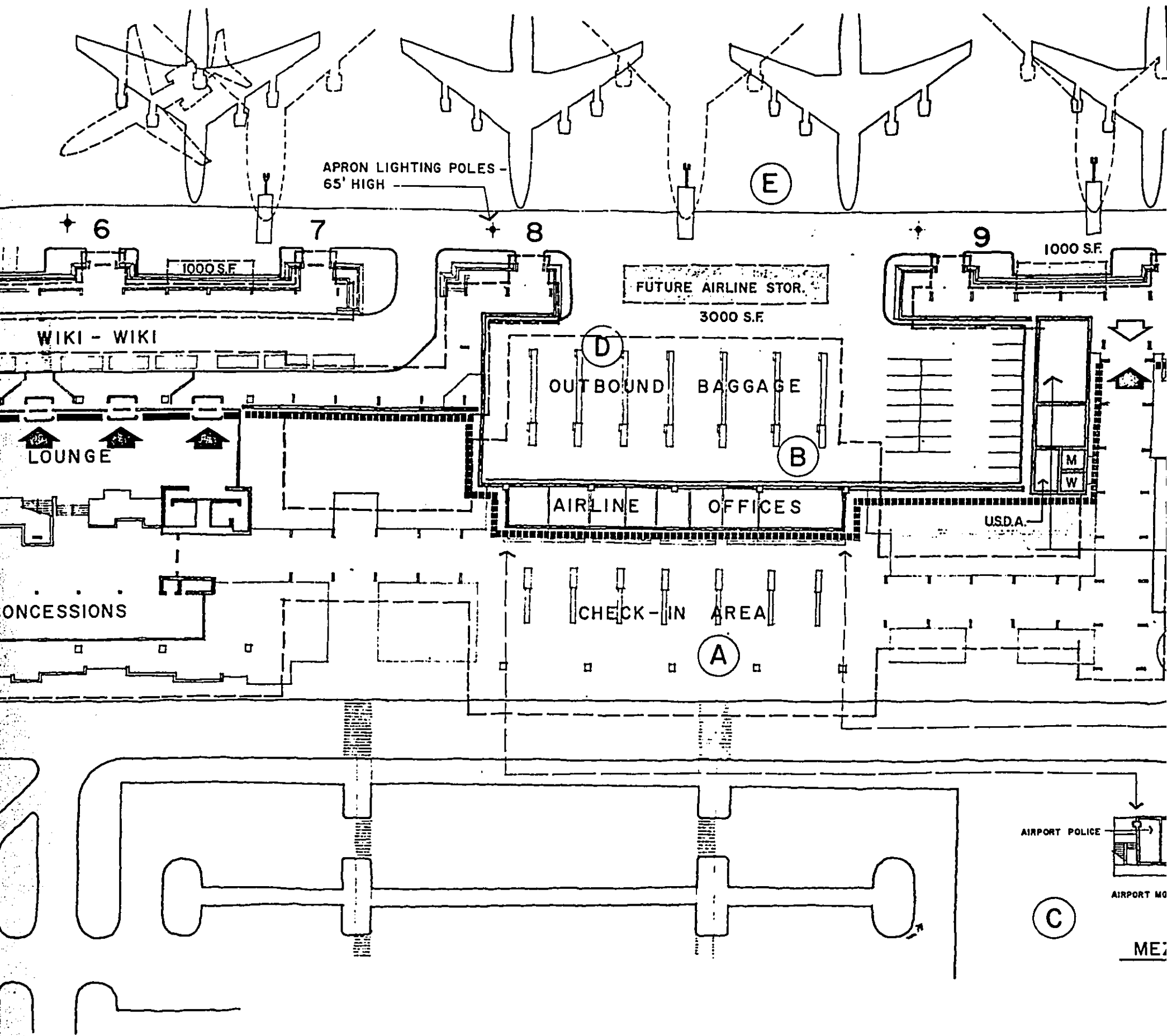


TERMINAL AREA PLAN GENE



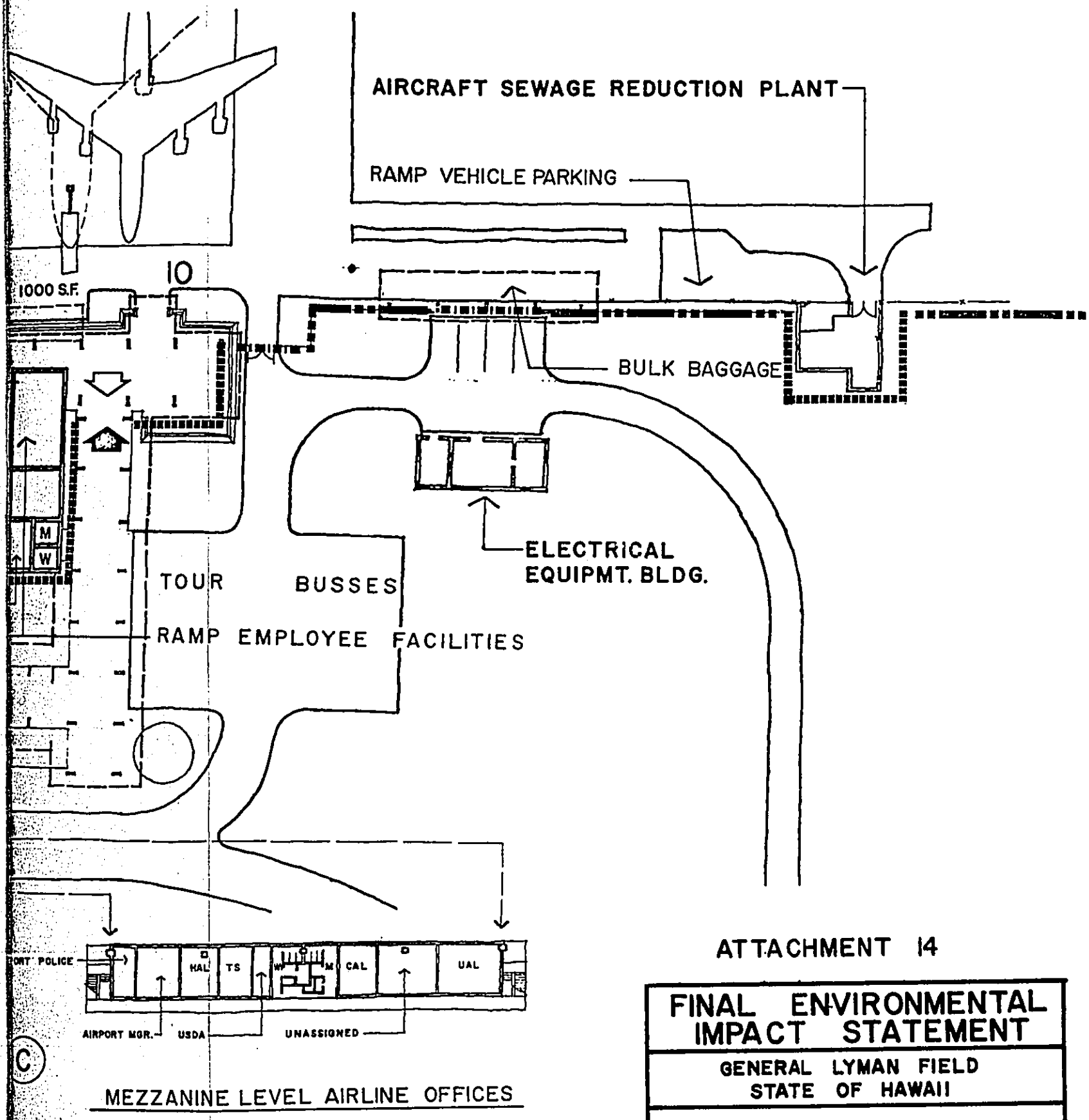
TERMINAL AREA PLAN

GENEF



GENERAL LYMAN FIELD

HILO, HAWAII



ATTACHMENT 14

FINAL ENVIRONMENTAL IMPACT STATEMENT
GENERAL LYMAN FIELD STATE OF HAWAII
SECURITY SYSTEM
STATE PROJECT NO. H-91

Final
 Environmental Impact Statement
 New Passenger Terminal
 General Lyman Field
 Hilo, Hawaii

ATTACHMENT 15

COST COMPARISON TOWER vs TREE CLEARING

1. Design Criteria for New Control Tower.

- a. Cab floor 75' above ground to see over 747 tails.
- b. Elevator required.
- c. Electrical and electronic facilities installed by FAA.
- d. Size of Tower 30' x 30'.
- e. Maintenance costs for tower same as old tower.

2. Floor Area Required for Facility Level I.
 (Space Requirements Extracted From TSO-N13b)

	Sq. Ft.
Cab 20 x 20 feet	400
Junction Room	900
Chief's Office	200
Training Room	150
Ready Room	150
Operations Storage	100
Radar Equipment Room	1,000
Radio Equipment Room	650
Data Processing Equipment Room	1,260
Telco Equipment Room	120
IFR Room	600
Electronic Maintenance Rooms	840
Toilets	300
Total	6,670

Assume: 8 floors, 30 x 30 feet each.

3. First Cost of New Control Tower.

a. Total Floor Area: 8 x 900 = 7,200 sq. ft.	
b. Stairs and Elevator Shafts: 1,800 sq. ft.	
c. Construction Cost:	
Floors, including electrical and electronic facilities (\$100 per sq. ft.)	\$720,000
Stairs and elevator shaft (\$30 per sq.ft.)	54,000
Elevator	75,000
Subtotal	\$849,000
Total, including parking, landscaping, etc.	\$900,000

4. Clear and Grub for Line of Sight From Old Tower.

38 acres	@ \$800/acre	\$30,400
7 acres	@ \$600/acre	4,200
34 acres	@ \$500/acre	17,000
500 trees	@ \$ 20/each	<u>10,000</u>
		\$61,600

5. Annual Maintenance of Cleared Area.

Mow 38 acres, 8 hours/day, 2 days a month.

\$32/day x 24 days	\$ 770
Clear 7 acre area annually	4,200
Top trees annually	<u>10,000</u>
	\$14,970/yr.

6. Present Worth of \$14,970 Annual Maintenance.

\$14,970 x 12.462 @ 5% interest, 20 year life	\$186,556
	<u>61,600</u>
	\$248,156

The present worth at 5 percent interest and 20 years life of the clearing and grubbing is \$248,156, as compared with \$900,000 first cost for a new Control Tower structure.

NOTE:

Design Criteria has been assumed and cost data is only approximations in order to arrive at a cost relationship between a new Control Tower and clearing operations.

Final Environmental Impact Statement
New Passenger Terminal Hilo, Hawaii

Attachment 16 Sheet 1

IN THE MATTER OF

Notice Of Public Hearing

AFFIDAVIT OF PUBLICATION

NOTICE OF PUBLIC HEARING

Pursuant to the Provisions of Act 132, 1970 Session Laws of Hawaii, the "Airport and Airway Development Act of 1970", Public Law 91-258, and all other laws applicable thereto, a public hearing will be held by the Department of Transportation, Airports Division on the proposed development of a New Passenger Terminal, including the revised Airport Boundaries and Layout Plan for General Lyman Field, Hilo, Hawaii, for the purpose of considering the economic, social, and environmental effects of the foregoing development. The hearing will be held at 7:00 P.M., December 15, 1971, at the County Council Chambers, 25 Aupuni, Hilo, Hawaii. All interested persons are invited to submit data, views, comments, or arguments for the State's consideration of the project at the date, time and place specified above. Written statements will also be accepted by the Department until December 22, 1971.

Exhibits of the proposed development and the preliminary Impact Statement can be viewed from 8:00 A.M. to 4:00 P.M., Monday through Friday, from November 15 to December 14, at the Airport Manager's Office, General Lyman Field, or the Airports Division Engineering Office, 5th Floor, Administration Building, Honolulu International Airport.

FUJIO MATSUDA
Director

Department of Transportation
(Hon. Adv.: Nov. 15, 16, 17, 18, 19, 1971) (A-5846)

STATE OF HAWAII, }
CITY AND COUNTY OF HONOLULU. } SS.

Nancy Kira

.....being
duly sworn, deposes and says, that She is Clerk of the
ADVERTISER PUBLISHING COMPANY, LIMITED,
publishers of THE HONOLULU ADVERTISER and
SUNDAY STAR-BULLETIN and ADVERTISER, a daily
newspaper published in the City and County of Honolulu,
State of Hawaii, that the ordered publication in the above
entitled matter of which the annexed is a true and correct
printed notice, was published.....five.....times in
said daily newspaper, commencing on the..15th.....day of
November....., 1971, and ending on the..19th.....day
of November....., 1971 (both days inclusive), to wit,
on.....November 15, 16, 17, 18, 19, 1971..

.....
and that affiant is not a party to or in any way interested
in the above entitled matter.

Nancy Kira

Subscribed and sworn to before me this..19th.....day of
November....., A. D. 1971

Carl Mackay

Notary Public of the First Judicial Circuit,
State of Hawaii

My commission expires.....

My Commission expires June 30, 1973

Final Environmental Impact Statement
New Passenger Terminal Hilo, Hawaii
Attachment 17

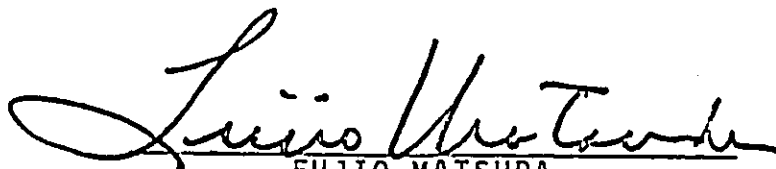
REQUIREMENT FOR DISPLACED PERSONS ASSURANCE

GRADING, PAVING & UTILITIES FOR THE
NEW PASSENGER TERMINAL
GENERAL LYMAN FIELD
HILO, HAWAII
STATE PROJECT NO. H-91-1

FEB 24 1972

"The airport development proposed in this request does not involve the displacement and relocation of any persons. Land acquisition is a part of the project, however, no person is living on this parcel."

State of Hawaii, Acting by and
Through the Department of
Transportation


FUJIO MATSUDA
Director of Transportation

Final Environmental Impact Statement
New Passenger Terminal Hilo, Hawaii
Attachment 18

Executive Order No. 02653 DIRECTOR'S OFFICE

Setting Aside Land for Public Purposes
MAR 11 1 40 PM '73
DEPT. OF TRANSPORTATION

By this Executive Order, I, the undersigned, Governor of the State of Hawaii, by virtue of the authority in me vested by Section 171-11, Hawaii Revised Statutes, and every other authority me hereunto enabling, do hereby order that the public land hereinafter described be, and the same is, hereby set aside for the following public purposes:

FOR Addition to General Lyman Field, to be under the control and management of the Department of Transportation (Airports Division).

All of that certain parcel of land situate at Waialae, South Hilo, Island of Hawaii, State of Hawaii, more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made a part hereof, said exhibits being, respectively, a survey description and survey map prepared by the Survey Division, Department of Accounting and General Services, State of Hawaii, both being designated C.S.P. No. 16,740 and dated August 29, 1972.

SUBJECT to disapproval by the legislature by two-thirds vote of either the Senate or the House of Representatives or by majority vote of both, in any regular or special session next following the date of this Executive Order.

In Witness Whereof, I have hereunto set my hand and caused the Great Seal of the State of Hawaii to be affixed.

Done at the Capitol at Honolulu this 5th day of March, Nineteen Hundred and 73

Quinn-Burns
Governor of the State of Hawaii

Approved as to form:
David Y. Y. Chang
Deputy Attorney General

Dated: Feb 1, 1973



STATE OF HAWAII

SURVEY DIVISION

DEPT. OF ACCOUNTING AND GENERAL SERVICES
HONOLULU

August 29, 1972

C.S.F. No. 16,740

ADDITION TO

GENERAL LYMAN FIELD

NEW TERMINAL FACILITIES

Waiakea, South Hilo, Island of Hawaii, Hawaii

Being a portion of the Government (Crown) Land of Waiakea

Beginning at the northwest corner of this parcel of land, on the southwest corner of Parcel 2, Addition to General Lyman Field (Extension to Runway 8-26), Governor's Executive Order 2134, the coordinates of said point of beginning referred to Government Survey Triangulation Station "HALAI" being 488.32 feet North and 18,063.89 feet East, as shown on Government Survey Registered H.T.S. Plat 919-B, thence running by azimuths measured clockwise from True South:

1. 266° 19' 2003.03 feet along Parcel 2, Addition to General Lyman Field (Extension to Runway 8-26), Governor's Executive Order 2134;
2. 270° 00' 2668.93 feet along Parcel 1-A, General Lyman Field (Extension to Runway 8-26), Governor's Executive Order 2025;
3. 324° 49' 757.61 feet along Lot 47-D-3-B (Map 13) of Land Court Application 433;
4. 9° 57' 30" 1696.70 feet along Lot 47-D-3-B (Map 13) of Land Court Application 433;
5. 90° 00' 4931.77 feet along the remainder of Government Land, and along the Hawaii National Guard Site, Governor's Executive Order 1562;
6. 180° 00' 900.00 feet along the Hawaii National Guard Site, Governor's Executive Order 1562;
7. 116° 33' 54" 447.21 feet along the Hawaii National Guard Site, Governor's Executive Order 1562;

EXHIBIT "A"

A18-2

CSF No. 16,740

August 29, 1972

-2-

8. 90° 00' 600.00 feet along the Hawaii National Guard Site, Governor's Executive Order 1562;
9. 179° 58' 30" 918.38 feet along Parcel "A", General Lyman Field, Governor's Executive Order 1519;
10. 269° 56' 30" 768.34 feet along Parcel "A", General Lyman Field, Governor's Executive Order 1519;
11. 267° 50' 234.89 feet along Parcel "A", General Lyman Field, Governor's Executive Order 1519;
12. Thence along Parcel "A", General Lyman Field, Governor's Executive Order 1519, on a curve to the left with a radius of 100.00 feet, the chord azimuth and distance being:
235° 05' 108.20 feet;
13. 202° 20' 77.50 feet along Parcel "A", General Lyman Field, Governor's Executive Order 1519, to the point of beginning and containing an AREA OF 284.466 ACRES.

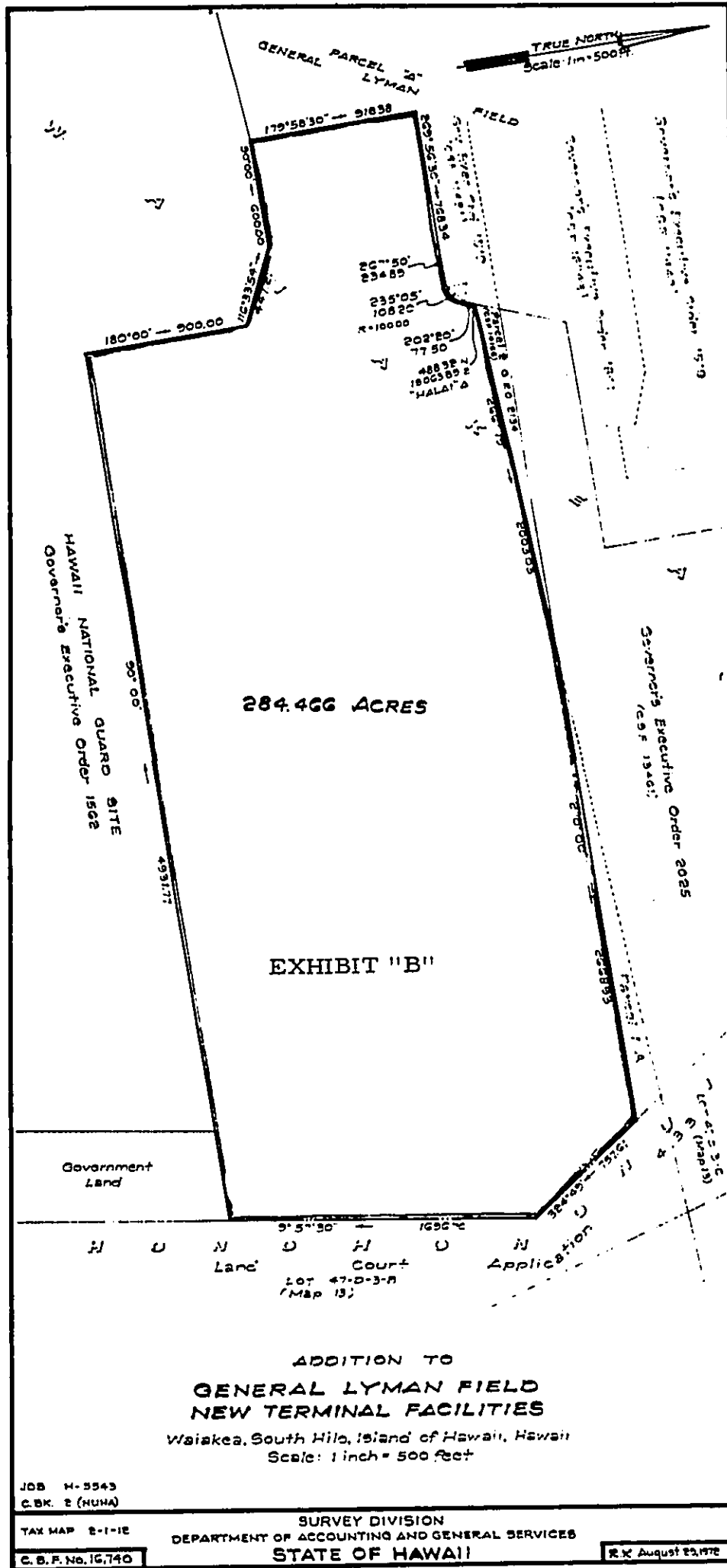
SURVEY DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

By: Paul T. Nuha
Paul T. Nuha
Land Surveyor

Compiled from map
furn. by Airport Div.,
Dept. of Trans. and
Govt. Survey Records.

11

A18-3



A18-4

Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

ATTACHMENT 19

HILO AIRPORT ADVISORY COMMITTEE

Owen Miyamoto, Chairman

<u>Name</u>	<u>Company</u>	<u>Address</u>
Mr. Bill Thibadeau	Hilo Transportation & Terminal Company	187 Silva Street, Hilo, Hawaii 96720
Mr. Albert Slim Holt	Holt Budget Rent-A-Car	General Lyman Field, Hilo, Hawaii 96720
Mr. Anthony Phillips	Phillips' U-Drive Inc.	1690 Kamehameha Avenue, Hilo, Hawaii 96720
Mr. Bill Davis	Nanihoa Hotel	495 Kilohana Street, Hilo, Hawaii 96720
Mr. Carl Saito	Carl Saito, Inc.	Alaloa Road, Hilo, Hawaii 96720
Mr. Andy M. Hayashi	Mr. Papaya Cooperative, Inc.	866 Mililani Street, Hilo, Hawaii 96720
Mr. Jim Carras	Honolulu Iron Works	1266 Kamehameha Avenue, Hilo, Hawaii 96720
Mr. Dick Segawa		160 Kamehameha Avenue, Hilo, Hawaii 96720
Mr. Shigeru Sakata		Kamuela, Hawaii 96743
Mr. William McPeek,	Kohala High School, Principal	Honomakau, Kohala, Hawaii 96755
Mr. Wes Keliikipi	c/o Jacob Keliikipi	Kealakekua, Kona, Hawaii 96750

<u>Name</u>	<u>Company</u>	<u>Address</u>
Mr. John Rodrigues	Avis Rent-A-Car	General Lyman Field, Hilo, Hawaii 96720
Mr. Nat Wolozin		Kahaluu, Kona, Hawaii 96740
Mr. Bill Kimi	Hilo Bay Hotel	437 Banyan Drive, Hilo, Hawaii 96720
Mr. Stanley Norikawa	Waimea Elementary and Intermediate School, Principal	Kamuela, Hawaii 96743
Mr. Alvin Tanaka		307 Kanoelani Street, Hilo, Hawaii 96720
Mr. John Ah Ho Lee	I. L. W. U.	100 W. Lanikaula Street, Hilo, Hawaii 96720
Mr. Randy Ahuna	Keaukaha-Panaewa Association	1010 Kalaniana'ole Avenue, Hilo, Hawaii 96720
Mr. Howard Mimaki	Occidental Underwriters of Hawaii	138 Kinoole Street, Hilo, Hawaii 96720
Mr. Harry Hara	Standard Drug Co., Ltd.,	230 Kamehameha Avenue, Hilo, Hawaii 96720
Mr. Northrop Castle	Hawaii Island Chamber of Commerce, President	
Mr. Bert Nakano	Operating Engineers - Local Union No. 3	Room 217, Lycurgus Bldg., Hilo, Hawaii 96720
Mr. Howard Oshiro	Firemen's Fund American Underwriters of Hawaii, Inc.	Hilo Hotel Building Hilo, Hawaii 96720
Mr. Tony Taniguchi	Taniguchi Super Markets	50-E Puainako Street Hilo, Hawaii 96720

Final Environmental Impact Statement

ATTACHMENT 20



STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

IN REPLY REFER TO
AIR-EB 1632

April 27, 1973

FUJIO MATSUDA
DIRECTOR

C. ALVEY WRIGHT
DEPUTY DIRECTOR

LAWRENCE F. O. CHIU
DEPUTY DIRECTOR

MUNNY Y. M. LEE
DEPUTY DIRECTOR

NICHOLAS S. SAKAMOTO
DEPUTY DIRECTOR

Mr. Jack G. Webb
Director-Pacific Region
Federal Aviation Administration
P.O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Webb:

Subject: ADAP Project 8-15-0004-02
General Lyman Field
Hilo, Hawaii

In conjunction with the State of Hawaii's proposed project for airport improvements, and to be in conformance with Federal Regulations currently in effect governing airport development, particularly those of an environmental nature, the following is submitted:

Relative to the ADAP Project No. 8-15-0004-02, construction of new passenger terminal apron, General Lyman Field, Hilo, Hawaii, as pertaining to Section 16(c)(1)(A), (c)(3), (c)(4), (d), (e) and (f), of the Airport and Airway Development Act of 1970, there has been no opposition either expressly or by proposed revision of the project by any federal, state or local government agency or by any persons except as follows:

The Airline Committee of Hawaii, composed of Representatives from Transpacific Carriers and inter-island carriers have opposed the planned development of General Lyman Field, based on the economics of aircraft operation, the effect of fluctuations in passenger traffic, and a difference of opinion in the concept of development e.g. New Terminal and ancillaries versus extensive, interim modifications to existing facilities.

A20-1

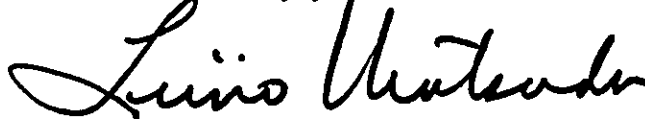
Mr. Jack G. Webb
Page Two
April 27, 1973

The West Hawaii Committee objects to the development, based on their dissatisfaction with the Environmental Impact Statement, specifically in the area of air and noise pollution. Other objections appear to be geopolitical in nature and presumes to present an economic comparison between development of General Lyman Field and expansion of Ke-ahole Airport on the West Hawaii Kona Coast.

The Environmental Impact Statement provides adequate rebuttal to both opposing committees.

Should further details be desired, your inquiry will receive prompt attention.

Very truly yours,



Fujio Matsuda
Director

APPENDIX I

Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

APPENDIX 1

COMMENTS ON
PRELIMINARY ENVIRONMENTAL IMPACT STATEMENT

The letters listed below, commenting on the Preliminary Environmental Impact Statement were received by the State of Hawaii Clearing House and a copy of each is attached in this Appendix.

	<u>Agency or Organization</u>	<u>Date of Letter</u>	<u>Page No.</u>
1.	State Department of Planning and Economic Development	October 8, 1971	1-5
2.	State Department of Planning and Economic Development	October 12, 1971	1-6
3.	Planning Department - County of Hawaii	October 1, 1971	1-7
4.	State of Hawaii - Department of Defense	September 17, 1971	1-9
5.	Life of the Land - by James Hughes	October 8, 1971	1-10
6.	Life of the Land - by James Hughes	October 13, 1971	1-13
7.	State Department of Land and Natural Resources	September 21, 1971	1-15
8.	State Department of Land and Natural Resources	November 2, 1971	1-16
9.	State Highways Division	October 13, 1971	1-18
10.	University of Hawaii Environmental Center	October 19, 1971	1-19
11.	State Department of Health	October 21, 1971	1-22
12.	State Office of Environmental Quality Control	January 31, 1972	1-24
13.	State of Hawaii - Land Use Commission	June 5, 1972	1-25

The following describes the issues raised in each letter of comment and states also where those items were considered in the final version of the Environmental Impact Statement.

The first two letters summarized the comments which were submitted in letters No. 3 through 7, and the respective actions taken are discussed below with each individual letter.

Letter No. 3 was received from the Planning Department, County of Hawaii. It commented on potential traffic problems at the Kanoelehue-Kekuanaoa intersection and additions were made to the Environmental Impact Statement on Page 12 (second paragraph) and Page 38 (second and third paragraphs of Subsection 8). Reference was made in the letter to a statement on the water table and the affected paragraphs in the Environmental Impact Statement were revised (Page 13, third paragraph). Letter No. 3 suggested that underground fueling be considered. This problem is discussed on Page 15 of the Statement. Finally, concern was expressed over special land use permits and zoning changes which are discussed on Page 15, Sub-section 13 of the Statement.

Letter No. 4 from the State Department of Defense suggests a new phrasing of the chapter on land transfer which was subsequently incorporated on Page 4.

Letters Nos. 5 and 6 present several comments from the organization "Life of the Land". Letter No. 5 begins with requesting more information on the existing terminal. Consequently, Subsection 4 on Page 1, was considerably expanded and a plan of the existing terminal was added as attachment 4. The requested information on the long-range development plans was incorporated in Subsection 5 on Page 3, and also indicated on Attachments 3 and 5. More information on the future capabilities and expansion of the new terminal was added on the bottom of Page 4 and in the first paragraph of Subsection 6 on Page 6. More details were included on the bottom of Page 7 and on top of Page 8 to describe better the Hawaiian character, landscaping and art forms to be displayed at the new terminal.

Letter No. 5 continues requesting a comparison between the new and existing aircraft apron. Table 1, Page 5, and a comparison between Attachments 3 and 4, respond to this request. Table 1, Page 5, answers also the request for a comparison between new and existing parking facilities. As further suggested in this letter, Subsection 11 on Pages 12, 13 and 14 and Subsection 12 on Pages 14 and 15, were expanded to give more information on the utilities and storm drainage system for the proposed project. The letter suggests also consultation of USGS Circular 645. This circular was used as a check list when preparing this Environmental Impact Statement to insure that all aspects of the environment are adequately covered. The impact of construction activities for the terminal, including restrictive provisions in the construction specifications and available methods for waste disposal are covered in Section B on Pages 18 and 19. A bibliography of related studies was also suggested and a list on Page 20 provide for this request. Letter No. 5 questions also the clearing activities

performed in 1970 to obtain topographic information. A sentence was added on Page 22, explaining that the clearing preceded the issuance of the Environmental Protection Act Guidelines.

On the last page of letter No. 5, several issues were raised which are commented upon in the Environmental Impact Statement as follows. The effects of construction noise are described on Page 18. Detailed information on the visual improvement by the new terminal is evident by comparing the last paragraph of Subsection 4 on Page 3, with the description of the new buildings in Subsection 7 on Page 8. The chart on Page 5, gives the requested data on parking and vehicular traffic is covered on Pages 12 and 29. With respect to Subsection 9 on Page 38, a reference to archaeological studies was added on this page as requested in letter No. 5. Referring to comments on birds and wildlife in letter No. 5, Sub-section 10 and 11 on Page 39, were adjusted to incorporate comments subsequently received from the U. S. Fish and Wildlife Service (see also letter No. 5 in Appendix 3). Comments requested on pollution are covered in Subsections 12 and 13 of the Environmental Impact Statement.

Letter No. 6 is a continuation of the comments offered in letter No. 5 and deals with Section E of the Environmental Impact Statement. This section was expanded to respond to the suggestions, including a more detailed description of the overcrowding at the existing terminal and the operations at Ke-ahole Airport. Sections F and G, were re-drafted and expanded considerably due to the comments in letter No. 6, and also to be more explicit with respect to the long-range productivity of the area served by the airport. Finally, letter No. 6 raises questions on financing of the project (covered on Page 74), relationship to other airport facilities (Attachment 1 was added to the Environmental Impact Statement), future expansion plans, County and users' views (see Page 45 on community interests), change of land use patterns (discussed on Page 73) and long-range goals (discussed on Page 67).

Letter No. 7 from the State Department of Land and Natural Resources was modified by subsequent letter No. 8 from the same department, which outlined in detail the review procedures for adjustments to airport boundaries and encumbrance of State land.

Letter No. 9 from the State Highways Division gave the assurance that the increase in traffic generated by the new terminal facilities will be incorporated in the forthcoming design of adjacent State highways. It also stated that they have no objection to the proposal and the project may be cleared for Federal Application.

Letter No. 10 was submitted by the University of Hawaii, Environmental Center. In response to its question on future growth, a statement was added on Page 36, saying that growth in air traffic is not affected by the terminal size. In Section B, Page 14, the paragraph on air pollution was reworded in response to the comment on Page 1 of letter No. 10. The treatment of borrow pits was added on Page 15. Comments on drainage provisions were incorporated into Subsection 10 on Page 11. This letter raises also questions on sewage disposal monitoring of the effluent, connection to the County sewer system and operation of the disposal facilities. The description on Pages 10 and 11 was reworked with those questions in mind. The comments on noise pollution were incorporated in Subsection 9, Pages 20 through 27 and Attachments 9, 10 and 11, which now offer a more explicit treatment of this problem. Finally, the comments on traffic problems were incorporated on Pages 9 and 29 of the Environmental Impact Statement.

Letter No. 11 from the State Department of Health, states that this agency approves of the general proposal to expand the airport facilities at Hilo. It requests, however, better coverage in the Statement of some areas of concern. It requests information the the alternative of connection to the County sewer system (added on Page 11) and tests to determine dispersal of the sewage plant effluent (discussed also on Page 11). It suggested rewording of the statement on air pollution control in the second paragraph on Page 14, which was done. It raised the question on air-conditioning the buildings. In the meantime, it was decided to provide air-conditioning for the office, food preparation, food serving and passenger waiting areas, as stated on Page 7. The effect of noise in the vicinity was also noted in this letter. An expansion of Subsection 6, Pages 20 through 27, now deals extensively with this problem.

Letter No. 12 was submitted by the State Office of Environmental Control, concurring that the new terminal will alleviate the present inadequate facilities. This letter also states that this agency is supporting the project goals and believes that sufficient environmental precautions have been considered to minimize the unavoidable short-termed environmental impact.

Letter No. 13 informs the State Department of Transportation that reclassification of the land for the new terminal from "Agricultural" to "Urban" was approved.

The pages following are copies of letters Nos. 1 through 13, described above. The notation "See E. I. S., pg. ____" has been stamped across the margin of these letters, indicating on which page the requested information appears in the Final Environmental Impact Statement.



DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT

P. O. BOX 2359 • HONOLULU, HAWAII 96804

STATE OF
HAWAII

October 8, 1971

LETTER NO. 1

JOHN A. BURNS
Governor

SHELLEY M. MARK
Director

EDWARD J. GREANEY, JR.
Deputy Director

Mr. Owen Miyamoto, Chief
Airports Division
Department of Transportation
Honolulu International Airport
Honolulu, Hawaii 96819

Dear Mr. Miyamoto:

Subject: State Clearinghouse Review of Federal
Grant Application for New Airport Terminal
Building, Hilo, Hawaii; OMB Circular A-95

Your letter of notification was circulated to agencies whose programs or projects might be affected by the proposed project. All responses from the County of Hawaii were in support of the application. The State Department of Land and Natural Resources offered the following comments:

"Because this application may result in an agreement between the State and the Federal government regarding airport boundaries, we request the opportunity to review justifications for use of lands within the present airport boundary and review any encumbrance of State lands resulting from a Federal aid agreement prior to such encumbrance. Also, review of any existing State-Federal agreements covering Lyman Field is desired."

The State Department of Defense offered the following comments:

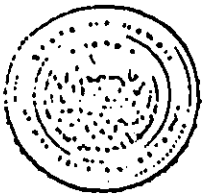
"While it is true that this land has been set aside by executive order primarily to support the administration and training of the Hawaii National Guard, it is, and has been in the past, made available upon request for other governmental and public uses when such uses do not adversely affect the mission accomplishment of the Hawaii National Guard."

It is suggested that you discuss these points with the two agencies concerned prior to submission of your application. If all concerns are resolved, you may file your application with the knowledge that it has complied with the State Clearinghouse review procedures established for Hawaii pursuant to OMB Circular A-95.

Sincerely,

E. J. Greaney, Jr.
✓ Shelley M. Mark

cc: DLNR
DOD



STATE OF
HAWAII

DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT

P. O. BOX 2339 • HONOLULU, HAWAII 96804

LETTER NO. 2

JOHN A. BURNS
Governor

SHELLEY M. MARK
Director

EDWARD J. GREANEY, JR.
Deputy Director

October 12, 1971

Mr. Owen Miyamoto, Chief
Airports Division
Department of Transportation
Honolulu International Airport
Honolulu, Hawaii 96819

Dear Mr. Miyamoto:

Subject: Draft Environmental Impact Statement
for the Proposed New Passenger Terminal,
General Lyman Field, Hilo, Hawaii,
Project No. H-91, File: AIR-EB 7612

Copies of your draft statement were sent to State and County agencies and private organizations for review and comment. They were requested to submit their comments by October 8, 1971. To date comments have been received from Hawaii County Planning Department, State Department of Defense, and Life of the Land. Copies of their letters are attached for your use. If other comments are received, they will be forwarded to you.

We call your particular attention to the comment from Hawaii County citing the need for a Special Permit or a State land use boundary change to allow the construction of the proposed terminal. This action should be initiated very soon because of the time involved in processing the application.

You may also wish to respond to the Planning Department's inquiry about the handling of aviation fuel. A copy of your final statement should be filed with the Office of Environmental Quality Control.

Sincerely,

E. J. Greaney, Jr.
Shelley M. Mark

Attachments 3

cc: OEQC



PLANNING DEPARTMENT

25 AUPUNI STREET • HILO, HAWAII 96720

HIJUNICHI KIMURA
Mayor

RAYMOND H. RUIFUJI
Director

COUNTY OF
HAWAII

October 1, 1971

DPED
OCT 6 1971

Dr. Shelley M. Mark, Director
Dept. of Planning & Economic Development
P. O. Box 2359
Honolulu, Hawaii 96804

Re: Draft of Environmental Impact Statement for Proposed
New Airport Terminal, Hilo, Hawaii

Thank you for sending us the subject report to review. Our comments
are as follows:

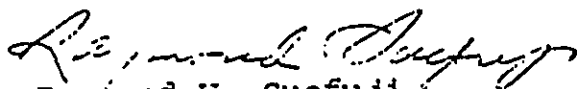
1. We suggest an addition to the section on Probable Impact of the project on Human and Natural Environment, page 13. Perhaps mention should be made that a total shift of vehicular traffic will result. There will be a great impact on traffic patterns. That portion of Kanoelehua-Kekuanaoa is presently narrow in pavement width but already heavily traveled. State-County coordination would be needed to tie in exterior road improvements at least concurrent with the new access.
2. Page 16, "the water table will not be affected by the new terminal as domestic water will not be drawn... ." This statement seems to infer that a water table pertains only to domestic, potable supply; whereas, in fact, with the shift in percolation or seepage patterns, the water table itself, regardless of its specific ultimate use, may very likely be altered. We do agree that it would not affect the domestic potable water source (verified by our Water Department) since the wells being used are 16,000 feet away.
3. We recall your stating that underground fuel lines directly from the wharf storage area to the new terminal would be impractical due to cost. Would it be feasible to consider, at least, lines from the present terminal to the new proposed terminal so that fuel trucks would not need to constantly commute over the full length of the route in competition with other less volatile vehicles. Since there would be entrenching along the new access anyway, there would need to be only about 2,000 feet of additional entrenching from the old terminal to the straightaway portion of your new road.

See E. I. S., PG. 12 and 38
See E. I. S., PG. 12
See E. I. S., PG. 15

Dr. Sholley Mark
Page 2
October 1, 1971

May we advise you at this time that according to County and State zoning regulations, either a Special Permit from the Land Use Commission (processed through the County) or a State Boundary Change (Agriculture to Urban) followed by County zoning would be needed in order for the development and building to commence as planned if the State intends to be governed by the same regulations by which the general public must abide.

In anticipation of the myriad of uses (leases to U-Drive operations, other concessionaires, restaurants, etc.) which could occur at the airport, we suggest a Special Permit procedure by the State for the time being until there is more permanently defined the proposed mixed uses, their compatibility, and the public need. We express this concern because not all the uses commonly found in airports today can be deemed accessory to the principal airport use and we feel some control is desirable.


Raymond H. Suefuji
Director

DT:mh

See E. I. S., pg. 5



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

17 SEP 1971

HWENG

Dr. Shelley M. Mark
Director, Department of Planning & Economic Development
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Dr. Mark:

Reference is made to your letter dated September 9, 1971, subject:
Draft of Environmental Impact Statement for Proposed New Airport Ter-
minal, Hilo, Hawaii.

The draft environmental impact statement has been reviewed and this office concurs in the contents thereof, with the exception of the second sentence in the first paragraph under Section G. While it is true that this land has been set aside by executive order primarily to support the administration and training of the Hawaii National Guard, it is, and has been in the past, made available upon request for other governmental and public uses when such uses do not adversely affect the mission accomplishment of the Hawaii National Guard.

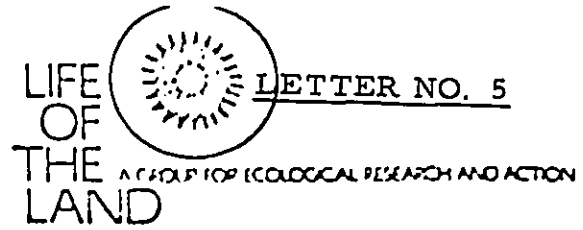
It is suggested that a better phrasing of this passage would be:
"The past and present use of the land for the project is for training of the Hawaii National Guard. Withdrawal of the land from National Guard use and use of it for construction of the proposed new airport terminal will not adversely affect the mission accomplishment of the National Guard and will more fully commit it to an overriding public use."

Very truly yours,

Benjamin J. Webster
BENJAMIN J. WEBSTER
Major General, HANG
Adjutant General

See E. I. S., PG. 4

OCT 8 1971



October 8, 1971

COMMENTS on the Draft Environmental Impact Statement for the Proposed New Airport Terminal at Hilo, Hawaii.

by James Hughes of Life of the Land

Part A I have found not to be specific enough nor clear enough in describing the new air terminal and its purpose.

Section one, second paragraph: This paragraph is insufficient for stating reasons why the present terminal is inadequate for the needs of the immediate future. The paragraph should be far more explicit than it is. In what ways is the present terminal inadequate for the needs of the immediate future? Is it inadequate because of the new FAA regulations or for other reasons. The paragraph should cite reasons why the present terminal is inadequate for the immediate future. The paragraph should give the County of Hawaii's and the organizations that will use the new terminal views on why the present terminal is inadequate for the immediate future. The paragraph should define how long of a time is the immediate future.

See E.I.S., pg. 1

Section two: This section should give at least a summary of the long range development plan for General Lyman Field. Without at least a summary of this plan the impact statement would be unable to show or relate this project to the general context of the future of General Lyman Field. Why is the terminal going to house aircraft larger than the 747, is this needed? And if so, why? Does the listing of the new passenger terminal facilities include all of them? These questions should be answered in this section. The section should also include the present and past uses of the land being transferred, and explain on what priorities the decision was made to transfer the land. Doesn't the usage of conservation land for an airport facility require approval from the Board of Land and Natural Resources?

See E.I.S., pg. 3

Section three: The section should make the first purpose mentioned more explicit. How far in the future is the proposed expansion going to be able to safely serve the needs of the future? What studies or information do you have to merit the capabilities for future expansion? These questions the section should answer.

See E.I.S., pg. 4 and 6

Section four: The first paragraph should be more explicit in explaining and describing what the planned and orderly expansion of the terminal complex will be like. The last paragraph should point out in what specific ways the use of native materials will give a Hawaiiana.

See E.I.S., pg. 7 and 8

Section five: The first paragraph should include a comparison of the proposed terminal aircraft apron to the present aircraft apron.

See E.I.S., pg. 5

Section six: The first paragraph should include at least a summary showing and explaining the capabilities of the present road compared to the proposed one. It should include reasons why the proposed new parking will be better than existing facilities. Both of the paragraphs give an inadequate comparison between proposed

See E.I.S., pg. 5

and old road facilities, this should be remedied.

Section seven: The first paragraph should include the amount of power that will be used and for what purposed the power will be used. The third paragraph should be more explicit in talking about the new type of sewage plant, things like capabilities to meet need, construction costs, method of treatment, and other similar things should be included. All three paragraphs should include the views of the County of Hawaii on the things mentioned in this section. The paragraphs should include an examination of the water usage capabilities related to the proposed usage of water. The paragraphs should include an examination of how the proposed need for public utilities related to the capabilities of the County to provide public utilities. The paragraphs should show the priority of the proposal in relation to future developments of Hilo in regards to public utilities and water usage. The paragraphs should include reasons for and against the proposal in relation to public utilities.

Section 8: The second paragraph should cite reasons why and how the vehicle parking lot drainage system will be sufficient for the need. The third paragraph should be more explicit in describing silt removal from drainage structures.

I have found part A of the draft environmental impact statement not specific and clear enough in describing the new terminal and its purposes. I hope that you will take my comments into consideration in the preparation of the final environmental impact statement.

Part B I have found to be in adequate in description. I suggest very strongly that for the preparation of the final environmental impact statement that Geological Survey Circular 645 entitled " A Procedure For Evaluating Environmental Impact." be consulted and used in the process. The circular is free on application to the U.S. Geological Survey, Washington, D.C. 20242. This circular can give you a much better idea as to what environmental impact statement should really be like.

The first paragraph of part B fails ot mention fhe actual construction of the terminal as an activity where environmental quality may be a problem. I think it might be a problem because construction involves noise, littering of an area, and transportation of construction materials. This, I feel, should be included.

The second paragraph should include the provisions that will be included in the construction specifications to ascertain that the criteria for environmental control during construction are met and the criteria for environmental control. The paragraph should mention the criterion of accepted air pollution.

The third paragraphs should include where the contractor will be able to dispose of the liquid waste materials.

The fourth paragraph should include where the contractor will dispose of all solid waste material. This waste has to go somewhere and so where will it go? This paragraph should have at least a summary of the methods the contractor will use in disposing of waste materials.

I was discouraged by part C.

Section one: This section desperately needs a bibliography of related studies that were conducted and all available sources of information used. This would make the impact statement much more complete. A summary of each related study that was done would also improve upon the present impact

See E.I.S., pg. 12, 13 and 14

See E.I.S., pg. 14 and 15

See E.I.S., pg. 18 and 19

See E.I.S., pg. 20

statement.

"The terminal site was cleared in 1970." Does this mean that you have started building the new airport terminal before even finishing the preparation of the draft environmental impact statement?

SEE E.I.S. PG. 22

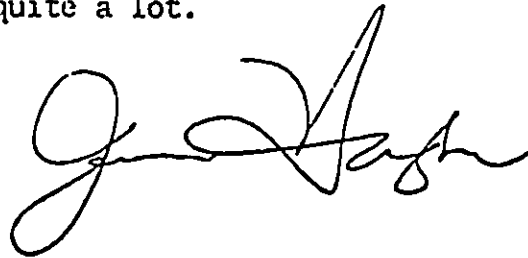
Section two: The first paragraph should include the effects of the construction noise of the proposed new terminal. The second paragraph should give a more detailed comparison on how the proposed terminal will be a visual improvement. The third paragraph should give a more detailed comparison between the proposed and the present parking lots. Things like a chart showing the car, bus, and taxi parking availability should be included. The third paragraph should include a detailed description of how the proposed access road will affect traffic in Hilo, especially Kuanaoa St. The last paragraph should include archeological study references in order to back up your claim that points of historic interest are not known to exist in the immediate vicinity.

SEE E.I.S. PG. 19, 21 & 38

Section three: The second paragraph should include reasons why the project will not alter living patterns of any birds in that area. The paragraph should be more specific in giving reasons why wild life should not be affected. The third paragraph should be more specific on types of pollution involved and should define what would constitute a significant increase in air and water pollution.

SEE E.I.S. PG. 29 & 40

The rest of the impact statement I found equally if not more incomplete. I will submit the rest of my comments Monday. I also urge upon you to use the Geological Survey circular 645. It would help you quite a lot.



ATTENTION: DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT
RE: EVALUATION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE NEW PROPOSED TERMINAL AT HILO AIRPORT

October 13, 1971

submitted by: James Hughes, Life of the Land, 899 Waikeolu St.

Part E of the Draft E.I.S.

This part should include a set of criteria for judging the merits and disadvantages of the different alternatives. These should then be explained in great detail, including analysis and descriptions of financial cost, burden thereof, construction time, handling capacities for local traffic and aircraft, etc. Then each alternative should be compared in relationship to these criteria. Most importantly, reasons for justification must be included.

It is my personal feeling that many forms of growth we are experiencing in the State of Hawaii must stabilize or decline so that the people, unmistakably, benefit rather than those few powerful individuals and corporations who often enter and more often, form the picture. Population must be controlled to provide the highest quality of life for the present residents of Hawaii. Tourism, must also be controlled, as I feel we are now experiencing the greater detrimental effects of this carelessly expanding industry upon our people and our environment. It is my hope that the airport provide an efficient, clean, and reasonable means of transportation rather than a foreign trade zone for the importation of more and more people whose living needs will be borne by all the people of the State.

This draft impact statement does not justify the expansion of new terminal facilities. What other justification can you bring forth besides the present non-compliance with the regulations?

I found part F and G to be almost worthless. I recommend that you use your imagination more so as to realize some commitments of resources which were glaringly overlooked. Once again I urge you to use the U.S. Department of Interior's Geological Survey Circular 645.

These are questions and comments that I feel should be answered or discussed in the impact statement: What will the total cost of the new terminal be? Who will pay the money for the project? Under what Federal program will Federal financial assistance come? Why hasn't the cost in money been considered as an irretrievable commitment of resources? Don't forget the man hours, energy, materials that are expended in construction. Why has this not been considered as an irretrievable commitment of resources? What priority does this project have in relationship to other government projects? What relationship does this project have with the whole system of the state's aircraft facilities?

See E.I.S., pg. 19 thru 67

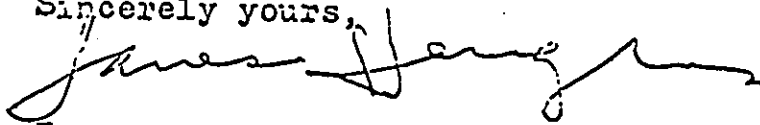
See E.I.S., pg. 67 thru 76

See E.I.S., pg. 74

Is this planned expansion just a reaction to what's happening or is it an effort to direct what is happening. What relation does this project have with the future expansion and use of "General Lyman Field"? What are the county of Hawaii's and the air users' views upon this development? What studies and analyses have been done, if any, to demonstrate for or against the justification of the project. What will happen to the Hawaiian Home lands in Keaukaha? How will these people be affected. In what specific ways will the land use patterns near the airport change. In what context and by what authority will these changes be defined as favorable or detrimental. What are the long range goals of the project?

I regret to say that the draft environmental impact statement for the expansion of the terminal facilities at Hilo is very insufficient and very incomplete. It does not provide community organizations and members of the public with truthful figures, projections, policies, and necessary information. I cannot evaluate the project on the information provided in the draft E.I.S.

Sincerely yours,


James Hughes

September 21, 1971

Dr. Shelley M. Mark
Director
Dept. of Planning & Economic Dev.
State of Hawaii
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Dr. Mark:

Proposed Federal Grant Application
Airport Terminal, Lyman Field

We have reviewed the notice of a proposed application for federal aid to construct a terminal building at Lyman Field.

Since the proposed project lies in part on lands under Executive Order to the Hawaii National Guard, we suggest that a copy of the notice be routed to them for comments.

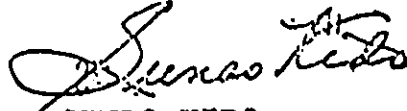
Because this application may result in an agreement between the State and the Federal government regarding airport boundaries, we request the opportunity to review justifications for use of lands within the present airport boundary and review any encumbrance of State lands resulting from a federal aid agreement prior to such encumbrance. Also, review of any existing State-Federal agreements covering Lyman Field is desired.

We are presently examining the environmental impact statement for this project and will comment in this regard in the near future.

Thank you for the opportunity to comment on the subject matter.

Very truly yours,

BOARD OF LAND AND NATURAL RESOURCES



SUNAO KIDO
Chairman and Member

cc: Dept. of Transportation
Hawaii National Guard



DIRECTOR'S OFFICE

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

Nov 11 3:41 PM

STATE OF HAWAII

DEPT. OF
TRANSPORTATION

DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621

HONOLULU, HAWAII 96809

November 2, 1971

Dr. Fujio Matsuda
 Director
 Department of Transportation
 State of Hawaii
 Honolulu, Hawaii

Dear Dr. Matsuda:

The October 8, 1971 letter to the Airports Division by the Dept. of Planning and Economic Development refers. The letter concerns clearinghouse review for the new airport terminal proposed for Lyman Field in Hilo.

The letter conveys our request to review justification for use of lands in the Hilo airport boundary prior to encumbering such lands by Federal aid agreement. It also expresses our request to review all such agreements presently covering Lyman Field.

Recently, we discussed with Mr. Izumi of the Airports Division, possible arrangements for setting up such a review. However, our discussions led us to conclude that:

1. Justifications for additions to airport boundaries are required prior to issuance of executive orders for such additions.
2. The executive order must have been executed prior to executing the federal aid agreement.
3. In rare instances, where lands were found to be surplus to airport needs, such lands have been released from airport use.

Dr. Fujilo Matsumida

-2-

November 2, 1971

4. Statutes require release of lands under executive order if such lands are no longer used for the purposes stipulated by the order.
5. Non-airport uses may be made of marginal airport lands if such uses do not conflict with airport use.
6. It is common practice in federal aid agreements to encumber lands to the use for which federal aid is given.
7. The requirement of a review of airport land utilization prior to making federal aid agreements would be extraordinary to present practice.

Accordingly, and in view of State commitment to improving Lyman Field facilities, we are withdrawing our original comments to the State Clearinghouse Review. To inform the review agency of our decision, a copy of this letter is being sent to the Department of Planning and Economic Development.

Very truly yours,

BOARD OF LAND AND NATURAL RESOURCES



SUNAO KIDO
Chairman and Member

cc: DPED
Airports Division

JOHN A. BURNS
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
800 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

OCT 13 1971

OCT 15 REGD

FUJIO MATSUDA
DIRECTOR
E. ALVEY WRIGHT
DEPUTY DIRECTOR
LAWRENCE F. O. CHUN
DEPUTY DIRECTOR

LETTER NO. 9

IN REPLY REFER TO:

HWY-PS
2.96412

Honorable Shelley M. Mark
Director
Department of Planning and
Economic Development
1010 Richards Street
Honolulu, Hawaii 96813

Attention: Mr. Frank Skrivanek
State Planning Coordinator

Dear Dr. Mark:

Subject: State Clearinghouse Review of Federal
Grant Application for a new Airport
Terminal Building, Hilo, Hawaii;
OMB Circular A-95

The subject project has been reviewed by the Highways
Division, Department of Transportation.

Please be advised that we have no objection to the proposal
and the project may be cleared for Federal application.

The increase of traffic due to the expanded facilities have
been considered and will be incorporated in the design of
Kanoelehua Avenue widening project. The access location on
Kanoelehua Avenue may have a significant effect with respect to
airway-highway clearance. These and other points which the
Highways Division is concerned will be coordinated with the
Airports Division.

Thank you for this opportunity to comment on this matter.

Very truly yours,

A handwritten signature in cursive script, appearing to read "T. Harano".

T. HARANO
Chief
Highways Division

UNIVERSITY OF HAWAII

Environmental Center

Office of the Director

October 19, 1971

MEMORANDUM

TO: Shelley Mark, Director
Department of Planning & Economic Development

FROM: Jerry M. Johnson

SUBJECT: Environmental Impact Statement for Proposed
Terminal at Lyman Field, Hilo, Hawaii

This memo is in response to your request for University assistance in evaluating and commenting on the environmental impact statement for the proposed terminal at Lyman Field, Hilo, Hawaii. Harold L. Baker, Land Study Bureau, Michael J. Chun, School of Public Health, Gordon L. Dugan, Department of Civil Engineering and Jack R. Healy, Hilo College, assisted the Environmental Center in preparing this response.

Planning and engineering can be effective tools for controlling the future growth of areas in which migration is the primary factor influencing population changes. Since population changes affect economic activity, planning decisions have to consider not only the growth potential of the community, but also the growth a community desires. Concerning this impact statement, a decision as to what the future growth of Hawaii County will be has apparently been made defacto. Thus a pertinent question would be "is this what the citizens of Hawaii County desire?" Only after this question has been answered can the facilities be justified.

It is unfortunate that under present environmental law and regulations only specific projects and programs that make up part of a total plan are subjected to the environmental statement requirement at any given time. The total plan should be subjected to a similar review so that the combined environmental impact be properly assessed in relation to the total community gain from the plan.

The construction of the new terminal would appear to have very little effect upon the surrounding geographic area other than the noise, congestion and dust and other air emissions associated with construction. In relation to air emissions, under B. ENVIRONMENTAL CONTROLS DURING CONSTRUCTION, a statement is made that "emission of smoke, dust or other air pollutants from construction equipment will be controlled to accepted standards." What are the accepted standards referred to? They should be cited.

See E. I. S., pg. 45

See E. I. S., pg. 18

October 19, 1971

The general lack of soil materials eliminates to a large degree problems of soil erosion or siltation. However, it appears reasonable that landscaping of the site will require dressing with soil from another site. In that event, problems of erosion may be created at the borrow pit.

It is proposed that surface runoff from the rains be allowed to flow onto adjoining lands. The nearly level terrain in conjunction with the large additional expanse of impermeable surface covering for parking lots, road, terminal building, aircraft apron, and taxiway will require large drains or ditches to accommodate the very heavy rains that do occur, in order to prevent prolonged inundation of parking areas, aircraft apron, taxiway and terminal. The present terminal parking lot is ankle-deep and higher in water during heavy rainstorms. Furthermore the County Civil Defense Tsunami Inundation Map shows potential tsunami flooding reaching the south side of the runway paralleling the proposed terminal. These drains or ditches may require special treatment to minimize their impact environmentally.

The plans call for the discharge of treated sewage effluent into the ground through a disposal well. However, no mention is made of the depth of the well which, if insufficient, could contaminate the fresh water layer both chemically and possibly microbiologically in terms of, for example, the infectious hepatitis virus. Thus it would seem wise to continue to monitor the quality of the water in the ground-water reservoir for possible contamination from this treated sewage effluent.

In addition to the possible health hazard, warranting careful monitoring, we should point out that the nutrients from this effluent will have effects on the ecology of Hilo Harbor, to which they must be transported by the ground-water flow. If sewage effluent from the present terminal is now discharged to the ground water by a disposal well, the effects of the discharge from the new terminal will not differ qualitatively from those of the present terminal. With increased usage of the new terminal, however, there will be quantitative increases in the effects.

In general, the expectable effects are the stimulation of growth of phytoplankton and sessile algae and the possible resulting suppression of growth of coral. Appraisal of the importance of these effects is beyond the scope of this review.

We should point out the alternative means of sewage disposal, treated or untreated, via the County sewer main to the sewage treatment plant east of the Hilo Harbor breakwater. Even from the outfall from this plant, nutrients probably enter the harbor because of the permeability of the breakwater. The dilution in the ocean from this outfall may perhaps not exceed that afforded by mixing in the fresh ground water and water in the harbor, but the nutrient concentrations along the shore of the harbor would probably be decreased if the outfall were used for the sewage effluent discharge from the airport terminal.

The County of Hawaii should also consider that the type of sewage treatment plant described must be monitored and operated by qualified personnel, if the desired treatment results are to be attained. These plants

See E.I.S., pg. 19

See E.I.S., pg. 14, 15

See E.I.S., pg. 13, 14

See E.I.S., pg. 13 and 14

utilize biological processes and cannot run themselves. All too often management will fail to give these plants the necessary attention and thus the system fails. Failure could result in the passage of sewage and biological solids from the system, possibly contaminating the ground water and clogging the injection wells.

Long-term levels on air and noise pollution can be expected to increase with the anticipated increase in air traffic. At present the noise generated by aircraft on the runways is very audible four miles west in Piihonua, and is sufficiently loud at Hilo College, at times, that students in class are unable to hear their instructor. The impact of increasing noise pollution levels on the residential, commercial and business areas of Hilo should be given much more serious attention.

Finally, no consideration is given to the problem of increased traffic generated by the new terminal. The Puainako extension is in the distant future. Thus Kekuanaoa-Kanoelehua intersection will receive the bulk of this traffic. Present conditions at this intersection require the presence of a traffic policeman during rush hours. At other times left turns can be difficult.


 Jerry M. Johnson
 Assistant Director

cc: Doak Cox
 Harold Baker
 Michael Chun
 Gordon Dugan
 Jack Healy

See E.I.S., pg. 24 thru 35
 See E.I.S., pg. 1.2

JOHN A. BURNS
GOVERNOR OF HAWAII



WALTER D. QUIBENBERRY, M.P.H., M.D.
DIRECTOR OF HEALTH

WILBUR S. LUMMIS, JR., M.S., M.D.,
DEPUTY DIRECTOR OF HEALTH

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

October 21, 1971

Shelley M. Mark, Director
Department of Planning and Economic
Development
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Dr. Mark:

Subject: Draft of Environmental Impact Statement for Proposed
New Airport Terminal, Hilo, Hawaii

Our Department has completed its review of the subject Environmental Impact Statement. As a result of our review, we believe that the following comments are pertinent.

The Department of Health approves of the general proposal to expand the airport facilities at Hilo. However, we have comments on areas of concern that we believe were not adequately considered by the subject draft.

Disposal of sanitary sewage to the county system should be considered. If this alternative was considered and rejected the reasons for the rejection should be included in the Final Environmental Impact Statement. The use of ground seepage for sanitary sewage disposal is prudent only if the designer knows where the effluent will ultimately reach the ocean, if at all. A test to determine if the discharge will "short-circuit" to the ocean should be conducted prior to selection of this alternative.

In regard to potential sources of air pollution, in Section B, Environmental Controls during construction, it is stated that existing regulations will be applicable if a portable asphalt batch plant is used for the project. There are currently no air pollution regulations governing the operation of stationary sources on the island of Hawaii. In view of this situation, the statement should be worded, "required to operate in accordance with existing pollution control methods."

According to the subject statement, this project consists of the building of a new airport facility with no major changes in the runways. Regarding noise, we envision two areas in which this can become a problem:

- a. We note that the airport terminal building is not completely air conditioned and the planes, especially the inter-island ones, will be parking in an area adjacent to the new terminal building. The public and others in this

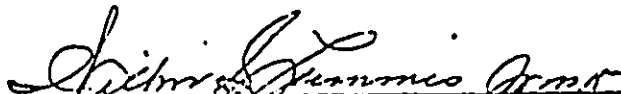
See E. I. S., PG. 13 and 14
See E. I. S., PG. 18 and 19
See E. I. S., PG. 9

building will all be exposed to noise levels which can be hazardous and be a source of nuisance. We realize that air conditioning of such a facility will be quite expensive and we also note that most of the new airport terminal buildings adjacent to runways are air conditioned to reduce the exposure of noise from aircraft to the public.

- b. We also note that no major changes will be made in the runways. We have noted that many residents of Hilo have complained of the noise from the planes embarking and landing in the Hilo terminal. The present installation will do nothing to alleviate this condition.

In conclusion, it is stated that a gradual change in the environment will occur over a long period of time. The statement should be reworded to reflect that a reduction of the existing environmental quality, over a long period of time, will occur.

Very sincerely,


WILBUR S. BUMMIS, JR., M.D.
Acting Director of Health

See U.S. PG. 100-100000-307

DEPT. OF TRANS.
TRANSPORTATION SYSTEMS
PLANNING OFFICE



FEB 2 8 22 AM '71

EXECUTIVE CHAMBERS

HONOLULU

January 31, 1972

LETTER NO. 12
DIRECTOR'S OFFICE

JAN 31 4 03 PM '72

DEPT. OF
TRANSPORTATION

JOHN A. BURNS
GOVERNOR

Office of Environmental
Quality Control

MEMORANDUM

To: Dr. Fujio Matsuda
From: Marvin T. Miura *M.T. Miura*
Subject: Draft Environmental Impact Statement - PROPOSED
NEW PASSENGER TERMINAL AND RELATED FACILITIES--
General Lyman Field, Hilo, Hawaii

On the basis of the project description, we concur that the proposed new passenger terminal and related facilities will alleviate the present inadequate facilities.

The environmental considerations such as sewage disposal, traffic flow into and out-of the airport complex, utilities, storm drainage, aircraft fuel storage and noise have been adequately dealt with. Furthermore, the precautions to minimize dust and smoke, siltation and noise during construction have been considered in the impact statement. We believe that if the methods described to minimize the potential sources of pollution are enforced, very little adverse effects will result.

Therefore, based on the need for the proposed expansion, the method of accomplishing the project and the environmental concerns expressed, this Office supports the project goals and believes that sufficient environmental precautions have been considered to minimize the unavoidable short-termed environmental impact.

Thank you for the opportunity to review the draft statement.



STATE OF
HAWAII

LETTER NO. 13

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT
LAND USE COMMISSION
DIRECTOR'S OFFICE

P. O. BOX 2359 • HONOLULU, HAWAII 96804

JUN 3 1 40 PM '72

DEPT. OF
June 5, 1972 TRANSPORTATION

1128
JOHN A. BURNS 2753
Governor

SHELLEY M. MARK
Director Department
of Planning and Economic
Development

GORO INABA
Commission Chairman

EDDIE TANGEN
Vice Chairman

TATSUO FUJIMOTO
Executive Officer

COMMISSION MEMBERS
Alexander J. Napier
Shelley M. Mark
Sunao Kido
Eddie Tangen
Leslie E. L. Wong
Tanji Yamamura
Stanley S. Sakahashi

Dr. Fujio Matsuda, Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Attention: Mr. Lawrence F. O. Chun
Deputy, Director, Finance

Dear Dr. Matsuda:

The petition by the Department of Transportation (A71-315) to amend the land use district boundaries from an Agricultural District into the Urban District at Waiakea, South Hilo, Hawaii, identifiable by Tax Map Key 2-1-12: portion of parcels 1, 3, and 9, was approved by the Land Use Commission at its meeting on June 2, 1972.

Prior to taking action on this petition, the enclosed staff memorandum was presented to the Commission.

For your information, we are enclosing herewith a copy of Section 2.33, "Performance Time," of the Rules and Regulations of the Commission.

Very truly yours,

TATSUO FUJIMOTO
Executive Officer

Enclosures 3

- cc: Hawaii Planning Department
- Hawaii Department of Water Supply
- Hawaii District Office, Dept. of Taxation
- Property Tech. Serv., Dept. of Taxation
- Tax Maps Branch, Dept. of Taxation
- Chairman of the Board, DLNR
- Planning Office, DLNR
- Facilities and Aux. Svcs. Br., DOE
- Planning Branch, DAGS
- Planning Division, DPED
- Land Use Commission

STATE OF HAWAII
LAND USE COMMISSION

MEMORANDUM

June 2, 1972
10:30 a.m.

TO: Land Use Commission

FROM: Staff

SUBJECT: A71-315 - DEPARTMENT OF TRANSPORTATION
(S. Hilo, Hawaii)

A public hearing was held on March 17, 1972 on this petition by the Department of Transportation to reclassify approximately 289.5 acres of land from an Agricultural to an Urban classification at Hilo, Hawaii, for the development of a new airport passenger terminal complex. Since the hearing no additional evidence has been received either for or against this petition.

The applicant states that the proposed new terminal and related facilities will include a new 150,000 square foot passenger terminal building, a 700,000 square foot aircraft apron, 100 foot wide access taxiways, automobile parking lot and circulation roads, and a 24 foot wide access road.

The Hawaii County Planning Commission voted unanimously to recommend approval of this petition.

Staff evaluation of this request finds that:

1. The proposed use is in conformance with the County General Plan.
2. The subject area is contiguous to an existing Urban District and adjacent to the present airport runway.
3. Because of the limited room for expansion, a relocation of the existing terminal is required to resolve existing inadequacies and to meet increased future air passenger demands.
4. Any expansion in the limited available area near the present terminal would satisfy the requirements for short-range solutions only. The capital outlay would not be fully utilized within a short five- to eight-year period.

5. The site for the proposed terminal is located in an area where expansion and growth are not restricted by surrounding urbanized areas.
6. The proposed terminal site will not cause relocation problems or condemnation procedures by the State, will not remove prime agricultural lands or lands presently in agricultural use, and will not interfere with the mission of the National Guard which is located nearby.
7. The proposed terminal relocation site will eliminate three violations of the Federal Aviation Regulations that exist at the present terminal.

Based on the above findings, the staff recommends that this petition be approved.

✓ 2.33 Performance Time.

Petitioners requesting amendments to District Boundaries shall make substantial progress in the development of the area rezoned to the new use approved within a period specified by the Commission not to exceed five (5) years from the date of approval of the boundary change. The Commission may act to reclassify the land to an appropriate District classification upon failure to perform within the specified period according to representations made to the Commission; provided that the Commission, in seeking such a boundary reclassification, complies with the requirements of Section 205-4, Hawaii Revised Statutes.

2.34 Notice and Hearing.

After 60 days but within 120 days of the original receipt of a petition, the Commission shall advertise that a public hearing will be held in the County in which the land is situated. Notice of the time and place of such hearing shall be published in the same manner as notices required for public hearings by the Planning Commission of the appropriate County.

2.35 Decision.

Within a period of not more than 90 days and not less than 45 days after such hearing, the Commission shall act upon the petition for change. The Commission may approve the change with six affirmative votes.

2.36 Amendments to Regulations.

By the same methods set forth in Rule 2.30, a petition may be submitted to change, or the Commission may initiate a change in, these Regulations. No such change shall be made unless a hearing is held in each of the Counties. Within not less than 45 and not more than 90 days after the last of such hearings, the Commission shall act to approve or deny the requested change. Such petition for a change shall be based upon proof submitted that conditions exist that were not present when the Regulations were adopted or that the Regulations do not serve the purposes of the Land Use Law.

APPENDIX 2

Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

APPENDIX 2

SUMMARY OF THE
PUBLIC HEARING ON DECEMBER 15, 1971

A Public Hearing was conducted in the Council Chambers of Hilo County on December 15, 1971 and the official transcript of the proceedings from this hearing is enclosed in this appendix. Five testimonies were received during the hearing and they were considered in subsequent drafts of the Environmental Impact Statement as follows:

The first testimony was received from Mr. Bruce McCall, representing the County of Hawaii (see Page 2-16 of the transcript). He stated that the County Administration is in basic agreement with the Environmental Impact Statement and urged early commencement of construction of the new terminal facilities. He also suggested that County recommendations be solicited prior to granting commercial concessions for the new terminal.

Mr. Frank Der Yuen, representing the Airlines Committee of Hawaii, pointed in his testimony to some adverse environmental factors. His first concern was the increased taxi distance per aircraft using the new terminal (Page 2-19 of transcript). This issue was subsequently raised on other occasions and was the subject of a separate study which is described on Page 4 of Appendix 4, and also on Page 25 and 41 of the Environmental Impact Statement. The noise factor due to reverse thrust application during landing operations was also mentioned by Mr. Der Yuen (Page 2-20 of the transcript). This subject was elaborated on in subsequent drafts of the Environmental Impact Statement under Subsection f., on Pages 26 and 29. Mr. Der Yuen also pointed out that additional noise will be created by airplanes parked and operating in the vicinity of the new terminal (Page 2-20 of the transcript). The noise factor for aircraft in this area is discussed in Subsection a., on Page 24 of the Environmental Impact Statement. Another point of concern was the routing of cargo and fueling vehicles (Page 2-21 of the transcript), which was subsequently remedied by the design of a service road discussed on Pages 15 and 16 of the Environmental Impact Statement and also in Section 3 of Appendix 4.

Mr. Der Yuen suggested also that Ke-ahole Airport be considered as an alternate for some overseas operations (Page 2-23 of the transcript). This subject is now discussed on Pages 56 thru 66 of the Environmental Impact

Statement. Finally he discussed the consolidation of inter-island and overseas operations within the terminal, resulting in longer walking distances for the passengers (Page 2-24 of the transcript). Subsection 1., on Page 2 in Appendix 4, elaborates on this subject.

Mr. H. C. Stecker, representing himself, requested more information on noise contours for General Lyman Field and displacement of the threshold for Runway 3-21. (Page 2-26 of the transcript). Subsequently, noise contours were attached to the Environmental Impact Statement as Attachments 9, 10, 11, 12, and 13, and discussed further on Pages 31 thru 34 of the Environmental Impact Statement. Appendix 4, Section F presents the calculations for the noise contours. The subject of threshold displacement is discussed on Page 12 of the Environmental Impact Statement.

Mr. Herbert Kai, representing himself, suggested relocation of the airport as a whole to an agricultural district and starting a new town there. Since this subject is beyond the scope of the Environmental Impact Statement, no relevant discussion is included herein.

Finally, Mr. A. G. Cole of Hawaiian Airlines pointed to the operational procedures of the airline carriers with respect to the new terminal and emphasized again Mr. Frank Der Yuen's concern over the environmental impact due to changed procedures.

Subsequent to the Public Hearing, Mr. Stecker addressed a letter to Mr. Ruckelshaus of the Environmental Protection Agency expressing his concern for noise pollution from the proposed new terminal. Mr. Paul De Falco, Jr., of Region IX of the Environmental Protection Agency replied on Mr. Ruckelshaus' behalf and a copy of Mr. Paul De Falco's letter is included on Page 3-20 of Appendix 3.

The notation "See E. I. S., pg. ____" has been stamped across the margin of the Transcript, indicating on which page the requested information appears in the Final Environmental Impact Statement.

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DR. H. C. STECKER (Himself)	22
HERBERT KAI (Himself)	29
A. G. COLE (Hawaiian Airlines)	31

oOo

1 DECEMBER 15, 1971
2 7:00 o'clock, p.m.

3 CHAIRMAN WRIGHT: Good evening, Ladies and Gentlemen.
4 This is 7:01 p.m., and I declare this public hearing be opened.

5 We appreciate your coming here tonight to join us and
6 give us your advice, particularly on any environmental impact,
7 pro or con, as far as your Hilo General Lyman Field Terminal
8 may be concerned.

9 The purpose of this hearing is being held pursuant to
10 the Provisions of Act 132 of the 1970 Session Laws of Hawaii,
11 and the Airport & Airway Development Act of 1970, and Public
12 Law 91-258.

13 This public hearing is to consider the economic, so-
14 cial and environmental effects of our proposed airport develop-
15 ment at General Lyman Field. It is also to point out the re-
16 quired boundary changes as shown on our Airport Layout Plan.

17 Notice of public hearing was published in Hawaii Tri-
18 bune Herald and Honolulu Advertiser on November 15, 1971.

19 The hearing will be in three basic parts:

20 First, the Chief of our State Transportation Airports
21 Division, Mr. Owen Miyamoto, will review the proposed develop-
22 ment, giving you a brief understanding of the project.

23 Secondly, the presentation of oral or written testi-
24 mony from any interested parties here tonight--if you are going
25 to testify--I ask that you sign up on these slips that Frank

KAPSUNG LEE
OFFICIAL COURT REPORTER
HONOLULU, HAWAII

1 Okimoto will bring them around to you if you will raise your
2 hands.

3 We do have a court reporter, Kappy Lee, who is taking
4 a verbatim transcript of all presentations, which will be made
5 available as part of the record of this hearing.

6 Any of you who have written testimony may leave it
7 with him, and also if you would not mind coming forward so that
8 this recorder can function at the right area.

9 Those of you not prepared to testify this evening
10 may submit written testimony to the Department of Transporta-
11 tion. This written testimony will be accepted until December
12 22 of this year. Address such testimony to the Airports Di-
13 vision, Department of Transportation, Honolulu International
14 Airport, Honolulu, Hawaii 96819.

15 I might review a very brief history of the project..
16 In 1968 the State retained the Airport Planning Consultant of
17 Peat, Marwick, Mitchell & Company to prepare a development plan
18 for General Lyman Field. The results of this study were pre-
19 sented at a public meeting here in Hilo in January of 1969.

20 The State then retained the firm of Bechtel Corpora-
21 tion as managers for the design and construction of this pro-
22 ject. In June of 1970, a presentation of Bechtel's preliminary
23 conceptual plans were presented here in this room.

24 On March the 23rd of 1971 another public meeting was
25 held, which I had the privilege of chairing, at which time the

1 Governor announced a Hilo Airport Advisory Committee made up
2 of a broad range of Big Island residents. The Chairman of
3 this committee was Air Port's Chief Owen Miyamoto.

4 After several meetings, the committee made recom-
5 mendations to the Governor, and these were approved on August
6 4, 1971.

7 The results of the recommendations and additional
8 input from the airlines, Federal Aviation Administration, and
9 other agencies will be presented tonight.

10 Also, we have prepared a Draft Environmental Im-
11 pact Statement and Airport Layout Plan, copies of which are
12 available for those who are interested.

13 Announcement of the availability of the Environ-
14 mental Impact Statement was made earlier and it was also refer-
15 red to in the public notice of this hearing. In fact, the prin-
16 cipal purpose of this hearing is to comply with the spirit of
17 the Governor's Executive Order requiring an opportunity for
18 public participation on all State projects that may affect the
19 environment.

20 If I may now call on Owen Miyamoto, who will pre-
21 sent an outline of the Development Plan.

22 Whereupon: OWEN MIYAMOTO,
23 Chief of the Department of Transportation Airports Division,
24 presented the following testimony:

25 MR. MIYAMOTO: Thank you. I would like to expand a

KAPSUNG LEE
OFFICIAL COURT REPORTER
HONOLULU, HAWAII

1 little on the history presented by our Hearing Chairman tonight
2 regarding the development of the facilities here at the airport.

3 The actual background of the development of Hilo as
4 overseas airport started with the grading of Runway 8-26 on a
5 \$525,000 contract which was completed in January of 1963. To
6 that was additional project for paving and lighting, completed
7 in 1965, at a cost of \$2,191,751, and then also for taxiways
8 and apron which was completed in April 1967 at a cost of \$607,-
9 602.

10 The Overseas Terminal Building, which is presently
11 being used at General Lyman Field, was completed in August of
12 1969 at a cost of \$774,550. Additional projects included
13 clearing and grubbing of the new terminal area, completed in
14 June 1970, at a cost of \$256,496; additional terminal improve-
15 ments completed in December of 1970 at a cost of \$57,279; and
16 the resurfacing of the Runway 8-26, completed in March of 1971,
17 at a cost of \$455,289.

18 These projects which are the major ones since 1963
19 represent a total cost of \$4,867,999.

20 Now the legislature has provided appropriations for
21 the construction of the new terminal building, starting with
22 Act 217, in 1967. This was a \$150,000 appropriation to start
23 the planning work. Each year, beginning with '67, additional
24 appropriations were added. In '68 we were authorized \$4,600,-
25 000, in 1969 \$15,920,000, and in 1970 \$3,200,000.

1 This represents a total of \$23,870,000 authorized for
2 improvements to the terminal facilities in Hilo.

3 After the completion of the extension of Runway 8-26,
4 overseas service began in October of '67 with three overseas
5 carriers which were subsequently increased by an additional
6 three carriers. Actually, the CAB has authorized a total of
7 eight overseas carriers for Hilo. At the present time, we have
8 five carriers serving General Lyman Field.

9 The number of overseas passengers that passed in and
10 out of the terminal facilities at Hilo were 214,500 passengers
11 in '68. This was the first full year of overseas service.
12 This does not represent any of the inter-island passengers.

13 In 1970, the last full year that we have record for,
14 this has increased to 302,000 overseas passengers in and out
15 of the terminal.

16 The master plan studies that were conducted for the
17 State Department of Transportation by Peat, Marwick, Livingston
18 & Company, were started in April 15, 1968. The report was com-
19 pleted in April 21, 1969. Some of the recommendations that
20 were made for the planning period which extended through 1985,
21 a forecast for one thing, 7.5 million passengers in and out of
22 Hilo by the end of the planning period.

23 Secondly, it is also stated that, "With minor altera-
24 tions in the interest of improved operational flexibility and
25 increased safety, the existing runways and taxiways will

1 provide sufficient capacity through 1985." The existing run-
2 ways and taxiways are as shown in the airport layout plan.

3 Another recommendation was that the new overseas and
4 inter-island passenger terminal be located central to the air-
5 field system and south of Runway 8-26.

6 Admiral Wright referred to previous public meetings.
7 I would like to mention again the several meetings that were
8 held with our consultants during the development of the master
9 plan by Peat, Marwick, Livingston. On January 31, 1969 we had
10 a meeting here in Hilo reviewing that master plan. On June
11 30, 1970 and again on March 23, 1971, we had hearings with the
12 Bechtel Corporation here in Hilo.

13 Then, after the appointment of the Hilo Airport Ad-
14 visory Committee, this committee had three meetings, April 8,
15 1971, April 20, 1971, and again on May 15, 1971 open to the
16 public in Hilo.

17 Let me describe briefly the existing facilities that
18 we have in Hilo at General Lyman Field. The two runways that
19 are referred to in the master plan report, Runways 8-26 and
20 3-21, are 9,800 feet long and 5,600 feet long, respectively.

21 The terminal and waiting area, indicated here in the
22 shaded next to Runway 3-21, has an area of 1,250 square feet
23 in the waiting lobby. Now, this is only in the public waiting
24 area in the Inter-Island side of the terminal building.

25 According to the standards for waiting areas for the

1 traffic that we had in 1970, that area should be just about
2 double, 2,500 square feet.

3 In the overseas terminal building, which was built
4 recently next to the Inter-Island Building, we have a total
5 area of 4,200 square feet, and again using similar standards
6 for passengers, that should have been 5,600 square feet in
7 1970.

8 The aircraft parking positions are considered to be
9 inadequate for the volume of traffic that we have here. There
10 are a total of seven parking positions for overseas side air-
11 craft, and there is a need at times for as many as nine air-
12 crafts, some of which must wait across the runway before space
13 is available on the apron.

14 Of course, all of you who are familiar with the ter-
15 minal knows that the curb space is inadequate and subject to
16 frequent crowding. The road system is confusing because of
17 the modifications that have to be made to accommodate the expand-
18 ed facilities. The building also violates FAA clearance cri-
19 teria. It is 655 feet from the center line of Runway Three;
20 it should be 750 feet. At the time that the building was built,
21 of course, it did meet the criteria that existed for the type
22 of aircraft using General Lyman Field.

23 We are proposing the construction of new facilities
24 in consonance with the master plan that was recommended by the
25 consultants and also by the Hilo Airport Advisory Committee.

KAPSUNG LEE
OFFICIAL COURT REPORTER
HONOLULU, HAWAII

1 As recommended by the consultants, the runways will
2 remain the same. The existing Runway 8-26 and Runway 3-21 will
3 be located as shown on the airport layout plan.

4 More details of these, of course, are in the Environ-
5 mental Impact Statement but we anticipate, for instance, in the
6 terminal building a waiting area of 15,000 square feet and park-
7 ing positions for eight overseas and four inter-island aircraft.

8 Later on after the meeting, if you have a chance,
9 you can go to the larger scaled drawings on the back wall that
10 indicate that type of parking layout.

11 There will be sufficient curb space for at least fif-
12 ty vehicles parked at the curb. A new access road is a part of
13 the project, which is two lanes, 24 feet wide, 7,800 feet long,
14 with landscaping on each side.

15 The building is located 2,250 feet south of runway
16 for clearance from the runway and for future apron expansion.
17 The terminal building is a cluster of buildings connected by
18 covered walkways, and this is similar to the plan that we used
19 for the concept that we used in Hilo except that we have, be-
20 cause of the type of weather that we have in Hilo, all of the
21 buildings are connected by covered walkways.

22 There will also be a covered walkway going across the
23 main roadway to the Rent-A-Car operations.

24
25

1 There will of course be included extensive landscap-
2 ing and the plan is capable of being expanded by adding addi-
3 tional units to the terminal building itself or by adding the
4 units along the runway as the traffic requires or when the need
5 arises.

6 Our apron will be of cement concrete with space for
7 four DC-9 type of aircraft or eight 707s. There are other com-
8 binations that are possible, of course, when Hilo has the ser-
9 vice by 747 aircraft, we could repark them so that in the space
10 for four 707s we could park three 747s.

11 Also for the apron area we will have dual taxiways
12 from the parallel taxiways to provide smooth operation in and
13 out of the apron area.

14 The access road again is a two-lane roadway, with land-
15 scaping, and we will have parking adjacent to the terminal
16 building for at least 750 cars. This area within the circle
17 is capable of being expanded so that ultimately we could park
18 as many as 2,000 cars.

19 The future connection for the access to the airport
20 when the traffic develops to the point where it warrants this
21 construction as shown in our master plan will be a roadway that
22 extends to the south to the proposed extension of the Saddle
23 Road. The existing access road will then become a service road
24 still connected with Kanoelehua Avenue.

25 All the utilities of course will be placed underground

1 whenever they are in public areas, sewage will be treated as
 2 a package treatment plant meeting Department of Health stand-
 3 ards, and the drainage will drain as it does in all of this
 4 area in Hilo into the ground through sumps.

5 The land area that will have to be acquired for this
 6 project is outlined in orange on this drawing. It represents
 7 285 acres to be acquired from the Department of Defense and
 8 Department of Land and Natural Resources. This is the boundary
 9 change that will be required to accommodate the proposed pro-
 10 ject.

11 Rezoning of the area will be required from agricul-
 12 ture to urban, and that will be accomplished as part of this
 13 work.

14 During the construction we will exercise all of the
 15 necessary environmental controls to protect against dust, noise,
 16 smoke and erosion, as required by the Department of Health and
 17 the regulations of the Federal government, and considering the
 18 necessity for carefully covering up borrow areas that might
 19 have to be used to obtain topsoil material for landscaping of
 20 the project.

21 As far as the environmental impact, we see no problem
 22 or no impact on vegetation or wildlife. The major impact that
 23 we feel will be accomplished by the project, in so far as the
 24 environment is concerned, is the additional aspects that will
 25 result from the airport. This is of course in addition to

1 meeting the operational and passenger requirements of our faci-
2 lities.

3 The present building, as you know, has been added to
4 from time to time, and represents a rather disorganized and
5 visually chaotic facilities, and we feel that the new terminal
6 building will, like the Ke-Ahole project, result with larger
7 expenditures, represent a prize-winning facility.

8 The new terminal will move aircraft parking from its
9 present location, which is relatively close to the residential
10 area, out into an area which will reduce noise from aircraft
11 that are running up engines in the apron area.

12 In this project there will be no necessity for any
13 residential relocation. And we feel again that the passenger
14 comfort and the aesthetic improvement that will result from
15 this project will add immensely to the airport environment.

16 That is the extent of this project.

17 THE CHAIRMAN: Thank you, Owen, very much.

18 I would like to apologize for announcing a change in
19 the schedule for this facility as announced last March of this
20 year. At that time, it was not recognized the extent of en-
21 vironmental impact research that was necessary--preparation,
22 hearings, and so forth. This has all been done but it has had
23 the effect of deferring the ground-breaking date. It is a most
24 necessary process, not only to comply with the Governor's Exec-
25 utive Order on the quality of environment but also of course

1 from a Federal standpoint because we look forward to the assist-
2 ance and generosity of the Federal Aviation Administration in
3 supporting this program to the fullest, and this of course is a
4 prerequisite of their allocation of such Federal funds.

5 The present schedule is to advertise in May of 1972
6 for the originally contemplated preparation of the site with
7 the ground breaking in July of 1962. By November of 1972 the
8 terminal package itself should be ready for advertising with
9 completion in June of 1974, which is as recommended by the Hilo
10 Airport Task Force, and I think about a year later than we had
11 originally contemplated.

12 Bechtel Corporation emphasized to me that this is the
13 end of June 1974, but this is the scope of the time-frame of
14 the project.

15 If I may now invite testimony, first, from Mr. Bruce
16 McCall, representing the County of Hawaii. Mr. McCall?

17 Whereupon: BRUCE McCALL,
18 representing the County of Hawaii, Hilo, Hawaii, presented the
19 following testimony:

20 MR. McCALL: Admiral Wright, I have a very short state-
21 ment of the Hawaii County on the Environmental Impact State-
22 ment for the Proposed New Airport Terminal, Hilo, Hawaii.

23 The County Administration is in basic agreement with
24 this revised preliminary Environmental Impact Statement for the
25 Passenger Terminal and Related Facilities of the airport in Hilo.

1 We are grateful that our previously submitted con-
 2 cerns were considered and resolved in this preliminary state-
 3 ment. There is one item which may not be wholly within the
 4 scope of this evening's public hearing but we would like it
 5 placed on record for future consideration.

6 In anticipation of this myriad of uses--leases for
 7 ground transportation and other concessions, restaurants, re-
 8 tail shops, et cetera--which could occur and do occur in many
 9 airports, we suggest that County recommendations be solicited
 10 by the Department of Transportation or the Land Board, as the
 11 case may be, where proposed leasing or proposed uses not direct-
 12 ly considered as airport uses are contemplated.

13 We express this concern because we feel that County
 14 participation in formulating airports' accessory land use guide-
 15 lines will be beneficial as airports grow and expand with in-
 16 creased passenger and freight traffic.

17 We would also like to urge the commencement of the
 18 construction of the new terminal facilities which already has
 19 been postponed a number of times.

20 Thank you very much.

21 THE CHAIRMAN: Thank you very much, Mr. McCall.

22 Any others who would like to testify and comment, may
 23 I ask once again if you would sign up on the slips that are
 24 available and raise your hands so they can be brought to you.

25 Mr. Frank Der Yuen, representing the Airlines Committee,

1 State of Hawaii. Mr. Der Yuen?

2 Whereupon: FRANK DER YUEN,
3 representing the Airlines Committee, State of Hawaii, presented
4 the following testimony:

5 MR. DER YUEN: Mr. Chairman, if you don't mind, I will
6 come on this side. In the interest of time and to cut down
7 the amount of testimony, we have decided to consolidate our
8 statements, but I would like to let the audience know the
9 airlines representations here because of our concern and our
10 interest in the project:

11 Mr. C. M. Helmer, Western Airlines District Manager,
12 Hawaii;

13 Mr. R. M. Stone of Continental Airlines, Vice-Presi-
14 dent of Properties and Facilities, Los Angeles;

15 Mr. B. L. McCoy, Continental Airlines, Manager, Hilo;

16 Mr. L. D. Machado, Hawaiian Airlines, Vice-President
17 of Operations, Honolulu;

18 Mr. R. P. Tuthill, Hawaiian Airlines, Vice-President
19 of Customers Service, Honolulu;

20 Mr. Dan Wela, Hawaiian Airlines, District Manager of
21 Stations, Hilo;

22 Mr. A. G. Cole, Hawaiian Airlines, Vice-President of
23 Administration, Honolulu;

24 Mr. S. M. Randolph, United Airlines, Manager, Sales
25 and Service, Hilo;

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1 Mr. A. J. Kaiser, United Airlines, Area Property
2 Manager, San Francisco;

3 Mr. W. F. (Buster) McGuire, United Airlines, Assistant
4 to the President, Honolulu;

5 Mr. Mr. Al Imoto, Aloha Airlines, Regional Sales Ma-
6 nager, Hilo;

7 Mr. Art Lee, Northwest Airlines, Manager of Sales and
8 Service, Hilo;

9 Mr. Fred Ward, Aloha Airlines, Assistant Vice-Presi-
10 dent of Customers Service, Honolulu.

11 We have followed this project for some time, and we
12 have been working with the State and with the consultants.
13 There are some areas of differences which we have but this is
14 not the time to discuss those. I would like to confine my re-
15 marks to the Preliminary Environmental Impact Statement.

16 The proposed new passenger terminal building site,
17 where inter-island operations are consolidated and intermixed
18 with overseas operations, will create some adverse environmen-
19 tal factors for the following reasons:

20 At the present time, the normal landing pattern is
21 on Runway 26 and virtually all of these landings are performed
22 without applying reverse thrust, permitting the aircraft to turn
23 off easily at the intersection of Runway 3 for taxiing into the
24 assigned gate positions at the present terminal. When these
25 aircraft are loaded and ready to depart, they taxi only a short

1 distance back to the main runway in order to take off on Run-
2 way 8. This procedure results in the minimum taxi time and dis-
3 tance and keeps the take-off pattern away from the City of Hilo

4 In the proposed plan, it will be necessary for over-
5 seas aircraft to taxi to the end of the runway and taxi back to
6 this taxiway to the new terminal apron, and they will have to
7 retrace this route in order to take off on Runway 8. This in-
8 creases the taxi distance by a factor of more than three.

See E. I. S., pg. 25

9 In order to reduce excessive ground time, flight
10 crews will attempt to shorten their landing run by the applica-
11 tion of maximum reverse thrust. While this will permit earlier
12 turn-off, possibly here, toward the terminal area, the use of
13 maximum reverse thrust will create a noise factor for the resi-
14 dents who will be residing here, north of Runway 8-26.

See E. I. S., pg. 26 and 29

15 Aircraft leaving the proposed terminal area will be
16 faced with other situations which can result in more noise and
17 air pollution than in the present arrangement.

18 Aircraft holding at the intersection of the easterly
19 north-south taxiway, and this is called Taxiway A, will be
20 forced to wait until Taxiway A, until this taxiway is clear, or,
21 alternatively, the flight crews can accept take-off clearance
22 on Runway 26.

23 For time-critical inter-island flights--and I am sure
24 most of you people are aware of the fact that it is extremely
25 critical for short hauls--this latter option will in most cases

1 be exercised by the captain, and the result will be more noise
2 over the City of Hilo. See E. I. S., ^{at line 34} pg.

3 Now there is added congestion on Taxiway A which will
4 give rise to further situations causing even greater use of
5 Runway 26. The proposed plan requires that cargo is to be
6 handled from this area, and the prescribed route is to follow
7 this route along this taxiway into the terminal area.

8 We have been conducting some tests on this and with
9 a normal cargo train, consisting of a tug and three carts, these
10 carts cannot travel at speeds in excess of eight to ten miles
11 an hour. The distance from the present cargo area to the new
12 terminal area is 2.2. miles. The estimated time en route is
13 nineteen minutes, which is more than one-third the time to fly
14 from Hilo to Honolulu. The distance on Taxiway A alone is more
15 than a mile, and the time consumed by each baggage train, which
16 will depend on this critical segment, will be from six to eight
17 minutes, traveling at a maximum permissible speed for these
18 ramp-type vehicles.

19 Experience has proved that despite all efforts made to
20 secure cargo on carts, all too frequently parcels or packages
21 are shaken loose and dropped en route. Needless to say, any
22 such parcels that are dropped on Taxiway A could be hazardous to
23 both the aircraft as well as to other vehicles using that taxi-
24 way.

25 Now, there is another principal category of vehicles

1 be exercised by the captain, and the result will be more noise
2 over the City of Hilo. See E. I. S., pg. ^{21/dec 34} 34

3 Now there is added congestion on Taxiway A which will
4 give rise to further situations causing even greater use of
5 Runway 26. The proposed plan requires that cargo is to be
6 handled from this area, and the prescribed route is to follow
7 this route along this taxiway into the terminal area.

8 We have been conducting some tests on this and with
9 a normal cargo train, consisting of a tug and three carts, these
10 carts cannot travel at speeds in excess of eight to ten miles
11 an hour. The distance from the present cargo area to the new
12 terminal area is 2.2. miles. The estimated time en route is
13 nineteen minutes, which is more than one-third the time to fly
14 from Hilo to Honolulu. The distance on Taxiway A alone is more
15 than a mile, and the time consumed by each baggage train, which
16 will depend on this critical segment, will be from six to eight
17 minutes, traveling at a maximum permissible speed for these
18 ramp-type vehicles.

19 Experience has proved that despite all efforts made to
20 secure cargo on carts, all too frequently parcels or packages
21 are shaken loose and dropped en route. Needless to say, any
22 such parcels that are dropped on Taxiway A could be hazardous to
23 both the aircraft as well as to other vehicles using that taxi-
24 way.

25 Now, there is another principal category of vehicles

1 that use Taxiway A, and they are fuel trucks that are required
2 to fuel the aircraft. In addition to the present fleet of six
3 large tankers--and when I say large they run up to 10,000-gallon
4 capacity--which are operated by Lockheed Air Terminal from the
5 existing fuel storage area, there are also refuelers that are
6 operated by Hawaiiand Aloha Airlines, and they will all have to
7 use this taxiway.

8 Since there will be no underground fueling facilities
9 at the new terminal area, this means that all aircraft refuel-
10 ing will be done by such tankers and the frequency of tanker
11 trips across here will be very considerable.

12 It is the airlines' position that this kind of conges-
13 tion on Taxiway A will either cause excessive waiting and engine
14 idling time or, more probably, greater use of Runway 26 for
15 take-off. The airlines have made every effort to reduce air
16 pollution from engines but it is a fact that engines of aircraft
17 while idling and taxiing create far greater exhaust pollution
18 than when these engines are operated in flight.

19 From the standpoint of reducing noise and air pollution,
20 the proposed area of the new terminal buildings in relation to
21 the runway pattern will have an adverse effect with the same
22 number of operations, and this effect will be further augmented
23 as schedules are increased.

24 The airlines have had considerable experience in other
25 locales where the public have sought injunctions against flight

1 operations, or to reduce flight operations, after the planning
2 and construction of new facilities. From this standpoint alone,
3 the airlines are extremely apprehensive that the proposed plan
4 has not been given sufficient thought to avoid the problems
5 above described.

6 Any representation that this plan has received the
7 complete endorsement of the airlines overlooks the fact that
8 from the very beginning of the planning of the terminal, the
9 carriers have strenuously objected to a number of technical de-
10 ficiencies, including the consolidation of inter-island opera-
11 tions with those of the overseas carriers in any new complex.
12 A recent survey of the airlines shows that less than 2% of
13 inter-island passengers arriving at Hilo were making a direct
14 connection with a mainland flight.

15 There are two other points in response to the State's
16 Preliminary Impact Statement which the airlines would like to
17 make. Alternatives to the proposed action, which is described,
18 I believe, in Section E of this Impact Statement, fails to list
19 the development of Ke-Ahole as an alternate for some overseas
20 operations. It is recognized, I believe, that of all airports
21 in the State's system of airports, Ke-Alohe is the only airport
22 which meets the environmental standards. See E. I. S., pg. 62, 63 & 64

23 Last but not least, the statement is made on page 27
24 of the Impact Statement to the effect that the new passenger
25 terminal complex exposes passengers to a constantly changing

1 spatial experience designed to make them more aware of their
2 environment, and I quote: "rather than just plodding from
3 curbside to departure gate."

4 We submit that efficiency in passenger handling should
5 not be sacrificed for "spatial experience." Inter-island pas-
6 senger seeking maximum convenience will be required to walk from
7 800 to 1,000 feet from curbside to departure gate compared to
8 200 to 300 feet in the present terminal location. To the ever-
9 increasing numbers of elderly people, invalid--with or without
10 wheel chairs--and businessmen, for whom time is a precious com-
11 modity, this additional walking distance is an important fac-
12 tor.

See E. I. S., pg. 421 thru 426
APP. 4.

13 The airlines are hopeful that serious consideration
14 will be given to the above factors and other comments which are
15 submitted by the Airlines Planning Committee before the termi-
16 nal plans are finalized.

17 THE CHAIRMAN: Thank you very much, Frank, and I cer-
18 tainly want to thank all of the carriers and their top people
19 who are here this evening for your participation with us and
20 for your continued guidance on all of these matters.

21 We accept your comments, Mr. Yuen, and we are not
22 ready to respond to them all this evening but we shall both
23 in the Environmental Impact Statement and of course directly
24 in our usual exchange of information and collaboration.

25 Are there any others who care to testify? Would you

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1 fill out a slip for me, please?

2 I would like to note for the record that written com-
3 ments have been received from several agencies and organiza-
4 tions in regard to the Impact Statement so I shall not read
5 them in full but they are available if anyone would care to see
6 or they have a copy of them.

7 The first is from the Department of Health, dated
8 the 21st of October; the second is from the Environmental Cen-
9 ter of the University of Hawaii, dated the 19th of October;
10 the third is from the Department of Planning and Economic De-
11 velopment of the State, dated the 12th of October; the next is
12 from the Life of the Land with two supplementals, one dated the
13 8th of October and a supplement on the 13th of October; and
14 the next is from the Planning Department of the County of Ha-
15 waii, dated the 6th of October; and finally from the Department
16 of Defense of the State, dated the 17th of September, particu-
17 larly in regard to the land and making this land available for
18 Executive Order transfer to the Department of Transportation
19 without charge.

20 Yes, Dr. Stecker, representing himself. Dr. Stecker?

21 Whereupon: DR. H. C. STECKER,
22 representing himself, from Kailua, Kona, testified as follows:

23 DR. STECKER: Sir, could you indicate on the map
24 where the old railroad station was and also the quarry?

25 MR. MIYAMOTO: The quarry area is here and here, and

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1 I am not positive of this but I believe the railroad runs
2 through here (indicating on the map). Others that live here
3 in Hilo might know.

4 DR. STECKER: I think Piilani meets Kanoelehua and
5 runs tangent to Panaewa. We have a 40-foot roadbed there and
6 I think some of them will be figured in the transportation sys-
7 tem.

8 MR. MIYAMOTO: We will be glad to look into that,
9 Dr. Stecker.

10 DR. STECKER: I don't have any discourse to make but
11 I have read the Preliminary Environmental Impact Statement pre-
12 pared by the State and I am curious about a point and I am won-
13 dering if you could supply me with information, or the public
14 in general, on the noise contour as it relates to the Hilo
15 Airport operations, present and projected, and a comparison of
16 these contours with the noise contours that might be associated
17 with the equivalent operations with Ke-Ahole Airport at the
18 Kona side. See E. I. S., pg. 24 thru 35

19 THE CHAIRMAN: I am sorry as we are not prepared to
20 make such a comparison tonight. We didn't bring the acoustic
21 footprints of the two areas concerned. The runways of course,
22 per se, will not change--as Mr. Der Yuen pointed out probably
23 the sideline noise may change because it depends on the opera-
24 tional standpoint, so that there might be more noise pollution,
25 if you will, from the sideline standpoint. We don't know, but

1 we will find out.

2 From the landing and take-off noise, this will pre-
3 sumably be an unchanged situation. The exact contours --

4 Owen, do you have anything on this?

5 MR. MIYAMOTO: I think that your concern for noise,
6 Dr. Stecker, of course depends on the distribution of traffic,
7 and the usual procedure in describing noise effect on adjacent
8 community depends on the size of the aircraft, so presumably
9 as the traffic increases the amount of volume will increase.

10 The reason that we don't have noise contours indi-
11 cated for this hearing is that we feel that there should not
12 be any change in the volume of traffic merely because of the
13 construction of the terminal building. We are addressing our-
14 selves in this hearing to the construction of this project.

15 Normally, if we were to make a change in the runway
16 alignment either through lengthening or re-alignment, then we
17 would study extensively and include in our hearing the noise
18 contours developed by each of these runways.

19 Your point about the distribution of traffic between
20 here and Ke-Ahole, of course, would have to be considered in
21 such a study because in an analysis like this we have to de-
22 termine what the forecast traffic would be, and of course the
23 traffic that is taken in Hilo would depend on what happens in
24 Ka-Ahole.

25 But, again, as I said, because of the terminal con-

1 figuration and in answer to some of the comments made by Mr.
2 Der Yuen, if there is any effect of noise on the adjacent com-
3 munities caused by changes in the operations of the aircraft
4 by the carriers as a result of this terminal location, we could
5 insist that as part of their operational procedure that they
6 maintain the pattern that they presently have at this airport.
7 For instance, there was mention about increased reverse thrust
8 that would be required to slow down and stop and possibly make
9 this turn. I see no reason to be concerned about this. We
10 could insist that the carriers continue to turn off exactly
11 as they do now.

12 I think that there will be an improvement possibly
13 in the noise that would be generated as the aircraft lands on
14 this runway. For instance, there is a tendency for aircraft
15 to want to use this runway because of its proximity to the
16 terminal. With the change in the terminal location, possibly
17 there will be a change in pattern so that more of them would
18 point to 8-26, approach it over the water and off to the run-
19 way. But of course this would have to be studied after the
20 terminal is completed as it is very difficult to predict. in
21 advance what these carriers would want to do because this would
22 depend of course on their operational requirements.

23 We will of course continue to monitor the effect of
24 noise from the runway so that we can minimize the detrimental
25 effect on the adjacent communities.

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1 I might point out too that we have received the co-
2 operation of the carriers in take-offs from Runway Three that
3 used to affect the Hawaiian Homes Area in this location from
4 their night operations. They have agreed without the problem
5 of using Runway Eight because there is no jet operation in
6 this area to affect the Hawaiian Homes Area.

7 It is this type of cooperation in working out the
8 mutual operational problems that we can generally solve this
9 noise problem at the lowest possible cost.

10 DR. STECKER: Do I understand from your statement
11 that you are addressing yourself to the increase in ground fa-
12 cilities here, it does not reflect any intention on the part
13 of the airport to further extend its airport usage, and I am
14 referring to planes.

15 MR. MIYAMOTO: The increase in traffic of course will
16 depend on the number of passengers. Of course, the size of
17 the terminal building depends on the forecast amount of pas-
18 sengers. The 15,000 square feet I referred to depends on the
19 certain volume of traffic that comes through 1975 and 1978.
20 Those are the planning years that we are including in the de-
21 sign of the terminal building.

22 We referred to other numbers of planning period to
23 1985, and that includes also the increased amount of aircraft
24 movement. But as the consultants forecast, with the runway
25 configuration that we have here there is a sufficient capacity

1 so that we can utilize the existing runways and the existing
2 operational features and be able to accommodate the necessary
3 aircraft to take care of the number of people. I think that
4 generally the pattern is that as we use larger and larger air-
5 craft we can reduce the number of movements and still increase
6 the volume of passengers, so this is what we hope will happen
7 in the future with the much quieter 747s and DC-10 and L-1011
8 type aircraft that are coming out of the aircraft manufacturers,
9 there will be a reduction of noise with increase in passengers!

10 DR. STECKER: May I ask one more question. You are
11 going to cut 500 feet off from Runway 3-21, and I haven't
12 heard of any extension on the other side. Is it that the run-
13 way is already too long and you don't need it? See E. I. S., pg. 12

14 MR. MIYAMOTO: That was necessary in order to pro-
15 vide adequate clearance over the access road of the terminal
16 facilities. This is described in our Impact Statement. In
17 order to get the thirty-forty-one clear approach surface, we
18 are displacing the threshold for landing so that the actual
19 runway for landing is 5,100 feet.

20 This also has an effect on the proposed project for
21 the widening of the Kanoelehua Avenue. We recently signed an
22 agreement with the Federal Highway Administration to assure
23 that the thirty-forty-one clearance is maintained over this
24 area so that this project would qualify for Federal aid.

25 In addition, we feel that there will be a positive

1 effect caused by displacing the landing threshold. We could
2 lay our sound pattern over this area and move it in by 500
3 feet so that theoretically the noise that is affecting this
4 area because of the landing approaches to the runway would be
5 reduced. In other words, we are moving the noise closer into
6 the airport. So there is a positive effect by doing this as
7 it would also theoretically reduce the noise.

8 I don't really think that you could measure a change
9 of the noise, but by the method of measuring the noise affected
10 areas that is prescribed in the circular by the Federal Avia-
11 tion Administration, there would be a theoretical reduction in
12 the noise caused by this 500-foot displacement.

13 DR. STECKERH: And on the other side it would in-
14 crease -- ?

15 MR. MIYAMOTO: No, because on take-off you would
16 start at the very end of the runway. If there was a need to
17 use this runway for take-off, you would start at the existing
18 end and take off without changing your procedure in take-off.

19 DR. STECKER: May I ask you, please, Mr. Chairman,
20 that when the noise contours are available, could they be made
21 available to the general public or to me, or could I look at
22 them?

23 THE CHAIRMAN: Yes, certainly. They were discussed,
24 as you may recall, in connection with the master plan for the
25 total area here, but this could certainly be made available,

1 and have you left your address on that slip of paper?

2 DR. STECKER: Yes, Mr. Chairman, thank you.

3 THE CHAIRMAN: And we will do so.

4 I do want to emphasize that during this conceptual
5 process it was pointed out that we certainly should prepare
6 the terminal design, the apron and the taxiways for the super-
7 sonic jets which do have a less acoustics effect than the pre-
8 sent carriers, and at the same time reduce the number of opera-
9 tions by carrying a larger capacity of passengers.

10 Any other questions or comments? Yes, would you come
11 forward and give us your name?

12 Whereupon: HERBERT KAI,

13 from the audience, testified as follows:

14 MR. KAI: My name is Herbert Kai. I was told by an
15 engineer that you couldn't possibly locate the airport at any
16 other place until you made a careful study of the wind currents
17 and sound and everything else, is that correct? That this is
18 the only suitable site of an airport.

19 THE CHAIRMAN: This hearing of course is not on the
20 runways. It is simply on the terminal aspect, but it is of
21 course a very related one. I think your question deals more
22 with the master plan for the total area, and we actually do
23 not have that plan here this evening, the total development.

24 MR. KAI: I was thinking with \$16,000,000 to be
25 spent, the economic turnover generated by the business people

1 located close to where we wouldn't have any noise pollution,
2 depending on air or whatever it is and start a new town and
3 runway where you have agricultural districts and open up the
4 whole Puna area by utilizing the railroad and the contour of
5 the land and away from all of this congested area --

6 THE CHAIRMAN: Were such a thing feasible, Mr. Kai,
7 it would not be from an economic standpoint. Airports of
8 course are built and located only in accordance with current
9 and projected needs. The cost to relocate General Lyman Field
10 would be so far above the \$16 to \$18,000,000 that may cost for
11 the terminal that is completely unthinkable from an economic
12 standpoint.

13 As Mr. Miyamoto pointed out, there is adequate capa-
14 city here in this runway system to handle the projected move-
15 ments to 1985 --

16 MR. KAI: Actually, if we had transportation in Kona
17 we could open up the whole area for people who want to retire
18 from air-conditioned apartments --

19 THE CHAIRMAN: I am sure our airline executives here
20 are listening with interest because through their revenue, of
21 course, that this system is very largely supported, and we must
22 consider not only the social environment aspect but the econo-
23 mic as well.

24 Any other questions or comments?
25

1 Whereupon: A. G. COLE,
2 representing Hawaiian Airlines, testified as follows:

3 MR. COLE: I am not here to testify but I would like
4 to ask a couple of questions. I notice the boundary there in
5 yellow, is that the State owned or controlled property?

6 MR. MIYAMOTO: Yes.

7 MR. COLE: Do you have any commitments or any con-
8 trol of any other property outside of the Hilo boundary?

9 MR. MIYAMOTO: Yes, you can see this later, Jerry,
10 when you come up here. We have easements over properties here.
11 This means we don't have the fee title to the land but we just
12 have the control of the flight of aircraft in this area here.
13 This is just an easement area.

14 There are other State owned properties, and this is
15 what we are looking forward to obtaining from the Department
16 of Defense and Land of Natural Resources in this area here.
17 This is again State land, and this sliver through here is Bishop
18 Estate land.

19 MR. COLE: How about the approach border on this
20 coast land?

21 MR. MIYAMOTO: I believe this is all State land too.

22 MR. COLE: The reason we ask is in the airline indus-
23 try we have been plagued with situations where airports built
24 25 years early--and Los Angeles is an example--and suddenly
25 over a period of years developers come in and they build housing

1 and all the rest, and now the airlines are buying property to
2 clear the right-of-ways for the approaches.

3 I think that it would not be fair to let this hearing
4 conclude without making some comments on Mr. Miyamoto's remark
5 in that they would have some control over our operational pro-
6 cedures. I realize that this is not an operational procedure;
7 yet we must very definitely consider operational procedures
8 as they relate to the environmental impact.

9 Certainly, as an inter-island carrier we are curb
10 operators. We have to get on the ground, we have to get over
11 the terminal, we have to get off the ground, because our flight
12 crew pay starts from the time those engines are started until
13 those engines are shut off in the next terminal. And if we
14 have to spend more time on the ground than in the air, it is
15 an essential economic impact.

16 Now, as a result of that, we must revise our opera-
17 tional procedures in order to minimize our costs. So because
18 of this we must emphasize again the environmental impact--pos-
19 sible environmental impact--that Mr. Der Yuen has pointed out
20 to the necessary changes in our procedures, and this of course
21 is not an exclusive controlled State problem. This involves
22 the Federal Aviation Agency and all of the other ramifications
23 of Federal regulations, so that I think we have to at least
24 comment on Owen's remark which seem to imply that the State
25 has an exclusive control over the inter-island carriers operat-

1 ing procedures.

2 THE CHAIRMAN: I might comment on your remark. The
3 points that have been brought up on operational standpoint
4 would certainly be considered and quantified so that we can
5 have a hold on what the prospective change might be. But as
6 far as the operation on the airport per se, the people are
7 just as important on an economic standpoint, and if it becomes
8 necessary to control and require the inter-island carriers to
9 take off starting from the threshold, this will be done, and
10 this can and will be done at Honolulu International. Right
11 now you take off at middle length or so but there have been
12 numerous complaints in recent years of inter-island noise over
13 the Kalihi Area, and it is fully within the prerogative of the
14 State through its administrative rules and regulations to re-
15 quire inter-island carriers do take off in the threshold rather
16 than mid-length, and the same principle would apply in the con-
17 trol here, but I assure you that there will be a very thorough
18 evaluation of both the economic and the environmental aspects.

19 MR. COLE: We certainly appreciate that, Mr. Chairman.
20 The only thing that I want to emphasize here is certainly a
21 building on this up-to-date terminal, and let us hope that in
22 the process of this development we do not deteriorate local
23 service to our community.

24 THE CHAIRMAN: We are fully in accord with that, of
25 course.

1 The Department of Health in their letter, I might
2 add, did bring up this matter of noise in the terminal, so
3 that it needs to be expanded as far as their analysis is con-
4 cerned, and it will be included in the finalization of the Im-
5 pact Statement before it is submitted to the Federal Aviation
6 Administration.

7 Any comments or questions of any sort any further?
8 I certainly want to thank each of you very much for being with
9 us this evening, and may I once again remind you that any testi-
10 money or comments in writing will be considered up to the 22nd
11 of December. If you need more time than that, let us know and
12 certainly any reasonable extension will be available to it.
13 After that time we shall finalize the statement of processing
14 both through the State Office of Environmental Quality and Con-
15 trol, which is a part of the new procedure of the Governor's
16 Executive Order, and also through the Federal Secretary of
17 Transportation and the Federal Aviation Administration.

18 MR. WARD: I am Fred Ward, representing the Aloha
19 Airlines. Mr. Chairman, on behalf of Aloha Airlines, I would
20 like to see a show of hands how many people represent the re-
21 sidents of the City of Hilo --

22 THE CHAIRMAN: May I ask why?

23 MR. WARD: Certainly, this is a public meeting, and
24 I would like to know how many people are here who are not re-
25 lated to the airlines directly. Is that out of order, sir?

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THE CHAIRMAN: No --

MR. WARD: I would like to know how many in the City of Hilo are present.

THE CHAIRMAN: All from Hilo, would you hold up your hands?

(Whereupon, fourteen hands were shown.)

THE CHAIRMAN: I hope you will include in this count Mr. Bruce McCall, who is representing the Mayor of the County of Hawaii and who spoke earlier at this meeting.

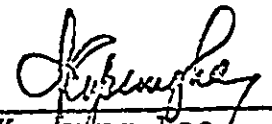
Are there any other comments or questions? If not, thank you once again, and I hereby declare that this public hearing to be closed.

(The public hearing concluded at 8:05. p.m.)

oOo

REPORTER'S CERTIFICATE

The foregoing is a complete and accurate transcript of the proceedings had in the above-entitled matter on December 15, 1971 at Hilo, Hawaii.



Kapsung Lee
Official Court Reporter

Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

APPENDIX 3

COMMENTS ON
DRAFT ENVIRONMENTAL IMPACT STATEMENT

The letters listed below, commenting on the Draft Environmental Impact Statement were received by the Pacific Region, Federal Aviation Administration and a copy of each is attached.

	<u>Agency</u>	<u>Date</u>	<u>Page No.</u>
1.	U. S. Department of Interior, Geological Survey	April 4, 1972	3-5
2.	U. S. Department of Transportation, Highways Program Office	April 11, 1972	3-6
3.	U. S. National Weather Service	April 20, 1972	3-7
4.	U. S. Department of Interior, Office of the Secretary, Pacific Southwest Region	April 20, 1972	3-9
5.	U. S. Department of Interior, Fish and Wildlife Service	April 6, 1972	3-11
6.	Environmental Protection Agency, Region IX, Honolulu Office	May 1, 1972	3-14
7.	Environmental Protection Agency, Region IX, San Francisco Office	May 3, 1972	3-16
8.	Environmental Protection Agency, Region IX, San Francisco Office	May 22, 1972	3-20
9.	State of Hawaii, Highways Division	April 10, 1972	3-22
10.	U. S. Forest Service	April 17, 1972	3-23
11.	Assistant Secretary of Commerce	April 26, 1972	3-24
12.	U. S. Soil Conservation Service	April 18, 1972	3-25
13.	U. S. Agricultural Stabilization and Conservation Service	April 5, 1972	3-26
14.	Federal Housing Administration	April 12, 1972	3-27
15.	U. S. Department of Health, Education and Welfare	June 9, 1972	3-28
16.	The Governor of the State of Hawaii	July 18, 1972	3-29
17.	State of Hawaii, Highways Division	August 7, 1972	3-30
18.	Honolulu Airlines Committee	October 13, 1972	3-31

Letter No. 1 from the Water Resources Division of Geologic Survey provided informal comments for technical assistance, not intended to represent the position of the Department of the Interior. Suggested corrections to the water table elevations were incorporated on Page 10.

Letter No. 2 from the Highways Programs Office stated that the Environmental Impact Statement adequately discusses the impact on the Federal highway system.

Letter No. 3 from the National Weather Service suggested various corrections to meteorological statements and data in the Environmental Impact Statement which were all incorporated on Pages 22 and 23.

Letter No. 4 from the Pacific Southwest Region of the U. S. Department of the Interior stated that there will not be significant conflict of this project with fish and wildlife values. It refers also to statements contained in letter No. 5 on fish and wildlife and confirms that no surface water pollution is expected. Comments on the effects of the project on the existing water were incorporated on Pages 10 and 11. Finally, the letter states that they foresee no significant adverse effects on recreational values resulting from the project.

Letter No. 5 from the U. S. Fish and Wildlife Service offered comments on the vegetation of the project area and the loss of habitat for birds. However, it stated that there will not be significant conflict with fish and wildlife values. It suggested a rewording of the sections on wildlife. Although there will be some loss of habitat for some of the exotic species of birds, it stated that the loss is not considered to be too significant. The above suggestions were considered when Subsections 10 and 11 on Pages 30 and 31 were redrafted. The letter also offered a list of animals and plants known to be present in the area, which was used to compile the lists on Page 30.

Letter No. 6 from the Honolulu Office of the Environmental Protection Agency states that the Environmental Impact Statement appears to be well done. In addition, it suggested the inclusion of additional information to strengthen it further. It proposed to include quantitative data on present and future noise levels, which were added on Pages 20 through 27 and as Attachments 9, 10 and 11. It also suggested to discuss the effect of tourism and service industries which was done on Pages 36 through 42. A reference to an existing master development plan was also requested which now appears in several places, mainly on pages 17 and 36.

Letter No. 7 from the Regional Office of the Environmental Protection Agency in San Francisco transmitted specific comments to the Environmental Impact Statement as follows. It is requested a discussion of the noise levels from

additional air traffic which was incorporated on Pages 20 through 27. Noise contour maps were included as Attachments 9, 10 and 11, and Attachment 7 shows the location of residences, schools and hospitals in the general vicinity of the airport. The letter suggested also a more detailed discussion of the sewage treatment problems which was done on Pages 10 and 11. The impact of increased flight operations on ambient air quality was noted on Page 32. Increased economic activity and land use changes were described on Pages 41 and 42. The impact of tourism on secondary industry was discussed on Pages 36 through 41. Responding to a comment on land use, a land use map was included as Attachment 7. Increased cargo operations were discussed on Page 41. The letter also requests information on Hilo's port capacity which was added on Page 12. The widening of Kekuanaoa Street is described on Page 29. Since this improvement has been planned independent of any airport development, its environmental aspect was not discussed further. The question was also raised as to why Ke-ahole Airport is listed as an alternative on Page 34. This was done because the Island of Hawaii would need only one overseas airport in the foreseeable future.

Letter No. 8 was addressed to Mr. H. C. Stecker of Kailua-Kona in reply to a letter from Mr. Stecker to Mr. Ruckelshaus. Mr. Stecker testified at the Public Hearing on December 15, 1971 (see Appendix 2) and this letter dealt again with the effects of noise pollution which was broadly covered on Pages 20 through 27 of the Environmental Impact Statement.

Letter No. 9 was received from the State Highways Division. It raised a question on the ultimate use of the proposed access road which was discussed on Page 9. It also stated that there is no discussion of the traffic impact of the ultimate road system. As the ultimate road system is not constructed under the proposed project, it would therefore be a subject to be discussed in a separate Environmental Impact Statement for this road system. The comments in letter No. 9 were subsequently supplemented by letter No. 17, included in this Appendix.

Letter No. 10 from U. S. Forest Service proposed the inclusion of a statement on the clearing of rain forest in Section D, which was subsequently done on Page 33. It also objected to the term "unused rain forest" on Page 44 which was removed.

Letter No. 11 from the Office of the Assistant Secretary of Commerce stated that the relationship of the project to living aquatic resources has been adequately covered.

Letter No. 12 from the U. S. Soil Conservation Service stated that they have no comments to make on the Environmental Impact Statement.

Letter No. 13 from the U. S. Agricultural Stabilization and Conservation Service also stated that they have no comments to make on the Environmental Impact Statement.

Letter No. 14 from the Federal Housing Administration agreed that implementation of the project will bring short-term levels of inconvenience and noise associated with construction. It confirmed, however, that the long-term benefit will decrease the noise levels from parked aircraft to surrounding residences.

Letter No. 15 from the U. S. Department of Health, Education and Welfare stated, it does not appear that any problem of significance related to that department will result from the project.

Letter No. 16 was received from the Governor of Hawaii, certifying to the Regional Office of the Federal Aviation Administration that the New Passenger Terminal will be located, designed, constructed and operated in compliance with the Water Quality and Air Quality Standards of the State of Hawaii. This certification is required by Section 16-e, 1 and 2 of the "Airport and Airway Development Act of 1970".

Letter No. 17 was received from the State Highways Division supplementing their letter No. 9 submitted previously.

Letter No. 18 was received from the Honolulu Airlines Committee offering comments on an Environmental Impact Statement dated August 1972 which has subsequently been revised to its present form. The Committee pointed out an apparent inconsistency in Appendix 4 which was subsequently amended. Other comments have been considered and appropriate action taken.

The pages following are copies of letters No. 1 through 18 described above. The notation "See E. I. S., pg ____" has been stamped across the margin of these letters, indicating on which page the requested information appears in the Final Environmental Impact Statement.



United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
345 Middlefield Road
Menlo Park, CA 94025

April 4, 1972

Department of Transportation
Federal Aviation Administration
Pacific Region
P. O. Box 4005
Honolulu, Hawaii 96813

Gentlemen:

This responds to your letter request of March 20, 1972, for comments on the draft of the Environmental Impact Statement for the proposed new passenger terminal and related facilities at General Lyman Field, Hilo, Hawaii.

As stated, there are no streams, lakes or other bodies of open water near the project. No surface water pollution is therefore expected.

The possible effects upon the existing ground water underlying the area are not so obvious. Our records show that the water table is about three to five feet above sea level (not 30 feet, as shown on page 16) and it slopes generally northward towards the shore. Water reaching the water table beneath the airport, whether from natural recharge, storm-water disposal or sewage treatment facilities, will eventually flow into the sea at the shore, probably in the section between Wailoa River and Leleiwi Park.

Except for the two wells owned by the County of Hawaii, there are no known drilled wells in the area. Information available on the salinity of the ground water beneath the airport is not sufficient for estimating the potential value of the supply.

The foregoing comments are provided informally for technical assistance and are not intended to represent the position of the Department of the Interior.

Sincerely,

Elwood R. Leason
Regional Hydrologist
Pacific Coast Region

See E.I.S., PG. 13 and 40

LETTER NO. 2

ARIZONA
CALIFORNIA
HAWAII
NEVADA

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION-REGION ~~5~~ ~~9~~ ~~11~~ ~~12~~ ~~13~~ ~~14~~ ~~15~~ ~~16~~ ~~17~~ ~~18~~ ~~19~~ ~~20~~ ~~21~~ ~~22~~ ~~23~~ ~~24~~ ~~25~~ ~~26~~ ~~27~~ ~~28~~ ~~29~~ ~~30~~ ~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~ ~~36~~ ~~37~~ ~~38~~ ~~39~~ ~~40~~ ~~41~~ ~~42~~ ~~43~~ ~~44~~ ~~45~~ ~~46~~ ~~47~~ ~~48~~ ~~49~~ ~~50~~ ~~51~~ ~~52~~ ~~53~~ ~~54~~ ~~55~~ ~~56~~ ~~57~~ ~~58~~ ~~59~~ ~~60~~ ~~61~~ ~~62~~ ~~63~~ ~~64~~ ~~65~~ ~~66~~ ~~67~~ ~~68~~ ~~69~~ ~~70~~ ~~71~~ ~~72~~ ~~73~~ ~~74~~ ~~75~~ ~~76~~ ~~77~~ ~~78~~ ~~79~~ ~~80~~ ~~81~~ ~~82~~ ~~83~~ ~~84~~ ~~85~~ ~~86~~ ~~87~~ ~~88~~ ~~89~~ ~~90~~ ~~91~~ ~~92~~ ~~93~~ ~~94~~ ~~95~~ ~~96~~ ~~97~~ ~~98~~ ~~99~~ ~~100~~ ~~101~~ ~~102~~ ~~103~~ ~~104~~ ~~105~~ ~~106~~ ~~107~~ ~~108~~ ~~109~~ ~~110~~ ~~111~~ ~~112~~ ~~113~~ ~~114~~ ~~115~~ ~~116~~ ~~117~~ ~~118~~ ~~119~~ ~~120~~ ~~121~~ ~~122~~ ~~123~~ ~~124~~ ~~125~~ ~~126~~ ~~127~~ ~~128~~ ~~129~~ ~~130~~ ~~131~~ ~~132~~ ~~133~~ ~~134~~ ~~135~~ ~~136~~ ~~137~~ ~~138~~ ~~139~~ ~~140~~ 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LETTER NO. 3

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE PACIFIC REGION

P. O. Box 3650
Honolulu, Hawaii 96811

APR 20 1972

Mr. Phillip M. Swatek
Director
Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Phil,

Thank you for requesting our comments on the Draft Environmental Impact Statement for the proposed new passenger terminal and related facilities at General Lyman Field, Hilo, Hawaii. The comments which follow refer only to certain meteorological statements and data contained in the Environmental Impact Statement.

- 1) Page 29. Change Weather Bureau to National Weather Service.
- 2) Page 29. "The (National Weather Service) records wind at 4 to 6 knots and 7 to 10 knots intervals at General Lyman Field". The wind speed is recorded to the nearest knot. However, the summaries used for Table 5 tabulate wind frequency in wind-speed ranges: 1 to 3 knots, 4 to 6 knots, 7 to 10 knots, 11 to 16 knots, etc. See E. I. S., pg. 29 & 30
- 3) Page 29. "For a 20 year period ...". The records used cover a period closer to 18 years.
- 4) Page 29. "... during the hours of 8:30 A. M. to 5:30 P. M., ...". The wind observations referred to were made hourly at a few minutes before the hour, not on the half-hour, and are summarized by 3-hourly periods: 00 LST, 01 and 02; 03, 04 and 05; etc. Hence the frequencies during time periods given to the half-hour could only be approximated. See E. I. S., pg. 30
- 5) Page 29. Table 5 may be ambiguous in that an "east wind component" or "west wind component" (Items 1 and 2 in Table 5) could occur together with a "north and south wind component" (Item 4 of Table 5), so that the frequencies in Table 5 would not necessarily add to 100 percent. Discussion of this point with the engineers who drew up Table 5 indicates that the correct wording should be as follows:

APR 20 1972

Page 2

TABLE 5

Wind Frequencies at General Lyman Field

<u>Wind Direction and Speed</u>	<u>Percent Frequency</u>
1. East wind component (wind direction NNE through SSE) of 7 knots or greater	36.4 percent
2. West wind component (wind direction NNW through SSW) of 7 knots or greater	3.4 "
3. Calms and winds of less than 7 knots from any direction	33.9 "
4. North and South winds of 7 knots or greater	26.3 "
5. Sum of 3 and 4, above	60.2 "

See E. I. S., pg. 30

You may wish to consider whether these changes in Table 5 will require a reworking of paragraphs 1 and 2 on page 30 or of any other section of the Environmental Impact Statement.

Please let us know if we may be of further assistance.

Sincerely,



F. H. Kutschenreuter
Director, Pacific Region



UNITED STATES
DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY
PACIFIC SOUTHWEST REGION

PACIFIC SOUTHWEST FIELD COMMITTEE
BOX 36098 . 450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

April 20, 1972

Mr. Phillip M. Swatek
Director, Pacific Region
Federal Aviation Administration
U. S. Department of Transportation
Post Office Box 4009
Honolulu, HI 96813

Dear Mr. Swatek:

This Department has reviewed the draft environmental statement for General Lyman Field, Hilo, Hawaii.

From the statement, it appears that this project is essentially an addition to support facilities now existing at the airport. The vegetation now covering the area is largely exotic. Destruction of this vegetation will result in loss of habitat of exotic passerine birds; however, in general we feel that there will not be significant conflict of this project with fish and wildlife values.

It should be noted that the Bureau of Sport Fisheries and Wildlife challenges the use of the studies quoted on page 23, and some of the conclusions drawn on page 38, with respect to a proper assessment of the project's impact on fish and wildlife. The full text of their review comments is enclosed for your information and consideration in drafting the final statement.

As stated, there are no streams, lakes or other bodies of open water near the project. No surface water pollution is therefore expected. The possible effects upon the existing groundwater underlying the area are not so obvious. Our records show that the water table is about 3 to 5 feet above sea level (not 30 feet, as shown on page 16) and it slopes generally northward towards the shore. Water reaching


See E.I.B., pg. 13

Mr. Phillip M. Swatek
Page 2
April 20, 1972

the water table beneath the airport, whether from natural recharge, storm water disposal or sewage treatment facilities, will eventually flow into the sea at the shore, probably in the section between Wailoa River and Leleiwi Park.

Since there are no public recreation areas within the impact zone of the proposed airport expansion, we foresee no significant adverse effects on recreation values resulting from the project.

Sincerely,


William M. Monroe
Secretary's Field Representative

cc: Bruce Blanchard, Office of Assistant Secretary--Program Policy, USDI
Frank E. Sylvester, Regional Director, BOR, San Francisco
John D. Findlay, Regional Director, BSF&W, Portland
Howard H. Chapman, Regional Director, NPS, San Francisco
Elwood R. Leeson, Regional Hydrologist, USGS, Menlo Park

Enclosure
BSF&W Comments



LETTER NO. 5

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
337 Uluniu Street
Kailua, Hawaii 96734
April 6, 1972

Rec'd. APR 11 1972
Regional Director
Ass't. R. Q. [unclear]
Ass't. A. D. [unclear]
Admin.
Fut. Coord
Water Resources
Tech. Assistance
Grants in Aid

Eichstedt	
Scarborough	
Olsen	
Sylvester	
Pearce	
Schiff	
Uluniu	
File	

Information	
Eichstedt	
Scarborough	
Olsen	
Sylvester	
Pearce	
Schiff	
File	

Mr. Frank Sylvester
Regional Director
Pacific Southwest Region
450 Golden Gate Avenue
San Francisco, California 94102

Subject: Draft Environmental Impact Statement, General Lyman Field,
Hilo, Hawaii

Dear Mr. Sylvester:

Secretary's Field Representative William Monroe directed this office to furnish directly to you our comments regarding the subject statement.

From the statement, it appears that this project is essentially an addition to support facilities now existing at the airport. The vegetation now covering the area is largely exotic. Destruction of this vegetation will result in loss of habitat of exotic passerine birds; however, in general we feel that there will not be significant conflict of this project with fish and wildlife values.

We note that none of the studies cited on Page 23 of the area could be of any value in assessing the impact of the project on fish and wildlife; thus, we wonder what information was used to make the sweeping conclusions in the first paragraph of Page 38. I.e. "The project should not alter the living patterns of birds in the region: these birds are prevalent in more urbanized areas". Or "Also, there is sufficient, adjacent, undisturbed area that, in general, wildlife should not be affected. There are no distinctive documented wildlife feeding, breeding or nesting grounds in the project area".

Anytime an area is cleared and paved, living patterns of birds utilizing the area will be most assuredly changed. Also, the fact that some individuals of the species listed inhabit urbanized areas does not justify destruction of habitat for other individuals of this species elsewhere. What proof does the writer of this section have to back up the statement that wildlife will not be affected. Especially since the statement is made that birds of a number of species are frequently seen in the area. In an area of several hundred acres of trees, brush and grasses, there has to be feeding and probably nesting by some birds. Otherwise birds would not be seen there frequently. Loss of wildlife habitat is not to be treated lightly.

The project will alter the living patterns of some individuals of species of birds exotic to Hawaii. No rare or endangered species are known to inhabit the area. Although there will be some loss of habitat for some of the exotic species of birds, this loss is not considered to be too significant.

See E.I.S., pg. 47

See E.I.S., pg. 40

Only generic names of species claimed to be using the area are used. In some cases only the family is used. Since some of the genera of birds have species found in various areas of the world, we suggest that the specific names be listed properly so it is known just what species are involved. Our information reveals them to be as follows:

English or House sparrow - Passer domesticus

Barred Dove - Geopelia striata

Spotted dove - Streptopelia chinensis (Omitted from the statement list).

Indian mynah - Acridotheres tristis

White-eye - Zosterops japonica

Cardinal - Richmondia cardinalis

Pacific golden plover - Pluvialis dominica (Omitted from the list)

Ricebird - Lonchura punctata (Omitted from the list)

Mammals

Mongoose - Herpestes auropunctata

Feral pig - Sus scrofa

Plants

Passion flower (Lilikoi) - Passiflora sp.

Morning glory - Ipomoea sp.

Wandering Jew - Tradescantia fluminensis

Sedge - Cyperus sp.

Johnson grass - Sorghum halapense

Hilo grass - Paspalum conjugatum

Beggar's Tick - Bidens pilosa

Trema - Trema orientalis

Hala - Pandanus ororotissimus

Guava - Psidium guajava

Banyan - Ficus sp.

Melochia - Melochia umbellata

See E. I. S., pg. 32

See E. I. S., pg. 39

Undoubtedly botanists would have a much more complete list.

Sincerely,

Eugene Kridler
Eugene Kridler
Wildlife Administrator

cc: Regional Director, Bureau of Sport Fisheries and Wildlife,
Portland, Oregon
Division of Wildlife Services, Portland, Oregon

ENVIRONMENTAL PROTECTION AGENCY
REGION IX -- PACIFIC ISLANDS OFFICE

1000 Bishop Street, Suite 601
Honolulu, Hawaii 96813

May 1, 1972

Mr. John Hilton
Acting Director
Federal Aviation Administration
Pacific Region
Post Office Box 4009
Honolulu, Hawaii 96813

Dear Mr. Hilton:

Thank you for the opportunity to review the draft environmental impact statement for the proposed new passenger terminal and related facilities at General Lyman Field, Hilo, Hawaii. A detailed review has been made and specific comments are being prepared by our Regional Headquarters in San Francisco. Therefore, my comments will be very limited.

Over all, the draft environmental impact statement appears to be well done. However, I believe the statement would be strengthened by the inclusion of information in the areas discussed below.

1. The statement speaks to a reduction in noise factors, but supporting data is absent. It would be helpful to the reviewer of the statement if quantitative data on present noise levels were presented with projections of expected reductions due to the new facility.
2. While control of adverse environmental damages seems to be adequately discussed for the construction period, no discussion is given relative to the impact that a new, larger capacity airport will have on the island. It does not seem unreasonable to predict that as a result of the construction of this new facility, growth in the surrounding metropolitan area will increase. The statement would be improved therefore if some effort

See E.I.S., pg. 244 thru 255

Mr. John Hilton

-2-

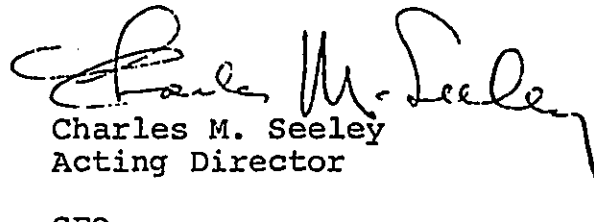
May 1, 1972

were given to a discussion of population projections, with and without the new airport, the stimulatory effect on local business including the tourist and service industries, and interactions with other known or planned facilities (e.g., Hilo Harbor expansion).

3. In my review, I found no reference to this facility's position within an accepted regional or master development plan. Does such a plan exist for the island of Hawaii? If not, specific mention of such a lack should be given. If such a plan exists, some discussion as to the position of the new airport within the planning effort would be warranted.

Thank you again for the opportunity to review this statement.

Sincerely,


Charles M. Seeley
Acting Director

cc: Regional Administrator, SFO

See E.I.S., PG. 67 thru 76
See E.I.S., PG. 67 and 67

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

MAY 3 1972

John Hilton, Acting Director
Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu HI 96812

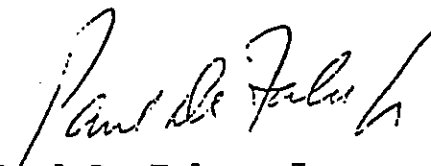
Dear Sir:

We are replying to your letter of March 16, 1972 requesting our review and comment on the draft environmental statement for the proposed New Passenger Terminal and Related Activities at General Lyman Field, Hilo, Hawaii.

The impact of this project on the environment is an important concern; however, appropriate considerations have not been fully covered in the statement. Specific comments are enclosed.

We believe, if you consider these comments in revising the text of your statement, it will result in a more complete and meaningful evaluation of the project's environmental impact. We would appreciate receiving a copy of your final statement.

Sincerely,


Paul De Falco, Jr.
Regional Administrator

Enclosure

Review and comment on the draft environmental impact statement submitted by the Federal Aviation Administration on the proposed New Passenger Terminal and Related Facilities, General Lyman Field, Hilo, Hawaii.

The draft statement needs to be expanded in several areas to include the relevant environmental impacts of a project as large and complex as the one proposed. The project is the first phase of not only an expansion of the physical facilities of General Lyman Field but, an increase in air operations with corresponding broad implications for Hilo and other parts of the State of Hawaii.

The statement is most deficient in failing to discuss the effect of an increased frequency of high noise levels from additional air traffic on the residents of Hilo. It is especially important to look carefully at this aspect before additional commitments of resources are made to this location, further locking-in Lyman Field as the island's major airport. The impact of high noise levels on people is not fully understood but, the best existing knowledge should be applied to airport planning in populated areas. Aside from the physical damage caused by exposure to particularly high noise levels, prolonged exposure to intermediate levels has additional effects. Among them are temporary raising of hearing threshold levels, interference with speech communication and disruption of sleep patterns. These occur at dBA levels of 60 and up, far lower than that experienced by many people living under commercial jet flight patterns.

The final statement should fully consider the general effect of airport noise on the residents of Hilo. This is particularly crucial since the terminal relocation and additional traffic may result in a large increase in take-offs over the city. Noise contour maps for take-offs and landings on all runways should be provided along with an explanation of the known impact of the noise levels indicated. Special areas of concern, such as schools and hospitals, should be pointed out. Noise control efforts, existing and planned, by other government levels in the Hilo area should be noted. Units of measurement used should be explained and comparisons between different units carefully documented. In total, the statement should clearly identify the known physical and psychological effects of expanded airport activities on the surrounding population.

See E. I. S., PG. 24 thru 35-

See E. I. S., ATT. 9, 10, 11, 12, 4-13

The statement should clarify its discussion of waste treatment. It apparently overstates the result of its chlorination process by announcing that effluent will have a "bacteria count of zero." If enough chlorine were added to completely sanitize the effluent it would be extremely expensive, unnecessary, and possibly pose a danger to public health and wildlife. The location of the plant, the effluent injection well and the character of the groundwater aquifer into which the effluent will be pumped should be added to the discussion. Chemical or toxic liquid wastes in the system should be mentioned. The environmental effects of the proposed treatment plant, including its aesthetic impact on nearby residents, should be compared with the more economically expensive alternative of connection to the city treatment system. Control methods for large petroleum or chemical spills in the refueling and maintenance areas should be discussed.

The impact of increased flight operations on ambient air quality should be noted. Efforts to reduce aircraft emissions should be discussed including a rough timetable for their implementation.

It seems clear that the project will stimulate increased economic activity and change existing land use in the airport area. The general environmental impact of these secondary developments should also be noted.

If predictions are accurate, expanded facilities and increased flights will permit a tremendous increase in the number of visitors to the island in the near future. Since these visitors must be accommodated, hotels, motels, shops, restaurants and visitor related recreational facilities will have to be expanded. The general environmental effects of this demand should be noted, including the increased burden on public services.

More directly, it is acknowledged that airport related commercial activity will expand in and around the airport. Increased air cargo operations, for example, may mean increased truck traffic with its corresponding noise and vehicle emissions. The final statement should include area maps noting existing and anticipated future land use in the airport area. The effects of these changes on area residents should be included.

See E. I. S., pg. 13, 14 and 40

See E. I. S., pg. 41 thru 45

See E. I. S., pg. 72 and 73

See E. I. S., pg. 67 thru 72

See E. I. S., pg. 73 and ATT. 7

The statement does a generally good job in assessing the project's increased demand on public services. Several additional questions might be answered, however. Does increased demand for fuel from expanded operations pose a problem in terms of Hilo's port capacity? Secondly, is the widening of Kekuanaoa Street a response to an increased traffic demand generated by the airport? If the answer to either question is affirmative the appropriate environmental considerations should be expressed.

The environmental impact of the alternatives mentioned should comprise the basis of their comparison. Since state planning calls for an expansion Ke-ahole Airport on the Kona coast in addition to this project, it is not clear why it is listed as an alternative.

15 April 68
See E. C. 108
27 April 68

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

MAY 23 1972

Herbert C. Stecker, Vice-Chairman
West Hawaii Committee
P. O. Box 669
Hailua-Kona HI 96740

Dear Mr. Stecker:

Thank you for your letter of April 28, 1972 to Mr. Ruckelshaus expressing concern for noise pollution from the proposed expansion of General Lyman Field in Hilo, Hawaii. EPA is divided into 10 regions nationally, with Region IX covering the State of Hawaii. For this reason, Mr. Ruckelshaus has asked me to reply to your letter.

The Federal Aviation Administration, Pacific Region, has recently submitted a draft environmental impact statement on this project in compliance with the National Environmental Policy Act. This office has reviewed and commented on that draft. A copy of our comments, which were sent to Mr. John Hilton, Acting Director of the Pacific Region, is enclosed for your convenience.

As you can see, it was our opinion that the lack of data on the effect of noise pollution on the residents of Hilo was a fundamental weakness of the draft statement. It should be remembered, however, that the National Environmental Policy Act gives no Federal agency, including EPA, the authority to impose requirements of this type on another Federal agency. Although our comments have only the status of an advisory opinion, it is our hope that the FAA will consider them and address them in preparing the final impact statement. We might also suggest that you voice your specific concerns directly to the FAA in Honolulu and ask that your comments be addressed in the final statement.

Final decisions on major projects of this type are, of course, made by the President and the Congress. If you wish to make your concerns known at this level you might write the Council on Environmental Quality, which was established by the National Environmental Policy Act as advisor to the President on environmental matters. The address is 722 Jackson Place, Washington, D. C., 20006.

If we can be of further assistance to you on this or other environmental matters, please do not hesitate to call on us. Thank you for your interest in the environment.

Sincerely,

Original signed by:
Paul De Falco, Jr.

Paul De Falco, Jr.
Regional Administrator

cc: FAA, Pacific Region

JOHN A. BURNS
GOVERNOR



LETTER NO. 9

FUJIO MATSUE
DIRECTOR

E. ALVEY WRIGHT
DEPUTY DIRECTOR
LAWRENCE F. O. C.
DEPUTY DIRECTOR
MUNNY Y. M. L.
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

IN REPLY REFER TO:
HWY-PA
2.0960

April 10, 1972

Mr. Richard T. Puckey
Chief, Airports Division
Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Puckey:

Subject: Draft Environmental Impact Statement for
General Lyman Field, Hilo, Hawaii

The following are our comments on the subject statement:

1. Page 14 - Exactly how will the temporary access road be converted to a service road and what assurances are there that this road will not continue to be used by passenger traffic.
2. Page 15 - There is no discussion of the traffic impact of the ultimate road system.

Thank you for affording us the opportunity to comment on the subject statement.

Very truly yours,

T. HARANO
Chief
Highways Division

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
630 Sansome Street
San Francisco, California 94111
1940

April 17, 1972



Mr. Phillip M. Statek, Director
Department of Transportation
Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Statek:

I appreciate the opportunity to comment on the Environmental Input Statement concerned with the proposed new passenger terminal and related facilities at General Lyman Field, Hilo, Hawaii.

The area to the south of the terminal is classified as commercial forest land as a result of the Hawaii Forest Survey. The presence of Ohia and Pandanus indicated the area's potential for development of forest resources through tree planting and stand improvement programs

I propose the inclusion of the following, or a similar, statement under Item D - Probable Adverse Environmental Effects Which Cannot Be Avoided: "The clearing of 285 acres of rain forest area will remove native forest vegetation and wildlife habitat from the islands' vegetal environment. There is a great need for basic data to determine the impact of land use change on the adjoining forest environments, as well as the impact on water storage capabilities. In addition, there appears to be a strong correlation between the conversion of forest land and the decline of many birds and animals. Information is not presently available to fully evaluate impacts of this nature." See E. I. S., pg. 47

One other small point regarding report references to the forest area as undeveloped and unused. Hawaii's forest land contains valuable water, wildlife, recreation, forage and timber resources. The goods and services produced by these resources are a valued ecological and economic asset to the State. They can be increased with additional knowledge and planning to guide the development of the resources. See E. I. S., pg. 74

Sincerely,

Douglas Leisz

DOUGLAS R. LEISZ
Regional Forester





THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

April 26, 1972

Mr. Phillip M. Swatek
Director, Airports Division
Post Office Box 4009
Honolulu, Hawaii 96813

Dear Mr. Swatek:

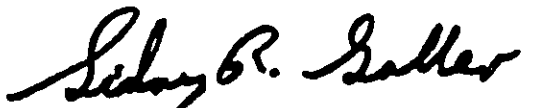
The draft environmental statement for the "Proposed New Passenger Terminal and Related Facilities, General Lyman Field, Hilo, Hawaii," which accompanied your letter of March 20, 1972 has been received by the Department of Commerce for review and comment.

The Department of Commerce has reviewed the draft environmental statement and has the following comments to offer for your consideration.

We have considered the relation of the project to the living aquatic resources for which we have responsibilities. The statement seems to adequately address section 102(c) of the National Environmental Policy Act of 1969.

We hope these comments will be of assistance to you in the preparation of the final statement.

Sincerely,


Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs



**UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE**

440 Alexander Young Bldg., Honolulu, Hawaii 96813

April 18, 1972

Phillip M. Swatek, Director
Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu, HI 96813

Dear Mr. Swatek:

We have reviewed the draft environmental impact statement for the new terminal and related facilities at General Lyman Field, Hilo, Hawaii.

We have no comments to make on this statement.

Very truly yours,

Fred Haughton

Fred Haughton
State Conservationist



LETTER NO. 13

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE

1833 Kalakaua Avenue
Honolulu, Hawaii 96815

April 5, 1972

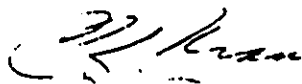
Mr. Phillip M. Swatek
Director
Department of Transportation
Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Swatek:

Thank you for sending us a copy of the draft of the Environmental Impact Statement for the proposed new passenger terminal and related facilities at General Lyman Field, Hilo, Hawaii.

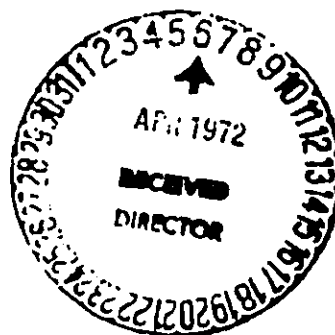
We have no comments to make on this statement.

Very truly yours,



C. K. Chau
State Executive Director
Hawaii State ASCS Office

3-26





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

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

April 12, 1972

Mr. Phillip Swatek
Director
DOT Federal Aviation Agency
Pacific Region
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Swatek:

This letter is in response to the Draft Environmental Impact Statement prepared for the "Proposed New Passenger Terminal and Related Facilities at General Lyman Field in Hilo, Hawaii"

Review of the action connected with this project will bring short term levels of inconvenience and noise associated with construction, however, the long term benefit will decrease the noise levels from parked aircraft to surrounding residences at the new location of the terminal.

It is recommended that planning of additional runways consider the existing and proposed land uses to minimize adverse impact from aircraft noise on residential uses per HUD Noise Assessment Guidelines and Circular 1390.2.

Sincerely,

Alvin K. H. Pang
Alvin K. H. Pang
Director





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

THE

June 9, 1972

Mr. Phillip M. Swatek
Director
Pacific Region
Department of Transportation
Federal Aviation Administration
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Swatek:

This letter will acknowledge receipt of the Draft Environmental Statement for the proposed new passenger terminal and related facilities at General Lyman Field, Hilo, Hawaii.

The responsibilities for air pollution, water hygiene and solid waste management have been transferred from DHEW to the newly created Environmental Protection Agency. Comments relative to those concerns will undoubtedly be made by EPA.

It does not appear that any problems of significance related to this department will result from the project.

We appreciate the opportunity to review the Draft Environmental Statement.

Sincerely yours,

Fernando E. C. De Baca
Regional Director





EXECUTIVE CHAMBERS
HONOLULU

JOHN A. BURNS
GOVERNOR

July 18, 1972

Dear Mr. Webb

The State of Hawaii was advised on June 28, 1971, by the Environmental Protection Agency of federal approval of the Water Quality Standards, enacted for the State of Hawaii.

You can be assured that the proposed New Passenger Terminal, State of Hawaii Project No. H-91 at General Lyman Field, Hilo, Hawaii, is to be located, designed, constructed and operated in compliance with the approved Water Quality Standards of the State of Hawaii.

Air pollution standards were established by the Legislature and became effective during January 1972. Copies of these standards were submitted to the Environmental Protection Agency in February 1972.

We have not received formal approval; however, please be assured that the State will locate, design, construct and operate the proposed New Passenger Terminal in compliance with these Air Quality Standards.

Please consider this letter as certification as required by Section 16-e, 1 & 2, of the "Airport and Airway Development Act of 1970."

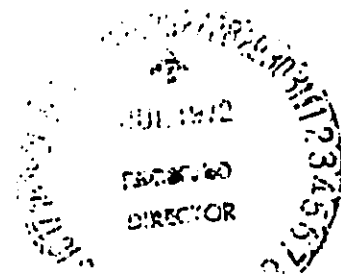
Warmest personal regards. May the Almighty be with you and yours always.

Sincerely,

John A. Burns

Mr. Jack Webb
Director, Pacific Region
Federal Aviation Administration
U. S. Department of Transportation
P. O. Box 4009
Honolulu, Hawaii 96813

3-29



HWY-PA
2.401b

August 7, 1972

Mr. Richard T. Puckey
Chief, Airports Division
Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Puckey:

Subject: Draft Environmental Impact Statement
for General Lyman Field, Hilo, Hawaii

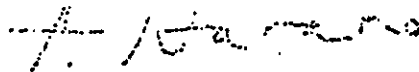
Reference is made to our letter, HWY-PA 2.0960, dated
April 10, 1972.

It is our understanding, as a result of coordination with
our Airports Division, that the subject impact statement was
for the terminal facilities and a temporary access road at
Kekuaeoa Street.

Since the ultimate facilities are planned for far in the
future, we agree that a discussion of the ultimate access would
not be appropriate at this time.

We do request however, that the EIS for the ultimate
facilities contain a discussion of the ultimate access and that
this matter be coordinated with the Highways Division.

Very truly yours,



T. HARANO
Chief
Highways Division

ST:gf

cc: AIR

HONOLULU AIRLINES COMMITTEE

1600 KAPIOLANI BOULEVARD, SUITE 1323
HONOLULU, HAWAII 96814

FRANK DER YUEN
EXECUTIVE DIRECTOR

TELEPHONE: (808) 949-8989

October 13, 1972

Mr. Herman C. Bliss
Chief, Airports Division
Pacific-Asia Region
Federal Aviation Administration
1833 Kalakaua Avenue
Honolulu, Hawaii 96814

Re: Final Environmental Impact Statement
General Lyman Field - August 1972

Dear Mr. Bliss:

Pursuant to our recent conversation, we submit herewith our comments on the "Final Environmental Impact Statement" for General Lyman Field, Hilo, Hawaii, dated August 1972.

At the public hearing held on December 15, 1971 in Hilo, Hawaii for the purpose of obtaining comments from interested parties on the State's preliminary environmental impact statement, the Honolulu Airlines Committee presented its own statement. This is reproduced as a part of the Final Environmental Impact Statement.

After reviewing the subject document, we do not feel that the points raised in our statement of December 15, 1971 have been fully or satisfactorily answered. The airlines are principally still greatly concerned that airport operations at the present Hilo airport site may become increasingly subject to injunctions brought by private citizens who do not necessarily share in the politically expedient view that the community is better off with a \$20 million airport expansion, including the accompanying noise, than without the proposed expansion. Experience at other locations where urgently needed expanded facilities have been curtailed or terminated through the action of relatively few private citizens should be carefully considered before a financial commitment of the magnitude estimated for the proposed new Hilo terminal is irretrievably made.

There are also a number of inconsistencies in the subject report prepared by the Department of Transportation's consultants and shown in various appendices. As an example, the computer simulation of ramp congestion includes Boeing 747's and DC-10's as well as DC-8's. In the "Estimated Annual Taxiing Cost" appendix, overseas aircraft costs are based on DC-8's and Boeing 707's only.

3-31

A JOINT COMMITTEE OF THE AIRLINES SERVING HAWAII
FOR THE DEVELOPMENT OF TOURISM AND TRADE

See E.I.S., pg. 4D-2
Appendix 4

Mr. Herman C. Bliss

-2-

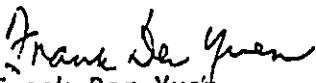
October 13, 1972

Furthermore, the statement is made that R/W 26 receives 75% of all Overseas arrivals and R/W 8 receives 97% of all departures. As traffic increases, we seriously question that this percentage usage can be maintained. In this connection, the airlines are also concerned over the possible conflict of FAA versus State control over operational procedures. This question arose during the December 15, 1971 hearing, but was not dealt with later.

A review of the passenger traffic figures at Hilo since January 1972, shows a definite decline. These figures should be thoroughly analyzed to ascertain if the projections used in the planning of the proposed new terminal are now valid.

In view of the above, the airlines are unanimously of the opinion that an overall systems planning study of the long-range requirements of airports, including the best air service pattern to meet the real needs of the public in the State of Hawaii is essential and timely before substantial additional commitments are made on an airport by airport basis.

Very truly yours,


Frank Der Yuen

FDY:klw

See E. I. S., PG. 26 & 27
See E. I. S., PG. 36
See E. I. S., PG. 14

APPENDIX 4

Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

APPENDIX 4

DISCUSSION OF OPERATIONAL ASPECTS
FOR THE
NEW TERMINAL FACILITIES
AT
GENERAL LYMAN FIELD
HILO, HAWAII

State of Hawaii
Department of Transportation
Airports Division
Honolulu, Hawaii

State Project No. H-91
June 8, 1972

SUMMARY

The proposed New Terminal Facilities at General Lyman Field at Hilo, Hawaii, is the result of a series of alternate schemes prepared to arrive at a layout which accommodates the anticipated growth in air traffic at the lowest possible cost and in conformance with the long range development plan for Hilo Airport. The finally adopted layout satisfied these criteria and detail design started in the second half of 1971.

The Honolulu Airlines Committee has raised the following major points of concern on the adopted layout and function of the proposed terminal complex:

1. Separation of the check-in area from the baggage claim area by approximately 800 feet.
2. Hauling distance for air cargo operations.
3. Handling and routing of aircraft service vehicles on the new terminal ramp.
4. Increased taxiing costs.
5. Additional manpower.
6. Additional cargo handling costs.

Studies have been conducted on these points of concern, and the results are presented in this report. The attached Sections A, B, C and D describe

the applicable studies in detail and the results can be summarized as follows:

1. Separation of Facilities (Section A)

The separation of check-in and baggage claim facilities is the result of an effort to combine overseas and inter-island operations on one single level and incorporates the following factual considerations:

- a. Low terminal cost.
- b. Airline scheduling characteristics.
- c. Terminal utilization.
- d. Future expansion of terminal.
- e. Long range growth potential.

In view of the past economic condition of the airlines, and subsequent stringent budget limitations, it was the goal of the State to provide a new terminal facility to meet the short range needs of the air traffic at Hilo. The consolidated layout which therefore evolved is operationally efficient to meet the demands of the traveling public and, is at the same time, flexible enough to be expandable for any long range program.

2. Air Cargo Haul Distance (Section B)

The location of the new passenger terminal is sited in accordance with a long range master plan for General Lyman Field. To insure the accommodation of projected increases in size and

frequency of aircraft, land use designations for the various operations involved must be established. The master plan for General Lyman Field proposes that the air cargo facilities be located at sites now unavailable for development and for the interim at the old terminal. This will result in a longer distance to be traveled by cargo vehicles than those the airlines are presently accustomed to. However, this will ensure the long range program to provide adequate airport facilities at Hilo.

3. Ramp Vehicle Traffic (Section C)

The study indicates that handling and routing of aircraft service vehicles on the new terminal ramp does not appear to be a problem. Congestion of traffic lanes is not anticipated and it is estimated that passenger loading and unloading are not affected by simultaneous operation of service vehicles.

4. Increase Taxiing Costs (Section D)

The airport now is in the enviable position of having low wind conditions and low aircraft activity, thus enabling aircraft to land and takeoff using the shortest taxiing distances. This results in landings to the west and takeoffs to the east. If the same runway usage direction is made for the new passenger terminal, then taxiing costs will go up. However, when Runway 8-26 is extended to 12,000 feet from its present 9,800 feet, then inter-

island taxiing costs will go down as compared with the existing terminal. In addition, when aircraft activity is sufficient to require landings and takeoffs in the same direction, then the new terminal location will have lower taxiing costs than the present terminal. Section D describes the taxiing costs in more detail.

5. Additional Manpower

The inter-island carriers claim that additional manpower will be needed to process passengers in the new passenger terminal because of the distance from the ticket counter to the passenger gates. This claim cannot be disputed, nor can the numbers be verified. The fact remains that traffic at General Lyman Field will continue to increase and that additional personnel will be required to service the traveling public in a modern and efficient operation.

6. Additional Cargo Handling Costs

This increased cost is claimed because of the distance between the existing air cargo area and the new passenger terminal. It is expected that an increase in cost will occur, however it is doubtful that the quoted costs can be attributed to the distance between the two facilities without considering the growth of the inter-island air cargo operations.

As previously indicated, upon completion of the new passenger terminal aircraft taxiing costs are expected to increase for an interim period; an increase in the emission of air pollutants will simultaneously occur as a direct result of the greater time spent taxiing. Estimates of the total pounds of pollutants emitted by taxiing aircraft under five different conditions have been calculated and are presented in Section E of this appendix.

Section F is a brief discussion of the composite noise rating procedure for evaluating community response to aircraft noise. Also included are the calculations used in determining the selected contours on Attachments 11, 12 and 13.

SECTION A

Separation of Check-In and
Baggage Claim Facilities
At the New Passenger Terminal
General Lyman Field
Hilo, Hawaii

Several schemes were prepared during the conceptual design phase for the new terminal facilities at General Lyman Field.

The initial schemes incorporated the features suggested by Peat, Marwick and Livingston in their report entitled "General Lyman Field - Development Plan - 1985". These schemes considered separation of the inter-island and overseas terminals as well as a two level terminal complex for the overseas operations. After reviewing the cost estimates for this series, it became obvious that the Peat, Marwick and Livingston layout was too expensive for the Phase I development at General Lyman Field, and with the concurrence of the Honolulu Airlines Committee, these initial studies were dropped from further consideration. Subsequently, separate inter-island/overseas single level concepts were explored, but these also were discarded as too expensive.

Steps were then taken to combine the inter-island and overseas activities. By combining these operations, savings in space were realized due to cross-utilization of the passenger lounge, gate positions, concession and baggage claim areas. The layout which consolidates these activities and which was

finally adopted is shown on Sketch SKH-084 attached. It encompasses three major structures, the check-in building, the passenger lounge building with concession areas, and the baggage claim building. The distance between the check-in and baggage claim areas is approximately 800 feet.

Admittedly, the walking distances for the inter-island passengers will be somewhat longer than those experienced at the present inter-island terminal at Hilo. However, they are not considered excessive when compared with airports of similar capacity elsewhere in the nation.

In addition, the combined-layout concept was selected because of the different characteristics of the overseas and inter-island flight schedules. The overseas traffic on Saturday represents 33 percent of the week's activity and the remainder, or 67 percent, of all overseas flights is approximately evenly divided among the other six days of the week. On the other hand, the inter-island traffic is uniformly distributed throughout the week, with Saturdays being even a little below average. In view of these facts, the construction of separate facilities for the two types of carriers was determined to be inconsistent with the task of finding the most economical and functional utilization of space. If separate terminals were provided, the overseas terminal area would have minimal activity during six days of any week. The proposed concept of combining inter-island and overseas facilities thus provides maximum use and flexibility of the spaces provided.

The inter-island carriers have expressed a desire to have their check-in facilities adjacent to the baggage claim area. They claim that such an arrangement would permit a more economical operation of the inter-island facilities and reduce the walking distance for inter-island passengers to a minimum.

Evaluation of the claim indicated that the consolidation of the inter-island facilities was not attempted for the following reasons:

1. The curb space along the baggage claim building is considered adequate for the requirements by deplaning passengers having claimed their baggage. If enplaning inter-island passengers were to also use this curb space, an extremely congested and chaotic situation would arise.
2. If inter-island ticket counters are located in or adjacent to the baggage claim area, they would probably satisfy only the present traffic requirements. In spite of the inter-island carriers' claim since the start of the project in 1969 that annual passenger traffic would not increase, any expansion would be impossible without major alterations to the terminal complex. Contrary to the inter-island carriers' claim passenger volume has actually increased 6 to 10 percent annually since 1969, in spite of the declines experienced nationally in passenger traffic during 1970 and 1971. Therefore future expansion capabilities of the ticketing area and baggage claim for inter-island carriers should be provided for as

it will be under the present layout.

In addition, there have been recent changes in the fare structure relationship between inter-island and overseas passengers.

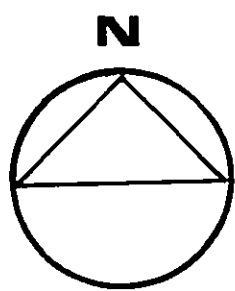
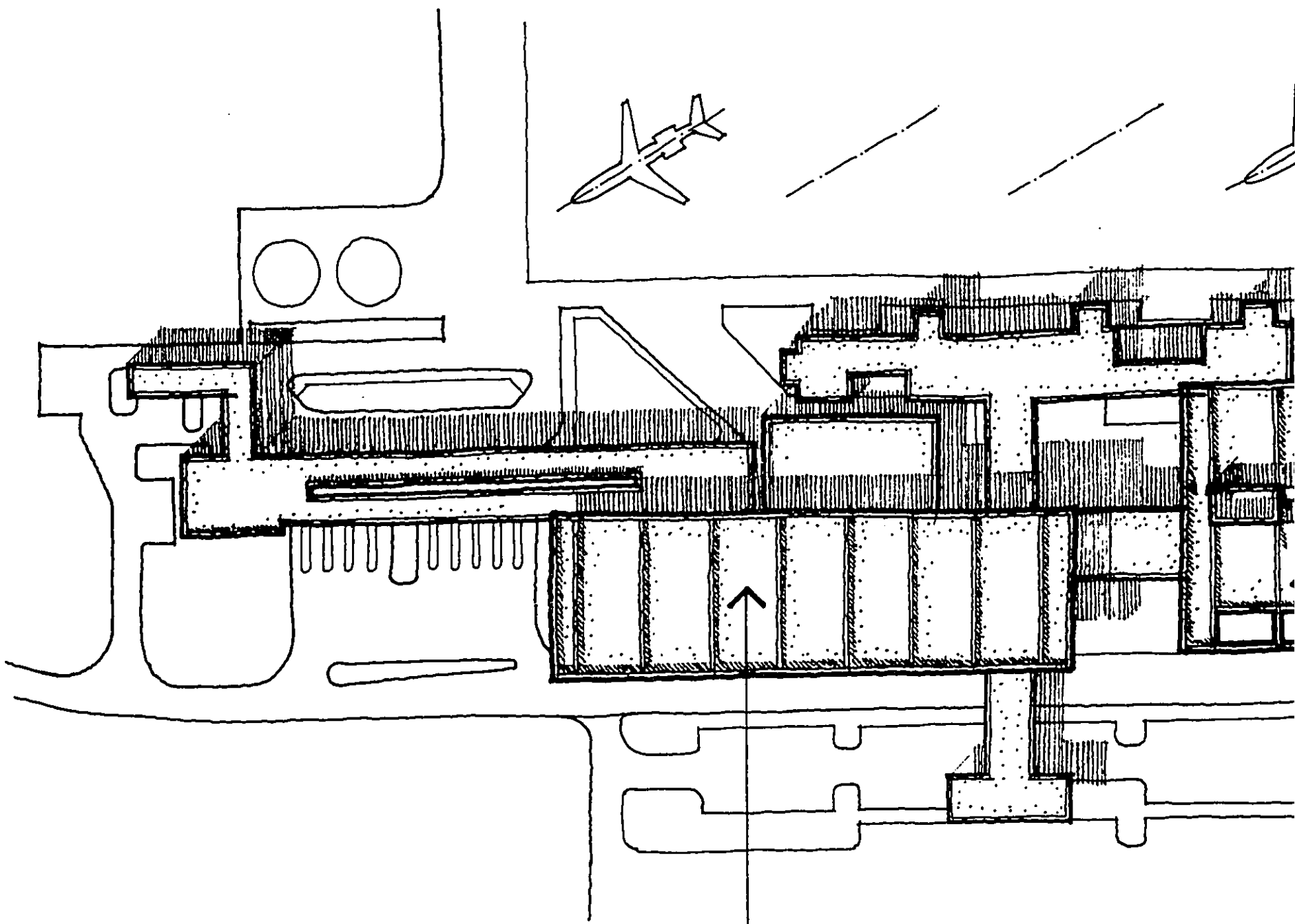
Formerly, if an overseas passenger travelled to Honolulu, and went on an inter-island flight to Hilo or Ke-ahole, the passenger had to depart via Hilo to the mainland or pay the full inter-island fare price instead of a nominal charge of nine dollars. The same principle applied if an overseas passenger flew into Hilo and then to Honolulu. Now, there are no restrictions on overseas passengers' entry and departure routes. This can have a pronounced effect on both inter-island and overseas passenger traffic, with the results not completely clear. One airline is predicting a drop in overseas passengers to Hilo with a corresponding increase in inter-island traffic. For this reason, the inter-island ticket counters have been located adjacent to the overseas counters. If the relative shift in passengers does occur, ticket counter allocations can be adjusted to balance the passenger loads without actually having to construct additional building space.

It is anticipated that the proposed layout accommodates growth in traffic volume until 1979. After this period, future enlargement of the passenger lounge can be provided by expansion to the east and/or west as necessary. The check-in building can also

be expanded and the first phase of the baggage claim building has provisions for the addition of a fifth baggage claim device.

In summary, the separation of check-in and baggage claim facilities is the result of the effort to combine overseas and inter-island operations on one single level and incorporates the following factual considerations:

1. Lower terminal cost than separate terminals.
2. Airline scheduling characteristics.
3. Terminal flexibility by cross-utilization of space for inter-island and overseas activities.
4. Expansion of terminal to accommodate growth of passenger traffic.
5. Long range growth potential.

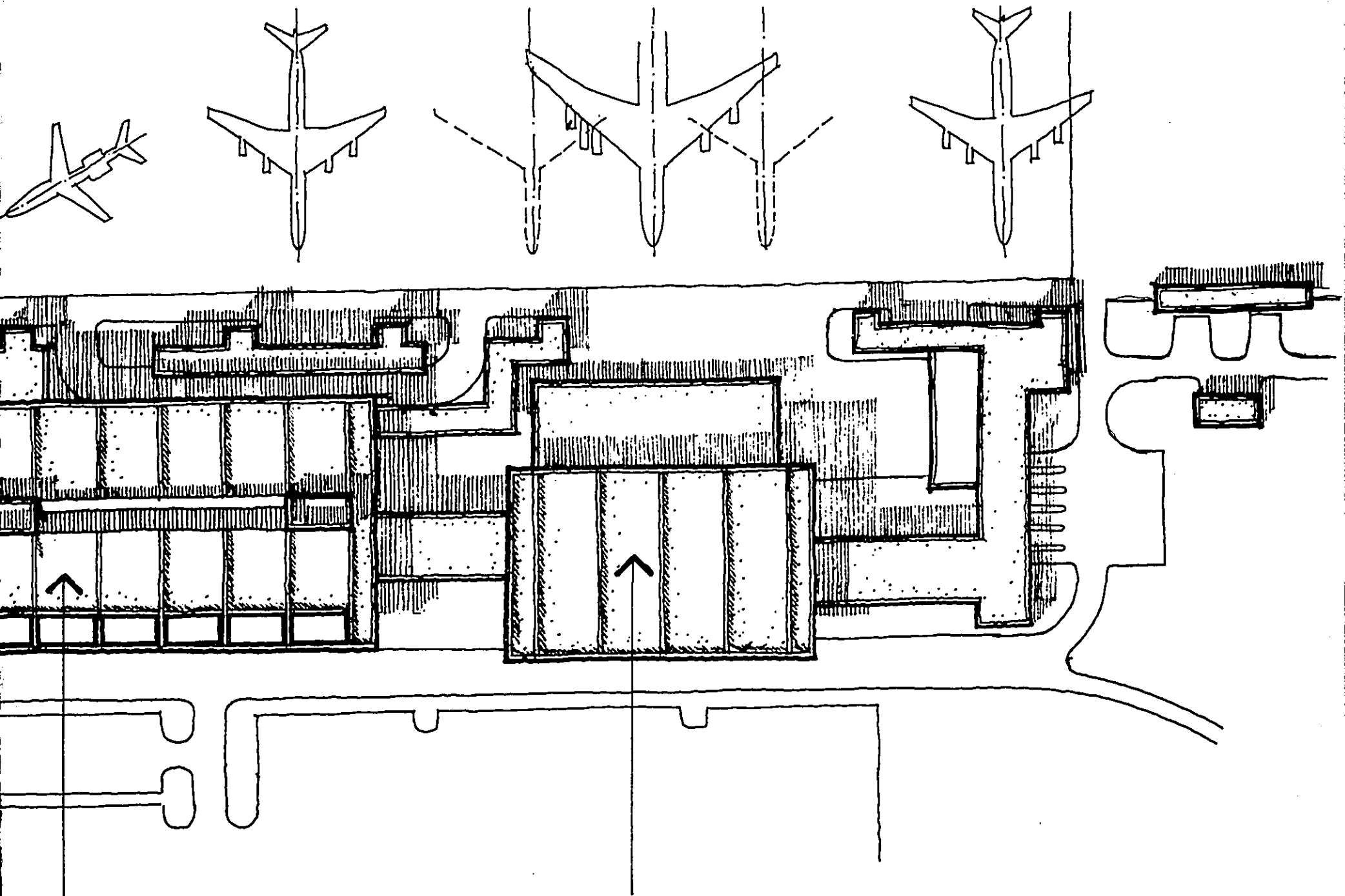


**BAGGAGE CLAIM
BUILDING**

**PASSENGER
BUILDING**



0 100 200 400 700 FEET



PASSENGER LOUNGE
BUILDING

CHECK-IN
BUILDING

TERMINAL AREA PLAN

12 MAY 72

SKH-084

SECTION B

Hauling Distance for
Air Cargo Operations
At General Lyman Field
Hilo, Hawaii

The "General Lyman Field - Development Plan - 1985", prepared by Peat, Marwick, Livingston and Company in 1969, defined the land use of General Lyman Field based on the airline requirements of increased future traffic. The area for air cargo development was determined to be located on the portion of land southeast of Runway 3-21 now occupied by the Hawaii National Guard, and southwest of the future Runway 14-32. It was also determined that for Phase I, air cargo would be located at the existing terminal site. With the concurrence of the airlines the present overseas terminal building was designed with the intention to use this building for air cargo purposes when the new passenger terminal was completed. The present overseas building was constructed in the spring of 1969.

All cargo planes will park and be loaded on the existing apron in front of the present overseas terminal. However, a considerable portion of cargo will continue to be loaded onto passenger planes, and for this reason, a service road will be constructed to connect the old with the new terminal facilities. This service road which can also be used by fueling trucks, is shown dashed on Attachment 5, attached. The distance between the existing air cargo building and the new aircraft apron is 10,600 feet.

The route shown utilizes existing roads and pavement in the area to minimize construction costs. At ten miles per hour, it will take 12 minutes to travel one way between the existing air cargo area and the new passenger terminal. At twenty miles per hour, it will take about six minutes to travel one way.

The service road has been laid out to avoid crossing of any runway or taxiway and is separate from the existing or proposed public road system. Thereby, safe passage of all fuel and cargo vehicles is assured.

It is a fact that the air cargo route as shown on the plan attached, is long when compared with the operations at the existing terminal at Hilo. However, the travel distance is less than those at some major airports (for example, Los Angeles). However, if an attempt were made to locate an air cargo facility immediately adjacent to the new passenger terminal, the long range land use plan for the airport will be jeopardized.

The location of the new passenger terminal is based on a long range master plan. To accommodate expected increases in size and frequency of aircraft, sufficient land for the various operations involved must be set aside now. This invariably results in longer distances than the airlines are accustomed to now at Hilo, but the distances ensure the airport will be adequate in the future.

SECTION C

Ramp Vehicle Traffic at the
New Passenger Terminal
At General Lyman Field
Hilo, Hawaii

Summary

A study was made to assess the traffic situation on the new aircraft ramp for the new passenger facilities at General Lyman Field in Hilo, Hawaii. Concern was voiced that there would be considerable congestion and conflict of service vehicles with passenger loading and unloading operations by the airlines.

A computer program was utilized to analyze ramp vehicle traffic for 1979 on a Saturday afternoon, which is the projected busiest time of the week. Other days of the week, the vehicle traffic would be considerably lighter. The computer run indicates that during the busiest five minutes, 11 vehicles traveled east and 14 vehicles traveled west at the busiest point on the apron. This is five vehicles per minute travelling east or west during the busiest five minutes. The average was less than three vehicles per minute at the busiest point, travelling in either direction. The computer run was made assuming use of "Wiki-Wiki" buses. If a Plane-Mate is used instead, apron vehicle traffic will be even less, because a Plane-Mate can hold 150 passengers, while a Wiki-Wiki train is assumed to hold 90 passengers only.

The study indicates that handling and routing of aircraft service vehicles on the new terminal ramp does not appear to be a problem. Congestion of traffic lanes is not anticipated and it is estimated that passenger loading and unloading are not affected by simultaneous operation of service vehicles.

Description of the Study

The purpose of the study was to estimate the number of vehicles on the apron of the proposed new passenger terminal at General Lyman Field, Hilo, Hawaii. Aircraft passenger activity at 2,505,000 annual passenger level was estimated for 1979. Inter-island carriers were estimated to carry 1,205,000 annual passengers and overseas carriers were estimated to carry 1,300,000 annual passengers. Aircraft schedules were assigned, assuming that the inter-island carriers will not have aircraft larger than the DC-9's or Boeing 737's. Overseas carriers were assumed to have a mix of B-747's, DC-10's, 707's and DC-8's. Aircraft schedules are similar to 1971 schedules except that they are more frequent. The assigned inter-island passenger traffic level is about double the 1971 traffic and the overseas passenger traffic level is about four times the 1971 traffic.

The study was prepared by a computer model that keeps track of the location of all vehicles on the apron at any time. All vehicles were assumed to travel at ten miles per hour between their origin and destination.

Based on the operational requirements of the aircraft, the following service vehicles were assumed to use the apron service road regularly:

1. Fuel trucks -- Two fuel trucks per overseas aircraft, none for inter-island aircraft.
2. Lavatory service truck -- One truck per overseas aircraft, none for inter-island aircraft.

3. Cargo/Mail trucks -- One "truck" per aircraft for loading and one "truck" per aircraft for unloading is assumed. The "truck" may be a tug and several carts or a pickup type truck.
4. Baggage trucks -- One tug with up to six trailers. The number of trailers per train and the number of trains depends on the number of bags per flight (2.0 bags per overseas passenger and 1.4 bags per inter-island passenger were assumed).
5. Clean-up trucks -- Two types per overseas aircraft; cabin clean-up and galley clean-up. DC-10's and 747's require two galley clean-up trucks and one cabin clean-up truck. 707's and DC-8's require one galley clean-up truck and one cabin clean-up truck. No clean-up trucks for inter-island aircraft.
6. Food trucks -- Two trucks per 747 or DC-10. One truck per 707 or DC-8. Some carriers combine galley clean-up and stocking the galley in one truck. The assumptions listed will overstate the number of vehicles on the apron but only slightly.
7. Wiki-Wiki trains -- Quantity depends on number of enplaning or deplaning passengers.
8. Loaders -- Two per overseas aircraft. A loader is a device that takes baggage from the baggage train (normally in containers) and raises the baggage to the level of the baggage storage area in the plane or visa versa.

Aircraft tugs, mobile stairs and portable generators, were not considered as part of the apron traffic because these vehicles were assumed to park immediately adjacent to the aircraft.

All overseas aircraft were considered to operate on a turnaround cycle of two hours, the average the airlines presently use at Hilo. Times for vehicle arrival in relation to this cycle were as follows:

1. Passengers start deplaning into Wiki-Wiki trains, one minute after aircraft engines shut down. Wiki-Wiki trains have 75 seats plus room for 15 possible standees, a capacity of 90 people.
2. Baggage unloading starts one minute after engines shut down.
3. Cargo and mail unloading starts after baggage is removed.
4. Lavatory clean-up starts 10 minutes after engine shutdown.
5. Cabin clean-up starts 10 minutes after engine shutdown.
6. Galley clean-up starts 10 minutes after engine shutdown.
7. Aircraft fueling starts one hour after engine shutdown.
8. Galley stocking starts 30 minutes prior to departure.
9. Cargo and mail loading starts 30 minutes prior to departure.
10. Baggage loading starts 20 minutes prior to departure.
11. Passengers start enplaning 20 minutes prior to departure.

The overseas vehicle service schedule for a typical 747 turnaround is graphically shown in Figure 1.

For inter-island carriers, a 20 minute cycle was used as follows:

1. Passengers start deplaning one minute after aircraft engines shutdown.
2. Baggage unloading starts one minute after engines shut down.
3. Cargo and mail unloading starts after baggage is removed.
4. Cargo and mail loading starts after deplaning cargo and mail is removed.
5. Baggage loading starts 10 minutes prior to departure.
6. Passengers start enplaning 5 minutes prior to departure.

The number of Wiki-Wiki's or Plane-Mates in use is extremely sensitive to how the passenger loading operation is conducted. Two extremes were run on the computer. One extreme assigned one Wiki-Wiki to an aircraft and the Wiki-Wiki made as many trips as necessary to load or unload the aircraft. This resulted in two Wiki-Wikis being needed at the peak time.

The opposite extreme was to load a new Wiki-Wiki every two minutes and process all passengers for one flight through one terminal building door. This resulted in 8 Wiki-Wikis being required at one time. The difference between the two extremes is that in the first scheme, people have to wait for the return of the Wiki-Wiki, while in the second scheme the Wiki-Wiki waits for people.

For a terminal operation where a Plane-Mate is used, it is anticipated that two doors from the terminal building will load one Plane-Mate, which can carry 150 passengers.

Results

Tables 1, 2, 4 and 6 attached, list the printed computer output. Significant results of the study show the number of vehicles passing Points A, B and C, as shown on SKH-083, in five minute intervals from 1200 to 2125 hours on Saturday, 1979. It may be seen from Table 4, that the maximum traffic in a five minute period occurred at Point B where eleven vehicles traveled east and fourteen vehicles traveled west, an average of less than three vehicles per minute. For the busiest two hour period, between 1530 and 1730 hours, an average of 3.6 vehicles traveled east and 3.7 vehicles traveled west of Point B during each five minute period. This is less than one vehicle per minute in each direction.

While it is not possible to pinpoint the exact position of every vehicle for any particular time, SKH-083 represents the approximate location of service vehicles at the busiest moment, somewhere between 1630 and 1635 hours.

Approximate vehicle locations for other times may be found by keeping track of vehicles passing Points A, B and C, for several five-minute periods prior to the selected time. By knowing the number of vehicles between points (the difference of total "Ins" and "Outs" for a point equals the number of vehicles









PROJECTED

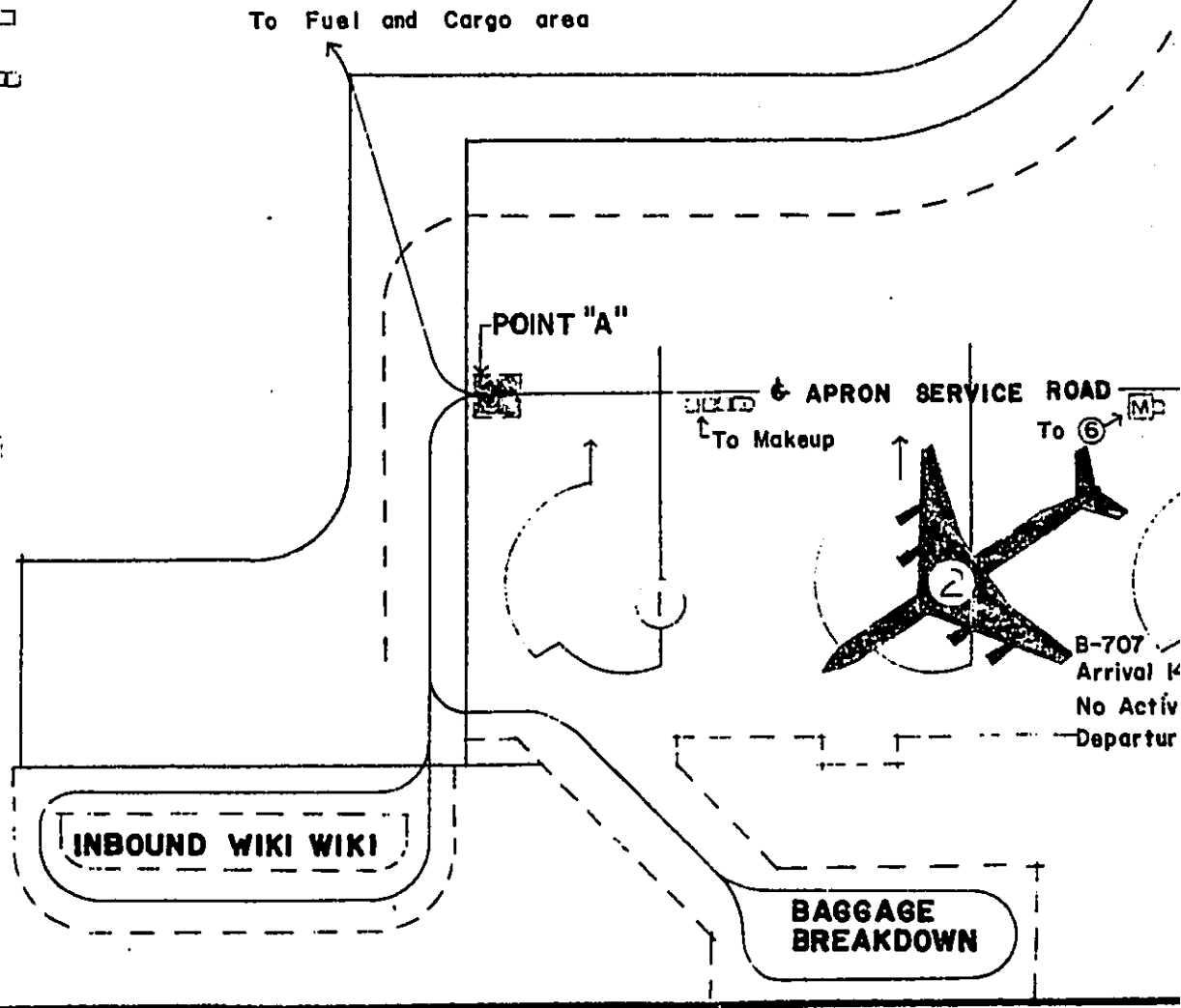
AIRCRAFT SERVICE VEHICLES

	OVERSEAS				INTERISLAND	
	B-747	DC-10	B-707	DC-8	B-737	DC-9
Loader	4	4	4	4	0	0
Baggage	*	*	*	*	*	*
Cargo-Mail	2	2	2	2	2	2
Lavatory	1	1	1	1	0	0
Cleanup	3	3	2	2	0	0
Fuel	2	2	2	2	0	0
Food	2	2	1	1	0	0
Wiki Wiki	*	*	*	*	*	*

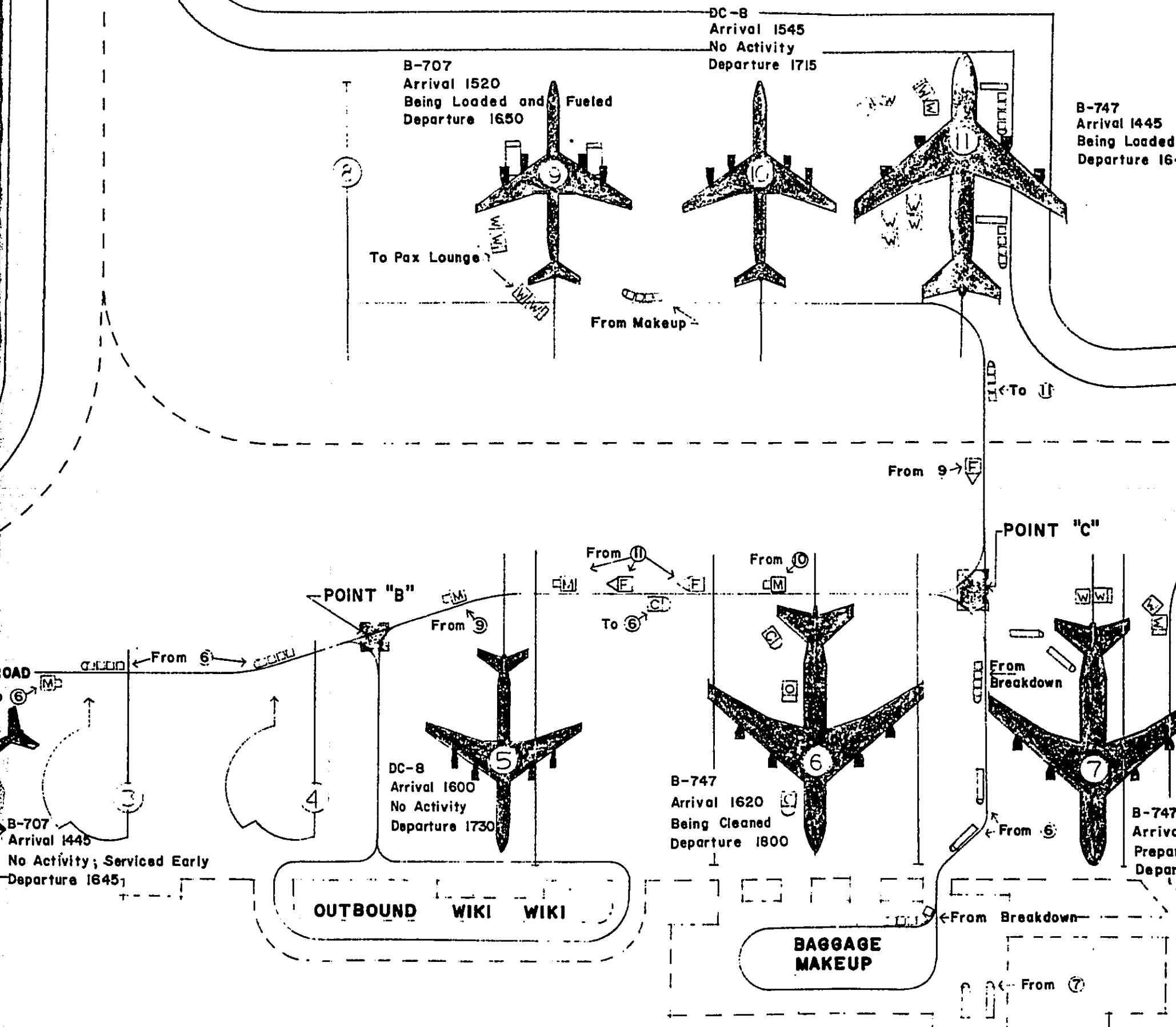
* Number varies

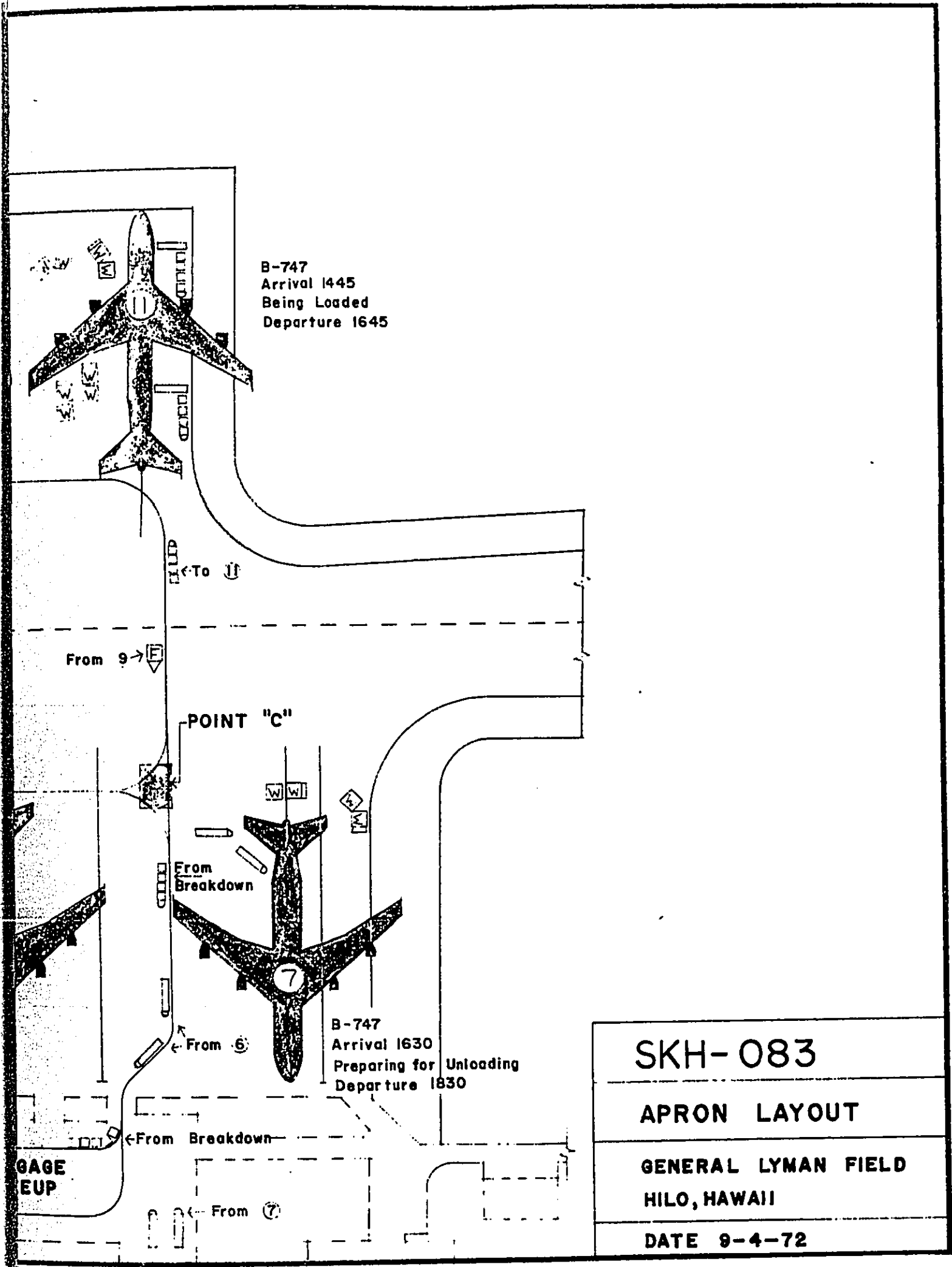
LEGEND

- LOADER 
- BAGGAGE 
- CARGO-MAIL 
- LAVATORY 
- CLEANUP 
- FUEL 
- FOOD 
- WIKI WIKI 



EXPECTED APRON ACTIVITIES ON SATURDAY
1633 HOURS 1979





SKH-083
APRON LAYOUT
GENERAL LYMAN FIELD HILO, HAWAII
DATE 9-4-72

in route), and by keeping in mind the assumed aircraft schedules, turn-around cycles, and aircraft service requirements, vehicle positions on the apron may be plotted. However, such a plot will account for only those flights and support services of the assumed schedules. Unscheduled vehicles and those only occasionally used, such as messenger carts extra baggage trucks for late passengers, and fork lifts for loading the handicapped were not considered to use the apron regularly. Other contingencies caused by foul weather or mechanical difficulties, for example, may occur that will affect the operating procedures of the airport. Resulting changes in ground traffic would then be impossible to predict. Nevertheless, the computer model used in this study to simulate vehicle movements represents events that may be expected under normal operating conditions.

FIGURE 1
Typical 747 Turnaround Time
General Lyman Field, Hilo, Hawaii

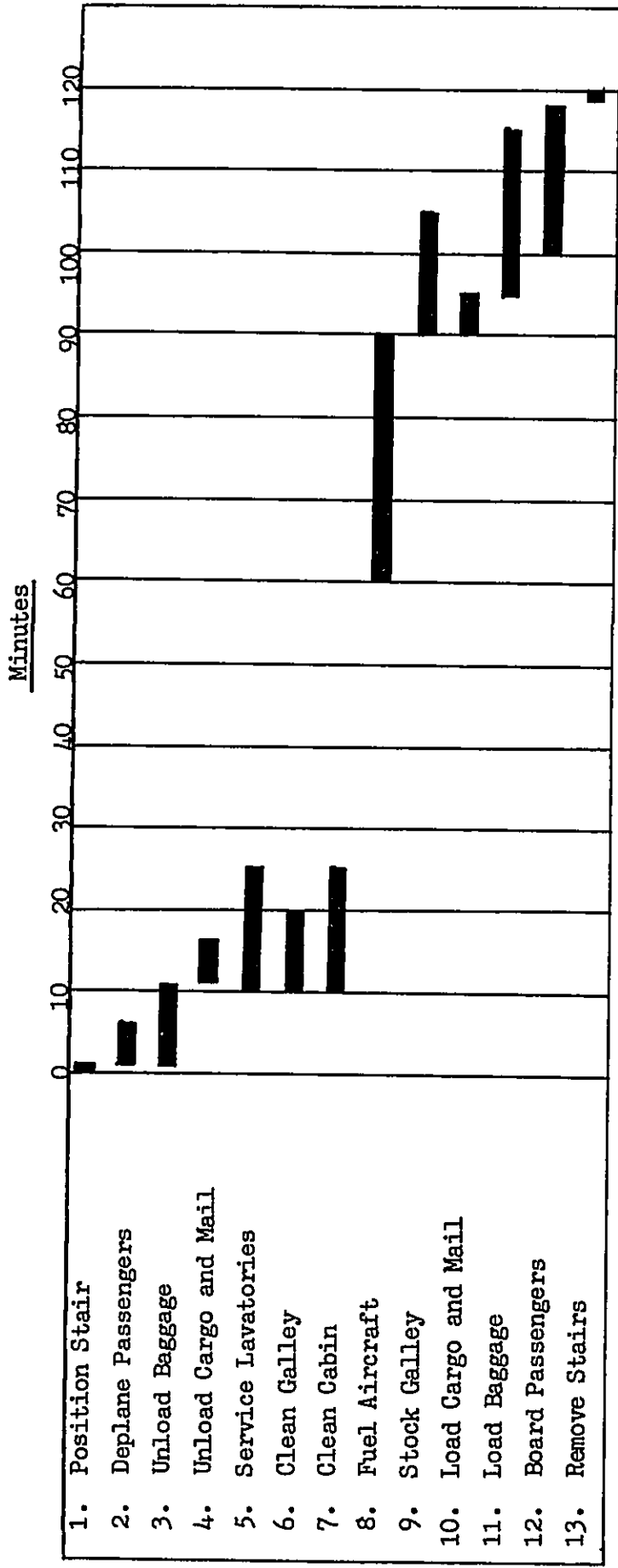


TABLE I - AIRCRAFT OPERATION REPORT

GENERAL LYMAN FIELD - HILO, HAWAII

FLIGHT SEQUENCE NUMBER	AIRLINE NAME	AIRCRAFT TYPE	GATE NUMBER	SCHEDULED ARRIVAL TIME	ACTUAL ARRIVAL TIME	SCHEDULED DEPARTURE TIME	ACTUAL DEPARTURE TIME	APRON* OCCUPANCY TIME	NUMBER OF ENPLANING PASSENGERS	NUMBER OF DEPLANING PASSENGERS	GATE WAIT TIME
1	UAL	R747	5	1201	1201	1355	1355	114	300	250	0
2	HAWAII	DC-9	4	1202	1202	1220	1220	18	70	92	0
3	ALOHA	R737	3	1203	1203	1220	1220	17	60	55	0
4	UAL	DC-10	7	1215	1215	1415	1415	120	200	150	0
5	UAL	R747	5	1230	1230	1425	1425	115	300	250	0
6	HAWAII	DC-9	4	1309	1309	1330	1330	21	90	115	0
7	ALOHA	R737	3	1310	1310	1330	1330	20	70	68	0
8	HAWAII	DC-9	2	1314	1314	1335	1335	21	90	90	0
9	CAL	R707	9	1320	1320	1520	1520	120	150	60	0
10	HAWAII	DC-9	4	1342	1342	1400	1400	18	80	92	0
11	UAL	R707	10	1345	1345	1545	1545	120	100	100	0
12	UAL	R747	5	1400	1400	1600	1600	120	300	250	0
13	UAL	DC-10	4	1420	1420	1620	1620	120	200	150	0
14	UAL	R747	7	1430	1430	1630	1630	120	250	200	0
15	UAL	R747	11	1445	1445	1645	1645	120	300	250	0
16	UAL	R707	2	1445	1445	1645	1645	120	100	80	0
17	HAWAII	DC-9	4	1445	1445	1505	1505	20	70	115	0
18	CAL	R707	9	1450	1450	1650	1650	90	100	80	30
19	UAL	DC-9	10	1515	1515	1715	1715	90	185	150	30
20	UAL	DC-9	5	1530	1500	1730	1730	90	185	150	30
21	HAWAII	DC-9	4	1532	1532	1550	1550	18	115	92	0
22	ALOHA	R737	3	1533	1533	1550	1550	17	80	70	0
23	CAA	R747	6	1600	1620	1800	1800	100	200	180	20
24	AT	R747	7	1630	1630	1830	1830	120	150	150	0
25	HAWAII	DC-9	4	1649	1649	1715	1715	26	115	70	0
26	CAL	R707	9	1700	1700	1900	1900	120	100	80	0
27	UAL	DC-10	11	1710	1710	1910	1910	120	200	150	0
28	HAWAII	DC-9	4	1742	1742	1800	1800	18	115	80	0
29	ALOHA	R737	3	1743	1743	1800	1800	17	80	60	0
30	UA	R747	2	1745	1745	1945	1945	120	250	180	0
31	FI	R747	5	1830	1830	2030	2030	120	150	120	0
32	UAL	R707	6	1900	1900	2100	2100	120	100	60	0
33	HAWAII	DC-9	4	1927	1927	2000	2000	33	85	80	0
34	ALOHA	R737	3	1928	1928	2000	2000	32	60	50	0
35	CAA	R747	7	1930	1930	2130	2130	120	250	50	0

* TOTAL ELAPSED TIME BETWEEN THE ARRIVAL OF AN AIRCRAFT ON AN OPERATIONAL STAND AND ITS DEPARTURE FROM THAT STAND

TABLE 2 - GROUND VEHICLE TRAFFIC

GENERAL LYMAN FIELD - HILO, HAWAII

	MAXIMUM NO IN USE	TOTAL AVAILABLE	AVERAGE UTILIZATION
FUEL TRUCKS	10	16	28.6%
CARGO/MAIL TRUCKS	7	12	13.9%
BAGGAGE TRUCKS	7	12	13.1%
GALLEY CLEAN-UP TRUCKS	3	12	5.2%
FOOD SERVICE TRUCKS	5	12	8.8%
WIKI-WIKI TRAINS	8	12	5.7%
LOADERS	10	16	12.3%
LAVATORY TRUCKS	3	12	5.0%

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

TIME	FUEL TRUCKS		CARGO/MAIL TRUCKS		BAGGAGE TRUCKS		CLEAN-UP TRUCKS		FOOD TRUCKS		WIKI-WIKI TRAINS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1200-1205	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	4	1
1205-1210	0	0	2	2	1	2	0	0	0	0	0	0	0	0	0	0	3	4
1210-1215	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
1215-1220	0	0	1	3	1	0	3	6	0	0	0	0	0	0	0	0	5	3
1220-1225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1225-1230	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	3	3
1230-1235	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	5	2
1235-1240	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	1	3
1240-1245	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	4
1245-1250	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	3	1
1250-1255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1255-1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300-1305	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
1305-1310	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0
1310-1315	2	0	2	2	2	2	0	0	0	0	0	0	0	0	0	0	6	2
1315-1320	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	2	1
1320-1325	0	0	3	4	1	0	0	0	0	0	1	1	0	0	0	0	7	5
1325-1330	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3
1330-1335	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	3
1335-1340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1340-1345	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1345-1350	0	2	0	2	1	1	0	0	2	0	0	0	0	0	0	0	5	7
1350-1355	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
1355-1400	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1400-1405	0	0	2	2	1	0	2	0	0	0	0	0	0	0	0	0	5	2
1405-1410	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
1410-1415	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
1415-1420	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
1420-1425	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3	1
1425-1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430-1435	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4	2
1435-1440	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
1440-1445	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
1445-1450	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
1450-1455	0	0	3	2	3	1	0	0	0	0	0	0	0	0	0	0	6	7
1455-1500	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0
1500-1505	2	0	2	1	1	0	2	2	1	0	0	0	0	0	0	0	5	5
1505-1510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
1510-1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1515-1520	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
1520-1525	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	3	1
1525-1530	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
1530-1535	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	4	2
1535-1540	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5
1540-1545	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
1545-1550	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

SERVICE VEHICLES PASSING POINT "A"

TIME	FUEL TRUCKS		CARGO/MAIL TRUCKS		BAGGAGE TRUCKS		CLEAN-UP TRUCKS		FOOD TRUCKS		WIKI-WIKI TRAINS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1550-1555	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4
1555-1600	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1
1600-1605	0	2	1	1	1	0	2	0	0	0	0	0	0	0	0	0	0	3
1605-1610	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	1
1610-1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615-1620	0	2	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	3
1620-1625	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
1625-1630	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1630-1635	0	0	1	3	1	2	3	0	0	0	2	0	0	0	0	0	0	2
1635-1640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1640-1645	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
1645-1650	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1650-1655	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1655-1700	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
1700-1705	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
1705-1710	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1710-1715	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
1715-1720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1720-1725	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1725-1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730-1735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1735-1740	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1740-1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745-1750	0	0	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0	2
1750-1755	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
1755-1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800-1805	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1805-1810	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1810-1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815-1820	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1820-1825	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1825-1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830-1835	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1835-1840	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1840-1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845-1850	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1850-1855	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1855-1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900-1905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1905-1910	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1910-1915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1915-1920	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1920-1925	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1925-1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1930-1935	2	0	1	0	2	1	0	0	0	0	0	1	0	0	0	0	0	5
1935-1940	0	0	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

TIME	SERVICE VEHICLES PASSING POINT "A"																	
	FUEL TRUCKS		CARGO/MAIL TRUCKS		BAGGAGE TRUCKS		CLEAN-UP TRUCKS		FOOD TRUCKS		WIKI-WIKI TRAINS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1942-1945	0	0	0	2	0	1	3	0	0	0	0	0	0	0	0	0	3	3
1945-1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1950-1955	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955-2000	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4	2
2000-2010	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
2010-2015	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2015-2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020-2025	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
2025-2030	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
2030-2035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2035-2040	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2040-2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2045-2050	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
2050-2055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2055-2100	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
2100-2105	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2105-2110	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2110-2115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2115-2120	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	3
2120-2125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

TIME	FUEL TRUCKS		CARGO/MAIL TRUCKS		BAGGAGE TRUCKS		CLEAN-UP TRUCKS		FOOD TRUCKS		WIKI-WIKI TRAINS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1200-1205	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1
1205-1210	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0
1210-1215	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	1	4
1215-1220	0	0	1	0	1	0	0	3	0	0	0	0	0	0	0	0	5	1
1220-1225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1225-1230	0	0	0	0	0	1	3	3	2	0	0	0	0	0	0	0	3	3
1230-1235	0	0	1	1	1	0	0	0	1	0	3	1	0	0	0	0	5	3
1235-1240	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	1	2
1240-1245	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4
1245-1250	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	1
1250-1255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1255-1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300-1305	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
1305-1310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1310-1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315-1320	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	4	1
1320-1325	0	0	1	1	2	2	0	0	0	0	1	1	0	0	0	0	4	4
1325-1330	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
1330-1335	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1335-1340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1340-1345	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345-1350	0	0	1	1	2	0	0	0	2	0	0	0	0	0	0	0	4	1
1350-1355	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4	4
1355-1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400-1405	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1405-1410	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1410-1415	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
1415-1420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1420-1425	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1425-1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430-1435	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
1435-1440	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1440-1445	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
1445-1450	2	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1450-1455	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
1455-1500	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500-1505	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1505-1510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1510-1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515-1520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1520-1525	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1525-1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530-1535	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1535-1540	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1540-1545	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
1545-1550	4	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

TIME	FUEL TRUCKS		CARGO/MAIL TRUCKS		BAGGAGE TRUCKS		CLEAN-UP TRUCKS		FOOD TRUCKS		WIKI-WIKI TRAINS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1550-1555	0	2	0	0	0	0	0	0	2	0	0	1	0	0	0	0	2	3
1555-1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1600-1605	0	2	1	1	1	0	2	0	2	0	0	0	0	0	0	0	3	3
1605-1610	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	1	5
1610-1615	0	0	0	0	0	1	2	2	0	0	1	0	0	0	0	0	3	3
1615-1620	0	2	0	1	0	0	0	0	3	2	2	3	0	0	0	0	5	8
1620-1625	2	0	3	1	1	0	0	0	1	0	0	0	0	0	0	0	7	1
1625-1630	0	0	1	0	1	0	0	2	0	0	2	0	0	0	0	0	4	2
1630-1635	0	0	1	3	1	2	3	0	0	3	6	6	0	0	0	0	11	14
1635-1640	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0	0	4
1640-1645	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
1645-1650	0	2	0	0	0	0	3	2	1	0	0	0	0	0	0	0	6	1
1650-1655	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
1655-1700	0	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	3	1
1700-1705	2	0	1	2	1	1	0	1	1	1	2	1	0	0	0	0	7	3
1705-1710	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
1710-1715	0	0	1	0	1	1	2	0	0	0	2	1	0	0	0	0	7	3
1715-1720	0	0	1	1	1	1	0	0	0	1	0	1	0	0	0	0	6	1
1720-1725	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	2
1725-1730	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	3	2
1730-1735	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4	0
1735-1740	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1740-1745	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4
1745-1750	0	0	1	1	2	0	0	0	2	0	0	0	0	0	0	0	3	4
1750-1755	0	2	0	0	2	0	3	0	0	0	0	0	0	0	0	0	2	4
1755-1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1800-1805	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4	2
1805-1810	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1810-1815	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	2
1815-1820	0	0	0	1	0	0	0	1	0	0	2	0	0	0	0	0	0	6
1820-1825	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1825-1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830-1835	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	3	1
1835-1840	0	0	1	0	1	0	3	0	0	0	0	0	0	0	0	0	1	4
1840-1845	0	2	0	1	1	0	0	0	2	0	1	0	0	0	0	0	7	3
1845-1850	2	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	3	0
1850-1855	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
1855-1900	0	0	1	1	1	0	0	2	0	0	1	0	0	0	0	0	1	2
1900-1905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1905-1910	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1910-1915	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1
1915-1920	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	2
1920-1925	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1925-1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1930-1935	2	0	1	2	0	2	0	0	0	2	1	1	0	0	0	0	6	1
1935-1940	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

TIME	FUEL TRUCKS		CARGO/MAIL TRUCKS		BAGGAGE TRUCKS		CLEAN-UP TRUCKS		FOOD TRUCKS		WIKI-WIKI TRAINS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1940-1945	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	3	1
1945-1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1950-1955	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955-2000	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
2000-2005	2	2	0	0	0	0	0	1	2	0	0	0	0	0	0	0	4	3
2005-2010	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2010-2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015-2020	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	3
2020-2025	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2025-2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2030-2035	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
2035-2040	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2040-2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2045-2050	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
2050-2055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2055-2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100-2105	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	2
2105-2110	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2110-2115	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
2115-2120	0	0	0	1	0	0	0	0	0	2	2	3	0	0	0	0	2	6
2120-2125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

SERVICE VEHICLES PASSING POINT "C"

TIME	BAGGAGE TRUCKS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	CUT	IN	OUT	IN	OUT
1200-1205	0	0	2	0	0	0	2	0
1205-1210	1	0	0	0	0	0	1	0
1210-1215	1	2	0	2	0	0	1	4
1215-1220	0	0	2	0	1	0	3	0
1220-1225	0	0	0	0	0	0	0	0
1225-1230	0	0	0	2	1	0	1	2
1230-1235	0	0	2	0	0	1	2	1
1235-1240	0	0	0	0	0	0	0	0
1240-1245	0	0	0	2	0	0	0	2
1245-1250	0	0	0	0	1	1	1	1
1250-1255	0	0	0	0	0	0	0	0
1255-1300	0	0	0	0	0	0	0	0
1300-1305	0	0	0	0	0	1	0	1
1305-1310	0	0	0	0	0	0	0	0
1310-1315	0	0	0	0	0	0	0	0
1315-1320	2	0	0	0	0	0	2	0
1320-1325	1	2	2	0	0	0	3	2
1325-1330	0	1	0	0	0	0	0	1
1330-1335	0	0	0	2	1	0	1	2
1335-1340	1	0	2	0	0	0	3	0
1340-1345	1	1	0	0	0	0	1	1
1345-1350	1	1	2	2	0	1	3	4
1350-1355	0	1	0	0	0	0	0	1
1355-1400	1	0	2	2	1	0	4	2
1400-1405	1	1	2	0	0	0	3	1
1405-1410	1	1	2	2	0	0	3	3
1410-1415	1	1	0	2	0	1	1	4
1415-1420	0	1	0	2	1	0	1	3
1420-1425	0	0	2	0	0	0	2	0
1425-1430	0	0	0	0	0	0	0	0
1430-1435	0	0	2	2	1	1	3	3
1435-1440	0	0	0	0	0	0	0	0
1440-1445	0	0	0	2	0	0	0	2
1445-1450	0	0	4	0	1	0	5	0
1450-1455	1	0	0	0	1	0	1	1
1455-1500	0	1	2	0	1	1	4	1
1500-1505	0	1	0	2	0	1	0	4
1505-1510	0	0	0	0	0	0	0	0
1510-1515	0	0	0	0	0	0	0	0
1515-1520	0	0	0	0	0	1	0	1
1520-1525	0	0	2	0	0	0	2	0
1525-1530	1	0	2	0	0	0	3	0
1530-1535	0	1	0	4	1	0	1	5
1535-1540	1	0	0	0	0	0	1	0
1540-1545	1	2	0	0	0	0	4	2
1545-1550	1	1	2	0	0	1	4	3

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

TIME	BAGGAGE TRUCKS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1550-1555	0	1	0	2	0	0	0	3
1555-1600	0	0	0	2	0	0	0	2
1600-1605	1	0	4	0	1	0	6	0
1605-1610	1	1	0	0	0	0	1	1
1610-1615	1	1	2	4	1	1	4	6
1615-1620	0	1	0	0	0	0	1	1
1620-1625	2	2	4	2	0	0	2	3
1625-1630	2	2	4	0	0	1	6	1
1630-1635	0	2	0	4	1	0	7	6
1635-1640	0	0	0	4	0	0	0	6
1640-1645	0	0	0	2	0	0	0	2
1645-1650	0	0	0	0	1	0	1	0
1650-1655	0	0	0	0	0	0	0	1
1655-1700	2	2	2	0	0	0	4	0
1700-1705	1	2	2	0	0	1	3	3
1705-1710	0	1	0	2	0	0	0	3
1710-1715	1	1	4	2	1	0	6	2
1715-1720	1	1	0	0	0	0	1	1
1720-1725	1	1	0	4	0	0	0	5
1725-1730	0	0	0	0	1	1	1	1
1730-1735	0	0	0	0	0	0	0	0
1735-1740	0	0	0	0	0	0	0	0
1740-1745	1	2	2	0	0	1	3	1
1745-1750	1	3	0	2	0	0	4	1
1750-1755	1	0	0	2	0	0	1	2
1755-1800	0	0	0	0	1	0	0	0
1800-1805	0	0	0	0	0	0	0	0
1805-1810	1	0	0	0	0	0	0	0
1810-1815	0	0	2	0	0	0	0	0
1815-1820	0	0	0	0	0	0	0	0
1820-1825	0	0	0	0	0	0	0	0
1825-1830	0	0	2	0	0	0	0	0
1830-1835	0	0	0	0	0	0	0	0
1835-1840	0	0	2	0	0	0	2	0
1840-1845	1	0	2	2	0	0	4	2
1845-1850	1	1	2	2	0	0	3	3
1850-1855	1	1	2	2	0	0	3	3
1855-1900	1	1	2	2	0	0	3	3
1900-1905	0	0	2	2	0	0	2	2
1905-1910	0	0	0	0	0	0	0	0
1910-1915	0	0	0	2	0	0	0	2
1915-1920	0	0	0	0	0	0	0	0
1920-1925	0	0	0	0	0	0	0	0
1925-1930	1	0	2	0	0	0	3	0
1930-1935	2	1	2	0	0	0	4	1
1935-1940	1	1	2	0	0	0	3	1

TABLE 4 - MAXIMUM VEHICULAR TRAFFIC
GENERAL LYMAN FIELD - HILO, HAWAII

TIME	BAGGAGE TRUCKS		LOADERS		LAVATORY TRUCKS		TOTAL TRUCKS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1940-1945	0	0	0	2	1	0	1	2
1945-1950	0	0	0	0	0	0	0	0
1950-1955	0	0	0	0	0	0	0	0
1955-2000	0	0	0	0	0	1	0	1
2000-2005	0	0	0	0	0	0	0	0
2005-2010	0	0	0	0	0	0	0	0
2010-2015	1	0	2	0	0	0	3	0
2015-2020	0	1	0	2	0	0	0	3
2020-2025	0	0	0	0	0	0	0	0
2025-2030	0	0	0	0	0	0	0	0
2030-2035	0	0	0	0	0	0	0	0
2035-2040	0	0	0	0	0	0	0	0
2040-2045	1	0	2	0	0	0	3	0
2045-2050	0	1	0	2	0	0	0	3
2050-2055	0	0	0	0	0	0	0	0
2055-2100	0	0	0	0	0	0	0	0
2100-2105	0	0	0	0	0	0	0	0
2105-2110	0	0	0	0	0	0	0	0
2110-2115	1	0	2	0	0	0	3	0
2115-2120	1	1	0	0	0	0	1	1
2120-2125	0	1	0	2	0	0	0	3

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TABLE 6 - GROUND SERVICE REPORT
GENERAL LYMAN FIELD - HILO, HAWAII

FLIGHT SEQUENCE NUMBER	AIRLINE NAME	AIRCRAFT TYPE	GATE NUMBER	EXPLANING WIKI-WIKI TIME	FUELING TIME	CARIN CLEAN-UP TIME	GALLEY CLEAN-UP TIME	BAGGAGE UNLOADING TIME	BAGGAGE LOADING TIME	DEPLANING WIKI-WIKI TIME	DELAYS DUE TO SERVICES
1	UAL	H747	5	0	30	15	10	13	19	0	0
2	HAWAII	DC-9	4	0	0	0	0	0	10	0	0
3	ALPHA	B737	3	0	0	0	0	0	10	0	0
4	UAL	DC-10	6	0	30	15	10	10	19	0	0
5	UAL	H747	7	11	30	15	10	13	19	11	0
6	HAWAII	DC-9	4	0	0	0	0	0	10	0	0
7	ALPHA	H737	3	0	0	0	0	0	10	0	0
8	HAWAII	DC-9	2	0	0	0	0	0	14	0	0
9	CAL	B707	9	0	20	10	10	10	14	0	0
10	HAWAII	DC-9	4	0	0	0	0	0	10	0	0
11	WAL	H707	10	0	20	10	10	10	14	0	0
12	JAL	H747	5	0	30	15	10	13	19	0	0
13	UAL	DC-10	6	0	30	15	10	10	19	0	0
14	NW	H747	7	11	30	15	10	13	19	11	0
15	UAL	H747	11	11	30	15	10	13	19	11	0
16	WAL	B707	2	0	20	10	10	10	14	0	0
17	HAWAII	DC-9	4	0	0	0	0	0	10	0	0
18	CAL	H707	9	0	20	10	10	10	14	0	0
19	UAL	DC-3	10	10	20	10	10	10	19	10	0
20	UAL	DC-3	5	0	20	10	10	10	19	0	0
21	HAWAII	DC-9	4	0	0	0	0	0	11	0	0
22	ALPHA	B737	3	0	0	0	0	0	10	0	0
23	PAC	H747	6	0	30	15	10	13	19	0	0
24	BI	H747	7	9	30	15	10	10	14	10	0
25	HAWAII	DC-9	4	0	0	0	0	0	11	0	0
26	CAL	H707	9	8	20	10	10	10	14	8	0
27	WAL	DC-10	11	11	30	15	10	10	19	10	0
28	HAWAII	DC-9	4	0	0	0	0	0	11	0	0
29	ALPHA	B737	3	0	0	0	0	0	10	0	0
30	NW	H747	2	0	30	15	10	13	19	0	0
31	PI	H747	5	0	30	15	10	10	14	0	0
32	WAL	H707	6	0	20	10	10	10	14	0	0
33	HAWAII	DC-9	4	0	0	0	0	0	10	0	0
34	ALPHA	H737	3	0	0	0	0	0	10	0	0
35	PAC	H747	7	10	30	15	10	10	19	8	0

SECTION D

Estimated Annual Taxiing Costs
Existing Terminal vs. New Passenger Terminal
General Lyman Field
Hilo, Hawaii

This report is to determine the annual airline taxiing costs for the existing passenger terminal as compared with the proposed new passenger terminal at General Lyman Field, Hilo, Hawaii.

Assumptions:

1. Inter-island aircraft use 5,500 feet of runway for landing and then taxi. (The aircraft do not land "long" to shorten taxi time on Runway 26).
2. Overseas aircraft use 6,000 feet of runway for landing and then taxi.
3. Average taxi speed is 20 miles per hour.
4. Cost per hour for inter-island aircraft is \$690. (Aviation Week and Space Technology, October 25, 1971, Page 29, indicates Hawaiian's total cost per hour is \$691 and Aloha's cost is \$686).
5. Cost per hour for overseas aircraft is \$840. (Op cit, Page 30 indicates \$850 per hour for United's DC-8 and \$830 per hour average for 707's for nine airlines).
6. Mid-field takeoffs by inter-island carriers are permissible.

7. The percentage usage of runways and taxiways as counted for the month of January, 1972, is representative of annual operations.

Percentage of Use for January, 1972

	Runways			
	8	26	3	21
Inter-island Arrivals	17.85	76.32	1.88	3.95
Inter-island Departures	90.49	3.11	6.40	-0-
Overseas Arrivals	25.36	74.64	-0-	-0-
Overseas Departures	97.11	2.89	-0-	-0-

8. For the new passenger terminal, Runway 3-21 would not be used by inter-island carriers.
9. For the new passenger terminal, the percentage of landing and takeoffs on each runway would not change except as noted in Assumption No. 8.
10. Taxiing costs are based on the total number of flights in 1971. Boeing 747's are not included since regular B-747 service did not start until 1972.

Based on the above, the average taxi distance for overseas and inter-island aircraft is shown in Tables 1 and 2.

TABLE 1
AVERAGE TAXI DISTANCE IN FEET
AFTER LANDING

<u>Operation</u>	<u>Existing Terminal</u>	<u>Proposed Terminal</u>	<u>Proposed Terminal After 2,200' Runway Ext.</u>
Inter-island Aircraft			
Land on Runway 8	7,550'	2,500'	2,500'
Land on Runway 26	5,200'	6,300'	2,500'
Overseas Aircraft			
Land on Runway 8	7,550'	2,400'	2,400'
Land on Runway 26	5,200'	6,100'	2,400'

TABLE 2
AVERAGE TAXI DISTANCE IN FEET -
TERMINAL TO TAKEOFF POINT ON RUNWAY 8-26

<u>Operation</u>	<u>Existing Terminal</u>	<u>Proposed Terminal</u>	<u>Proposed Terminal After 2,200' Runway Ext.</u>
Inter-island Aircraft			
Takeoff East at Runway 8	1,300'	4,900' (T/W "D" Takeoff)	2,000' (T/W "E" Takeoff)
Takeoff West at Taxiway "E"	Not Done	2,000'	2,000'
Takeoff West at Runway 26	10,400'	5,800'	8,000'
Overseas Aircraft			
Takeoff at Runway 8	1,850'	9,850'	9,850'
Takeoff at Runway 26	10,900'	5,150'	8,350'

Tables 3, 4 and 5 list the estimated annual taxiing costs for the present terminal, the proposed terminal, and the proposed terminal when Runway 8-26 is extended by 2,200 feet.

TABLE 3

ESTIMATED TAXIING COSTS
EXISTING TERMINAL

Inter-Island Landings

<u>Runway</u>	<u>No. of Landings/Yr.</u>	<u>Seconds Taxiing to Terminal</u>	<u>Hours Per Year Taxiing</u>	<u>\$/Hr.</u>	<u>\$/Year</u>
8	1,172	257	84	690	57,960
26	5,010	177	246	690	169,740
3	123	105	3.6	690	2,484
21	<u>259</u>	95	6.8	690	<u>4,692</u>
Totals	6,564				\$234,876

Inter-Island Takeoffs

8	5,940	44	72.5	690	50,025
26	204	353	20	690	13,800
3	420	95	11	690	7,590
21	<u>0</u>	105	-0-	690	<u>-0-</u>
Totals	6,564				\$71,415

Overseas Landings

8	823	257	58.7	840	49,308
26	<u>2,421</u>	177	119.0	840	<u>99,960</u>
Totals	3,244				\$149,268

Overseas Takeoffs

8	3,150	63	55	840	46,200
26	<u>94</u>	370	9.7	840	<u>8,148</u>
Totals	3,244				\$54,348

Total Inter-Island and Overseas **\$509,907**
per year

TABLE 4

ESTIMATED TAXIING COSTS

PROPOSED TERMINAL

Inter-Island Landings

<u>Runway</u>	<u>No. of Landings/Yr.</u>	<u>Seconds Taxiing to Terminal</u>	<u>Hours Per Year Taxiing</u>	<u>\$/Hr.</u>	<u>\$/Year</u>
8	1,244	85	29.4	690	20,286
26	<u>5,320</u>	214	316	690	<u>218,040</u>
Totals	6,564				\$238,326

Inter-Island Takeoffs

8 at T/W D	6,346	167	295	690	203,550
26	<u>218</u>	197	11.9	690	<u>8,211</u>
Totals	6,564				\$211,761

Overseas Landings

8	823	82	18.8	840	15,792
26	<u>2,421</u>	208	140	840	<u>117,600</u>
Totals	3,244				\$133,392

Overseas Takeoffs

8	3,150	335	293	840	246,120
26	<u>94</u>	175	45.6	840	<u>38,304</u>
Totals	3,244				\$284,424

Total Inter-Island and Overseas \$867,903
per year

TABLE 5

ESTIMATED TAXING COSTS

PROPOSED TERMINAL

After 2,200' Runway Extension

Inter-Island Landings

<u>Runway</u>	<u>No. of Landing/Yr.</u>	<u>Seconds Taxiing to Terminal</u>	<u>Hours Per Year Taxiing</u>	<u>\$/Hr.</u>	<u>\$/Year</u>
8	1,244	85	29.4	690	20,286
26	<u>5,320</u>	85	126	690	<u>86,940</u>
Totals	6,564				\$107,226

Inter-Island Takeoffs

8 at T/W E	6,346	68	120	690	82,800
26 at T/W E	<u>218</u>	68	4.1	690	<u>2,829</u>
Totals	6,564				\$85,629

Overseas Landings

8	823	82	18.8	840	15,792
26	<u>2,421</u>	82	55.2	840	<u>46,368</u>
Totals	3,244				\$62,160

Overseas Takeoffs

8	3,150	335	293	840	246,120
26	<u>94</u>	284	7.4	840	<u>6,216</u>
Totals	3,244				\$252,336

Total Inter-Island and Overseas \$507,351
per year

Conclusions

The estimated taxiing costs for 6,564 inter-island landings and 3,244 overseas landings (recorded fiscal year 1971) is \$510,000. Using the same operations and runway usage, annual taxiing costs would go up to \$868,000, an increase of \$358,000 or 70 percent when the new terminal is put into operation. The annual taxiing costs will go down to \$507,000 when Runway 8-26 is extended. With the runway extension, there will be a shift in taxiing costs from inter-island carriers to overseas carriers as compared with the existing terminal.

	<u>Annual Taxiing Costs</u>		
	<u>Existing Terminal</u>	<u>New Terminal</u>	<u>New Terminal With 2,200' Ext. of R/W 8-26</u>
Interisland	\$306,291	\$450,087	\$192,855
Overseas	<u>203,616</u>	<u>417,816</u>	<u>314,496</u>
	\$509,907	\$867,903	\$507,351

Looking at the individual figures, it is apparent that the airlines will try and cut down their taxiing costs by changing the percentage of use on each runway and cutting down taxiing time. Inter-island and overseas carriers will want to conduct more landings on Runway 8, bringing more flights over town. In addition, overseas carriers will desire to use Runway 26 for more takeoffs, again increasing flights over town. This tendency by the airlines to conduct operations over the town of Hilo will be reduced when Runway 8-26 is extended.

The annual taxiing costs for overseas carriers will go up to costs comparable with other airports that have a passenger terminal approximately midway down the length of the runway.

Previous tables have compared taxiing costs assuming that aircraft can land and take off in different directions. When aircraft activity increases to the point that landings and takeoffs must be in the same direction, then taxiing costs will be less, in most cases, for the new terminal than the old terminal when Runway 8-26 is 12,000 feet long. This is illustrated by the round-trip taxiing distances shown in Table 6.

TABLE 6
ROUND TRIP TAXIING DISTANCES IN FEET

	<u>Exist.</u> <u>Terminal</u> <u>Inter-Island</u>	<u>New</u> <u>Terminal</u> <u>Inter-Island</u>	<u>Exist.</u> <u>Terminal</u> <u>Overseas</u>	<u>New</u> <u>Terminal</u> <u>Overseas</u>
Takeoff and Land on 8	8,850	4,500 ^(A)	9,400	12,250
Takeoff and Land on 26	10,400 ^(A)	4,500 ^(A)	16,100	10,750

(A) Mid-field takeoffs assumed.

SECTION E

Estimated Aircraft Emission Due To Taxiing
General Lyman Field
Hilo, Hawaii

This report presents the calculations of the amounts of emissions caused by taxiing aircraft under five different cases listed below:

1. 1971 Air Traffic - Existing Terminal with Runway 8/26 at 9800 feet.
2. 1971 Air Traffic - Proposed Terminal with Runway 8/26 at 9800 feet.
3. 1971 Air Traffic - Proposed Terminal with Runway 8/26 extended to 12,000 feet.
4. 1985 Air Traffic - Existing Terminal with Runway 8/26 extended to 12,000 feet.
5. 1985 Air Traffic - Proposed Terminal with Runway 8/26 extended to 12,000 feet.

Assumptions for all five cases above.

1. Inter-Island aircraft use 5,500 feet of runway for landing and then taxi. (The aircraft do not land "long" to shorten taxi time on Runway 26).
2. Overseas aircraft use 6,000 feet of runway for landing and then taxi.
3. Average taxi speed is 20 miles per hour.
4. Mid-field take-offs by inter-island carriers are permissible.
5. Average fuel consumption during taxiing for each aircraft.*

B-737-DC-9 aircraft = 1,820 lbs. per hour.

B-707/DC-8 aircraft = 4,268 lbs. per hour.

B-747/DC-10 aircraft = 8,160 lbs. per hour.

*Based on Bechtel Corporation's analysis of Manufacturer's Data.

Additional Assumptions for Cases (1), (2), and (3).

1. The number of aircraft operations and the percentage runway and taxiway usage are shown on Pages 4D-2 and 4D-5 of Appendix 4, Section D respectively.
2. For comparison purposes actual 1971 air traffic operations are used. Total taxi time for these three conditions are shown on Tables 3, 4, and 5 of Appendix 4, Section D.

Additional Assumptions for Cases (4) and (5)

1. It is estimated that by 1985, one way operation will be in effect to handle the increased air traffic. Present runway utilization indicates that this one-way flight pattern will be to land and take-off on Runway 8.
2. Based on the Airport Planning Model of December 1, 1972, supplied by the State of Hawaii, Department of Transportation, Advanced Transportation Planning, 36,430 inter-island and 4,000 overseas operations are projected in 1985. Ninety percent of the overseas operations will be of the B-747 type aircraft and ten percent will be of the B-707 type. In 1985, B-737/DC-9 type aircraft will still be in use by inter-island carriers.
3. It is assumed that by 1985, Runway 8/26 will be 12,000 feet.

The round trip taxiing distances are shown on Page 4D-9 of Appendix 4, Section D. Total taxi times are shown on Tables 1, 2, and 3.

TABLE 1

TAXI TIME FOR INTER-ISLAND AIRCRAFT - 1985
(for B-737/DC-9 type aircraft , Runway 8/26 at 12,000 feet)

	Round Trip Taxiing Distance (Feet)	Time (Minutes)	No. of Flights	Taxi Time (Minutes)	Taxi Time (Hours)
Existing Terminal	8,850	5.03	18,215	91,621	1,527.0
Proposed Terminal	4,500	2.56	18,215	46,630	777.2

TABLE 2

TAXI TIME FOR OVERSEAS AIRCRAFT - 1985
(for B-747 type aircraft, Runway 8/26 at 12,000 feet)

	Round Trip Taxiing Distance (Feet)	Time (Minutes)	No. of Flights	Taxi Time (Minutes)	Taxi Time (Hours)
Existing Terminal	9,400	5.34	1,800	9,612	160.2
Proposed Terminal	12,250	6.96	1,800	12,528	208.8

TABLE 3

TAXI TIME FOR OVERSEAS AIRCRAFT - 1985
(for B-707 type aircraft, Runway 8/26 at 12,000 feet)

	Round Trip Taxiing Distance (Feet)	Time (Minutes)	No. of Flights	Taxi Time (Minutes)	Taxi Time (Hours)
Existing Terminal	9,400	5.34	200	1,068	17.8
Proposed Terminal	12,250	6.96	200	1,392	23.2

TABLE 4

TYPICAL TURBINE ENGINE POLLUTION CHARACTERISTICS DURING TAXIING^a

	<u>Emission Index - lbs. per lb. of fuel</u>					
	<u>Hydro Carbon's</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxide</u>	<u>Sulfur Dioxide</u>	<u>Total Without Particulates</u>	<u>Total With Particulates</u>
JT 3 D(B-707/DC-8)	.065	.092	.0013	.0012	.1595	.1772
JT 8 D(B-737/DC-9)	.015	.077	.0013	.0012	.0945	.1050
JT 9 D(B-747/DC-10)	.015	.061	.0013	.0012	.0785	.0872

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^a Based on Bechtel Corporation's analysis of "Gas Turbine Engine Emission Characteristics and Future Outlook",
SAE 710319.

TABLE 5
AIRCRAFT EMISSION DUE TO TAXING UNDER FIVE CONDITIONS

Case	Aircraft Type	Taxi Time Hours	Fuel Rate Lbs/Hr	Total Fuel Lbs.	Emission Index Lbs/Lb of Fuel	Emission Lbs	Total Emission Tons
(1)	B-737/DC-9	443.80	1,820	807,716	.1050	84,810	134
	B-707/DC-8	242.40	4,268	1,034,563	.1772	183,324	
(2)	B-737/DC-9	652.30	1,820	1,187,186	.1050	124,654	250
	B-707/DC-8	497.40	4,268	2,122,903	.1772	376,178	
(3)	B-737/DC-9	279.50	1,820	508,690	.1050	53,412	168
	B-707/DC-8	374.40	4,268	1,597,939	.1772	283,155	
(4)	B-737/DC-9	1,527.00	1,820	2,799,140	.1050	291,810	210
	B-707/DC-8	17.80	4,268	75,970	.1772	13,462	
	B-747/DC-10	160.22	8,160	1,307,395	.0872	114,005	
(5)	B-737/DC-9	777.20	1,820	1,414,504	.1050	148,523	157
	B-707/DC-8	23.20	4,268	99,017	.1772	17,546	
	B-747/DC-10	208.80	8,160	1,703,808	.0872	148,572	

Summary

With the existing terminal, emissions due to aircraft taxiing are 134 tons per year. When the proposed terminal is built, longer taxi distances will result in an increase of 116 tons of emission (Cases 1 and 2, Table 5). However, when Runway 8/26 is extended to 12,000 feet, the increase in emissions will be reduced to 34 tons (Cases 1 and 3, Table 5). Extension of Runway 8/26 to 12,000 feet is programmed for fiscal year 1977/78.

If, by 1985, the existing terminal is still being used and Runway 8/26 is extended to 12,000 feet, the normal growth in air traffic will result in an increase of emissions by 76 tons (Cases 1 and 4, Table 5). But by building the proposed terminal, the increase in air emissions will be only 23 tons (Cases 1 and 5, Table 5).

SECTION F

Procedure for Determining CNR Noise Contours for General Lyman Field Hilo, Hawaii

A procedure has been developed to establish noise contours for a given airport which is described in a technical report by the Acoustical Consulting firm of Bolt, Beranek and Newman, entitled "Land Use Planning Relating to Aircraft Noise", dated October 1964. This procedure first determines generalized noise contours which permit an estimate of the noise produced during takeoff, landing and run-up operations for several classes of aircraft. These contours express aircraft noise levels in units of "Perceived Noise Decibels" (PNdB). A PNdB level is a quantity calculated from measured noise levels that correlates very well with subjective responses to various kinds of aircraft noise.

These PNdB contours form the basis for a step-by-step procedure that permits one to estimate community response to aircraft noise generated by present or future operations. The first step in the procedure is to collect information on the nature of aircraft operations at the airport in question. On the basis of this operational information the appropriate sets of noise contours are selected and from them the perceived noise levels for the area in question are determined. Corrections are then applied to the perceived noise levels to take into account the number of

operations, time of day, and other factors. The result is a quantity called the "Composite Noise Rating" (CNR) from which the expected community response is determined. The CNR is a calculated quantity which cannot be measured with a sound-level meter or any other indicating device.

By this procedure, three different zones are determined, based on their CNR rating, namely:

Zone 1 (less than 100 CNR):

Essentially no complaints would be expected. The noise may, however, interfere occasionally with certain activities of the residents.

Zone 2 (100 to 115 CNR):

Individuals may complain, perhaps vigorously. Concerted group action is possible.

Zone 3 (greater than 115 CNR):

Individual reactions would likely include repeated, vigorous complaints. Concerted group action might be expected.

The calculations of the values for the CNR contours shown on Attachments 11, 12 and 13 are presented on the following pages. For an explanation of the calculations, the reader should refer to the Bolt, Beranek, and Newman report.

ATTACHMENT II CALCULATIONS
EXISTING TERMINAL

Aircraft	Ave. No. Per Day	Runway	Percent Runway Utiliz.	CNR	Table 4 Corrections ^a			Table ^a		Noise Contour
					No. Utiliz.	Runway Utiliz.	Time Correct	Contour Set		
<u>Takeoffs 0700 - 2200</u>										
707, DC-8	7	8	98	115	-5	0	0	-5	1B	125
		26	2	115	-5	-15	0	-5	1B	140
DC-9, 737	17	8	98	115	0	0	0	0	9A	115
		26	2	115	0	-15	0	0	9A	130
<u>Takeoffs 2200 - 0700</u>										
707, DC-8	2	8	98	115	-5	0	+10	-5	1B	115
DC-9, 737	2	8	98	115	-5	0	+10	0	9A	110
<u>Landings 0700 - 2200</u>										
707, DC-8	9	8	40	115	-5	0	0	0	3B	120
		26	60	115	-5	0	0	0	3B	120
DC-9, 737	17	8	31	115	0	0	0	0	10A	115
		26	69	115	0	0	0	0	10A	115
<u>Landings 2200 - 0700</u>										
707, DC-8	0	-	-	-	-	-	-	-	-	-
DC-9, 737	2	26	69	115	-10	0	+10	0	10A	115

^a Refer to the BBN report for Tables 3 and 4.

ATTACHMENT 12 CALCULATIONS
EXISTING TERMINAL
INCREASED OPERATIONS

Aircraft	Ave. No. Per Day	Runway	Runway Utiliz.	CNR	Table 4 Corrections ^a			Table ^a		
					Runway Utiliz.	No.	Runway Utiliz.	Time	Correct	Contour Set	Noise Contour
<u>Takeoffs 0700 - 2200</u>										
707, DC-8	14	8	98	115	-5	0	0	-5	1B	125
		26	2	115	-5	-15	0	-5	1B	140
DC-9, 737	30	8	98	115	0	0	0	0	9A	115
		26	2	115	0	-15	0	0	9A	130
<u>Takeoffs 2200 - 0700</u>										
707, DC-8	4	8	98	115	-5	0	+10	-5	1B	115
DC-9, 737	4	8	98	115	-5	0	+10	0	9A	110
<u>Landings 0700 - 2200</u>										
707, DC-8	18	8	40	115	0	0	0	0	3B	115
		26	60	115	0	0	0	0	3B	115
DC-9, 737	30	8	31	115	0	0	0	0	10A	115
		26	69	115	0	0	0	0	10A	115
<u>Landings 2200 - 0700</u>										
707, DC-8	0	8	-	-	-	-	-	-	-	-
		26	-	-	-	-	-	-	-	-
DC-9, 737	4	26	69	115	-5	0	+10	0	10A	110

^a Refer to the BBN report for Tables 3 and 4.

ATTACHMENT 13 CALCULATIONS
INCREASED OPERATIONS
CHANGE IN RUNWAY UTILIZATION

Aircraft	Ave. No. Per Day	Runway	Percent Runway Utiliz.	CNR	Table 4 Corrections ^a		Time	Table 3		Noise Contour
					Runway Utiliz.	No. Utiliz.		Correct	Set	
<u>Takeoffs 0700 - 2200</u>										
707, DC-8	14	8	50	115	-	0	0	-5	1B	120
DC-9, 737	30	26	50	115	-	0	0	-5	1B	120
		8	50	115	0	0	0	0	9A	115
		26	50	115	0	0	0	0	9A	115
<u>Takeoffs 2200 - 0700</u>										
707, DC-8	4	8	50	115	-5	0	+10	-5	1B	115
DC-9, 737	4	8	50	115	-5	0	+10	0	9A	110
<u>Landings 0700 - 2200</u>										
707, DC-8	18	8	60	115	0	0	0	0	3B	115
DC-9, 737	30	26	40	115	0	0	0	0	3B	115
		8	60	115	0	0	0	0	10A	115
		26	40	115	0	0	0	0	10A	115
<u>Landings 2200 - 0700</u>										
707, DC-8	0	8	-	-	-	-	-	-	-	-
DC-9, 737	4	26	-	-	-	-	-	-	-	-
		26	40	115	-5	0	+10	0	10A	110

^a Refer to the BBN report for Tables 3 and 4.



Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

APPENDIX 5

PUBLIC REACTION TO AIRPORT EXPANSION
COUNTY OF HAWAII

The following articles have appeared in the Honolulu and Hilo newspapers. A copy of each is attached.

		<u>Page</u>	
1.	Big Jet Airport Opposed	Honolulu Star-Bulletin May 28, 1968	5-3
2.	Big Islands Ideal Airport A Smog Trap	Honolulu Star-Bulletin June 17, 1970	5-6
3.	Serizawa Fights Expansion	Hawaii Tribune-Herald June 21, 1970	5-8
4.	Keep Big Jets Out of Kona	Honolulu Advertiser June 21, 1970	5-10
5.	Inter-Island Flights Only Wanted	Hawaii Tribune-Herald June 21, 1970	5-11
6.	Hilo Airport Project Wins Burns Approval	Honolulu Advertiser August 5, 1971	5-13
7.	In the Public Interest	Hawaii Tribune-Herald August 8, 1971	5-14
8.	Terminal to Increase Noise Pollution?	Hawaii Tribune-Herald December 16, 1971	5-15
9.	New Drive to Develop Hilo Airport	Honolulu Advertiser August 1, 1972	5-16
10.	Businessmen Push for New Hilo Airport Terminal	Pacific Business News August 7, 1972	5-17
11.	Commission Okays Airport Zoning	Hawaii Tribune-Herald September 15, 1972	5-18
12.	Chamber Replies to Konan	Hawaii Tribune-Herald September 28, 1972	5-19

		<u>Page</u>
13.	J-Chamber Asks Airport Okay	Hawaii Tribune-Herald September 29, 1972
14.	Mayor to Ask Airport Work Impact Statement Approval	Hawaii Tribune-Herald September 29, 1972
15.	Hilo Airport Just Political Football Field to Airlines	Honolulu Star-Bulletin October 6, 1972
16.	Time for a Review	Honolulu Star-Bulletin October 20, 1972
17.	Stecker Pushes Noise Study on Hilo Terminal Expansion	Hawaii Tribune-Herald October 24, 1972
18.	Mayor Says Hilo Terminal Needed	Hawaii Tribune-Herald October 26, 1972
19.	Candidates Polled on Hilo Airport	Hawaii Tribune-Herald November 6, 1972
20.	New Hilo Airport Gains Big Backer in Mayor Sunichi Kimura	Pacific Business News November 20, 1972
21.	Objections Told on Airport Plan	Hawaii Tribune-Herald November 21, 1972
22.	Ke-ahole Criteria Top Hilo's	Hawaii Tribune-Herald November 30, 1972

In addition to the above, numerous letters from residents of Hawaii County are attached, some with replies by State and Federal officials.

Letters criticizing the proposed terminal construction in Hilo and favoring expansion of Ke-ahole Airport for overseas operations. 5-34

Letters favoring the proposed Hilo terminal expansion and expressing concern over delays in its development. 5-75

BIG JET AIRPORT OPPOSED

Kailua-Kona - The talked-about international airport at Keahole Point, with twin 12,000-foot-runways to handle overseas jets, appears far from definite here on the Kona Coast.

The new airport will be constructed with one 6,500-foot runway for inter-island operations only - despite other State reports that Keahole has been tapped as the State's third jet airport.

"Keahole is going to be an inter-island airport. As far as overseas operations go, Hilo is it for now, until there is some demonstrated need for such flights here," said Fujio Matsuda.

Matsuda director of the Department of Transportation, was on a panel which tackled the controversial Hilo vs. Kona jet airport topic at a Big Island tourism conference here.

There was no doubt, however, about the sentiment of the other six members of the panel, representing two airlines, an air taxi, a ground transportation operator, the legislature and the county government.

Hilo favored

All strongly opposed construction of a jet airport with 12,000 runways at Keahole Point and instead want to see Hilo developed further as the jet gateway.

At one point Matsuda's remarks were misunderstood and many participants approvingly interpreted the director to mean that an inter-national jet airport at Keahole is now dead.

"I didn't say it won't ever be built. It may well be, but it depends on development here. The need has to be demonstrated," Matsuda said.

The discussion, often emotional, was interrupted a half-dozen times by low-flying aircraft on final approach to Kailua airport. One of the reasons the airport is being moved.

Preparation of the new airport site at Keahole, now a lava bed about eight miles to the north will begin in early 1969..

"I don't foresee any retardation of tourism on west Hawaii if the (overseas jet) airport is in Hilo," said Rep. Toshio Serizawa, Chairman of the House Committee on Economic Development and a Hilo Democrat.

"And if we're going to use tourism as an excuse for a Keahole overseas airport, then Maui has every right to have a jet airport," he said.

John R. Peacock, president of Royal Hawaiian air Service, drew enthusiastic applause when he proposed "a series of short airports around the state...rather than an extensive airport at Keahole Point."

He feels that forthcoming helicopters and other advanced aircraft, capable of carrying up to 200 passengers, will bring the Big Island together into a cohesive unit.

Peacock also argued for retention of 2,600 feet of runway at the existing Kona Airport for light plane use. The State intends to develop the land after the transfer to Keahole.

Two airports impractical

William J. Mullahey, director of Pan American's Pacific operations said it isn't practical to have two major airports on the Big Island.

He added, "and Hawaii must someday come to regard itself as a total package, no longer Hilo side and Kona side."

Mullahey agreed with Peacock that Hawaii must be pulled together as a major destination area, but feels roadways can do this better than smaller airports.

Shunichi Kimura, Big Island County Chairman, suggested that a second jet runway may have to be built at Hilo to cut the jet noise down "at least to a tolerable level."

Matsuda said noise is among the most powerful arguments for moving the jet airport to Keahole Point. "It can be controlled there," he said.

Much of the conference centered on the need to guide the tourist explosion on the Big Island, particularly the "Golden Coast" from Kawaihae to Keahou.

"There is still a chance to do it right here" said Lt. Gov. Thomas P. Gill. "If we don't, it will turn into another Waikiki or Miami Beach. Natural resources and conservation are the greatest assets of the Neighbor Islands."

County Chairman Kimura urged adoption of esthetic requirements as well as legal requirements to prevent "the structural monstrosities" seen along some of Hawaii's beaches.

Shelly M. Mark, director of State planning and economic development, commented on a seven-story building which may be constructed next to the historic Mokuaukaia Church in Kailua-Kona.

'Lack of understanding'

He called this an "astounding lack of understanding" on the part of its developers and urged big island citizens to fight any temptation to sell beauty for fast dollars.

Other discussions during the day concerned the acute lack of low-cost housing on the Kona Coast for hotel employees and the enormous manpower needs over coming years.

The expanding tourist industry of Hawaii is expected to need an additional 30,000 employees by 1975. Some estimates range as high as 125,000.

There was a sharp difference of opinion over wage scales in Hawaii, with Gill saying the average hotel worker is below poverty level, earning \$75 a week.

Robert Burns, president of the Hawaii Hotel Association, on the other hand, said Hawaii's wages for hotel employees are the highest in the hotel world.

The conference, which had a topflight list of speakers on opening day, is under the direction of former County Chairman Helene Hale.

By Kay Lund
Star-Bulletin Writer

Re-typed from newspaper clipping.

BIG ISLAND'S 'IDEAL' AIRPORT A SMOG TRAP

Hilo - Keahole may be an airport planner's dream, but as the site of an international facility it could be a general planner's nightmare.

For the wind-free condition that makes it ideal for aviation could contribute to a serious air pollution problem for the mid-Kona coast, Big Island Planning Director Raymond Suefuji told the Star-Bulletin.

State Transportation Director Fujio Matsuda reiterated last weekend that the immediate plan for Keahole, which will open July 1, is "a first-class inter-island airport".

But he acknowledged that the master plan envisions eventual expansion and if the overseas carriers seek and win federal approval to serve the new Kona facility, the State "would be ready to meet its responsibilities in providing necessary facilities."

In discussing this eventuality, Suefuji cited climatological data of the U.S. Weather Bureau.

He pointed out that the area has the same weather pattern as Leeward Oahu and Lahaina, Maui, wherein tall mountains cut off the trade winds and form a barrier which leads to a thermal inversion, or ceiling at about 6,000 feet altitude.

Under this barrier, the local wind pattern is a gentle upslope - downslope movement which would pick up and shift the fumes from air and highway traffic over a narrow range.

This should not be too bad in the case of the smaller inter-island planes, he said, but it would grow proportionately with introduction of the four-engine transpacific jets using an international airport.

Furthur, he said, an overseas facility would generate more highway traffic.

And it would require considerably more industrial-type support facilities, which themselves would contribute to atmospheric pollution and generate more highway traffic, compounding the problem.

Suefuji noted that it takes winds 25 miles an hour and greater to flush out the stagnant air trapped under such an inversion, and such winds occur infrequently at Keahole.

And the industrial complex including fueling facilities, required for an international airport would destroy the charm of the area, he added.

As further drawback to any substitution of Keahole to Hilo as an international airport site, Suefuji pointed out that Keahole has the same weather pattern as Honolulu and the opposite of that of Hilo.

Thus, when a Kona Storm closes in Honolulu and Keahole, chances are that Hilo is clear, a factor that led to establishment of the State's second overseas runway at Hilo in the first place. And more than a dozen flights were diverted to Hilo during one such storm last year.

Major land developers with holdings in the area argued loudly against expansion of Keahole at the hearing on the master plan a couple of years ago because of the noise factor.

Konans generally have become more concerned with environmental values, Suefuji pointed out, and he has heard of virtually no support for expansion.

The Kailua-Kona business community, with first-hand experience in being too close to even a small airport, has mixed feelings.

Hilo businessmen, who fought for the Hilo jet runway and direct flights, wholeheartedly oppose any move that would jeopardize the projected new terminal and upgrading of General Lyman Field.

But they fear that a reported push by the major airlines to stall the Hilo project may do just that.

The airlines reportedly are putting their money on the growth of the West Hawaii visitor plant and want to fly closer to where the action is.

The county Council has pressed Gov. John A. Burns to give a progress report on the Hilo Terminal plans and to commit funds to the project.

By Jack Byron

Re-typed from a newspaper clipping.

KE-AHOLE OVERSEAS TERMINAL

SERIZAWA FIGHTS EXPANSION

State Rep. Toshio Serizawa (D-2) has announced he opposes any move to make Ke-ahole Airport the Big Island's overseas terminal.

Hilo's present position as the Island's Mainland gateway is not harming West Hawaii, Serizawa explained Friday, but shifting direct flights to Ke-ahole would cause a loss of at least \$3 million to the County economy.

Serizawa based the estimated loss on a reduced tour car business which would result if Island visitors arrived and departed at Kona, without traveling to Hilo.

In computing the loss, he said he used the year 1975, when by a "very, very conservative" estimate there will be 250,000 visitors to the Big Island a year. He said it is not likely Ke-ahole would become an overseas terminal much before that time.

If only 150,000 of those visitors decide not to travel overland to Hilo, he said the \$3 million loss would result. He obtained the \$3 million figure by multiplying the number of visitors staying in Kona by \$20, which he said is the average cost of a tour and transportation between Kona and Hilo.

The \$20 figure will probably inflate, he added.

The purpose of encouraging the tourist industry is for visitors to leave money on the Island, Serizawa declared. If visitors stay only a day and not a night, or if they do not take a tour, "they don't spend their money," he said. "Then we are defeating the purpose of tourism."

Serizawa emphasized that his figures assumed that 100,000 of the estimated quarter of a million visitors would still travel to Hilo, although Hilo is largely lacking in the "image" and "attractions" Kona has to draw tourists.

"People in Hilo are not kidding themselves that Hilo is a resort center," Serizawa said.

Furthermore, Kona is not suffering now because of direct flights to Hilo, he said. People who arrive in Hilo will still go to Kona, he stated.

Serizawa also predicted that a request for funds to expand Ke-ahole Airport to serve overseas traffic would have a hard time in the legislature.

But, he said, endorsement of Ke-ahole for direct flights by the Federal Aviation Administration might sway some legislators. Such endorsement would raise the prospect of matching federal funds for the airport's development, he said.

By Bill Benham
T-H Ka'u, Kona, Kohala Reporter

Re-typed from a newspaper clipping.

keep big jets out of Kona, group says

KAINALIU, Hawaii — The Kona Conservation Group Thursday voted to request State officials to reserve Kona's new Ke-ahole Airport for only inter-island flights in the immediate future.

Huehue Ranch development manager Dennis Haserot presented maps charting the decibel level which would be perceived from surrounding areas if large, transpacific jets were to land or take off from the new airport.

HASEROT SAID the maps demonstrated several North Kona housing and resort developments would be severely affected by noise from northerly take-off patterns. He said current plans call for southerly take-offs, but northerly patterns would probably be used in bad weather.

Mrs. Virginia Isbell conveyed several objections to an overseas terminal at Ke-ahole from State Representative Toshio Serizawa (D-2).

Kona has no trade wind, Mrs. Isbell quoted Serizawa, so that the exhaust from big jets would shroud the coast in a "continual haze."

SECOND, MUCH of Hilo's economy is dependent on the

continuing influx of overseas tourists arriving at General Lyman Field. She said Serizawa also noted many Big Island tour companies might be imperiled by direct flights to Kona.

Leon Sterling of the Hawaiian Civic Club said an overseas terminal in Kona would create a "highly inflationary situation." Rancher George Schattauer said State and County highways in Kona are inadequate for the traffic generated by an international facility.

FOLLOWING these arguments, Kona Conservation Group members voted unanimously to oppose overseas flights for Ke-ahole. Conservation Group president Alan Tyler said copies of the motion and the reasons cited in the meeting would be sent to various State and County officials.

Tyler also urged other Kona civic and private organizations to express their views on the Ke-ahole issue.

Ke-ahole Airport is scheduled to open July 1 as an inter-island terminal only. However, State Transportation Department master plans call for the eventual development of a 5,000 acre overseas facility if airlines request the direct flights.

INTER-ISLAND FLIGHTS ONLY WANTED

The future of Kona's airports continued to be a controversial issue in West Hawaii last week, and at two meetings residents decided to make their feelings known to public officials.

The Kona Conservation Group approved a resolution asking the State Department of Transportation to keep Ke-ahole Airport limited to inter-island traffic "for the immediate future". The resolution came after a discussion which ranged from takeoff noise levels to the airport's social impact.

The Kona Recreation Council will follow up a letter asking Gov. John A. Burns to set aside the old Kona Airport for a youth center by pushing for a general plan provision designating the airport for recreation use.

And Mrs Pat Tully, head of the recreation council, said she will seek an appointment with Governor Burns in Honolulu next week to personally deliver a petition supporting an airport recreation center.

Members of the newly formed Kona Auto Club, meeting jointly with the recreation council Thursday, pledged support for the airport youth center proposal.

Cliff Simpson, head of the auto club, also asked support for the club's plan to set up a drag strip at the old airport runway. The auto club will continue to organize today (Sunday) at a meeting at 1 p.m. at Konawaena High School gymnasium.

Both the recreation council's and the auto club's plans run counter to the recently announced State policy of seeking commercial tenants for Kona Airports when it is closed to aircraft July 1.

And the issue of a drag strip at the airport has been confused by a published statement by State Rep. Toshio Serizawa (D-2). He had stated he introduced a resolution this year in the House authorizing use of the runway for a temporary drag racing facility, and that the resolution was approved.

Serizawa said Friday he had been in error in that statement. He said the resolution had been reported favorably out of the Lands Committee, but then had been sent to the

Hawaii Select Committee without his knowledge, where it died.

The Kona Conservation Group Thursday approved its resolution favoring only inter-island service at Ke-ahole Airport after Leon Sterling, vice president of the Kona Hawaiian Civic Club, said Kona lacks the public facilities an overseas airport would require. Unless the State first takes steps to improve roads, provide housing and meet Kona's other pressing problems, he said, and overseas terminal would only harm Kona.

It would result in tremendous inflationary pressure, he said.

By Bill Benham
T-H Ka'u, Kona, Kohala Reporter

Re-typed from a newspaper clipping.

Hilo airport project wins Burns approval

By J. F. CUNNINGHAM
Advertiser Staff Writer

A new \$16 million passenger terminal will go up on the volcano side of General Lyman Field at Hilo within three years, Gov. John A. Burns indicated yesterday.

The Governor announced endorsement of recommendations for such a terminal by his Hilo Airport Advisory Committee, headed by State airports chief Owen Miyamoto.

Miyamoto's group, which included a cross-section of interested parties from the Big Island, decided on May 18 that the State should proceed with the controversial project as soon as possible.

THE U.S. AND foreign airlines serving Hawaii had opposed the idea of a big, modern terminal for Hilo as not presently required by traffic through the Crescent City.

The carriers must bear most of the cost for such a facility through escalating fees for use of the State's airports.

Even those carriers which do not serve Hilo, but land elsewhere in the Islands, will help underwrite the new gateway to the Big Island.

THE AIRLINES argued that the State should spend \$5 million instead to improve existing terminal facilities on the makai side of the field.

But Burns said: "After thorough study of the committee's report, made after reviewing the plans of both the Department of Transportation and the air carriers, I agree that new facilities will be re-

quired and, therefore, we should start now with all due haste.

"The Hilo airport should meet the long-term needs of both the community and the State and, in the implementation of such plans, should reflect actual need."

BURNS ALSO WENT along with the committee's recommendation for extension of the completion date of the terminal by one year to May 30, 1974.

Miyamoto said the committee had left open the selection of a site for the terminal, but that the State Transportation Department favors putting it on the opposite side of the runway from the present complex. He said the State probably would advertise for bids on the construction there in October.

"Our hope is to break ground for preliminary site work before the end of the year," he said.

The Bechtel Corp. already is under contract to the State to serve as project manager for airport improvements on the Big Island.

THE COMMITTEE report to Burns, made public for the first time, said in part:

"Your committee feels that in the interest of the future economic growth of not only the city of Hilo but of the entire State of Hawaii adequate facilities should be provided throughout the State to assure a balanced physical and economic growth in all regions.

"The large financial losses experienced by nearly all of the airlines is recognized as

a serious problem and we are therefore including in our recommendations that your administration give serious consideration to a plan for the deferment of additional airport use fees to be charged for the Hilo project until such time that the new terminal improvements can be put to beneficial use."

BURNS DID NOT comment on such a deferment in his announcement.

Among the specific recommendations of the committee were:

"Hilo be developed to best serve the rapidly increasing tourist population of the State and to grow compatibly with its metropolitan environs."

"Plan for a system of runways to be constructed when needed from an airfield capacity standpoint and required in the public interest so as to orient flight paths away from the populated areas of Hilo."

"EXTEND RUNWAY 8-26 (by) 2,200 feet easterly to provide a 12,000-foot runway when needed for operational efficiency."

"The development of Hilo Airport be coordinated closely with the land use and growth of the City of Hilo and that the State work closely with the County of Hawaii to adequately zone and plan areas adjacent to the airport so as to adequately protect future growth of the airport."

"That minimum improvements be provided in the existing terminal facilities during the interim period prior to completion of the new passenger terminal facilities."

In The Public Interest

Gov. John A. Burns' endorsement of the recommendation of the Hilo Airport Advisory Committee for construction of a new, \$16 million passenger terminal at Gen. Lyman Field is in the best interest of the public.

A new terminal at Gen. Lyman Field will be a sound investment in the Big Island's visitor industry and in providing increased convenience for residents who travel or greet visitors or see friends off at the airport.

Gov. Burns himself sees a greater potential for Gen. Lyman Field. In a recent statement, he said, "I feel that Gen. Lyman Field will play an even greater role in the future business growth and prosperity of Hilo and Hawaii County than it has in recent years."

The Governor agreed with the committee that new facilities will be required and "therefore, we should start now with all due haste."

"The Hilo Airport should meet the long-term needs of both the community and the State and in the implementation of such plans, should reflect actual need."

Airlines serving Hilo have opposed the proposed \$16 million project and have recommended modification of the existing terminal facilities at a cost of about \$5 million.

The Airport Advisory Committee was appointed by Gov. Burns earlier this year to review proposed expansion plans of the Department of Transportation and the proposal of the air carriers. It made a series of recommendations.

Members of the committee are: Owen Miyamoto, chairman; O. A. Byrne, vice chairman; Bill Thibadeau, Albert (Slim) Holt, Anthony Phillips, Bill Davis, Carl Saito, Andy M. Hayashi, Jim Carras, Dick Segawa, Randy Ahuna, Howard Mimaki, Shigeru Sakata, William McPeck, Wes Keliikipi, John Rodrigues, Nat Wolozin, Bill Kimi, Stanley Morikawa, Alvin Tanaka, John Ah Ho Lee, Bert Nakano, Harry Hara, Howard Oshiro, Tony Taniguchi and Northrop Castle.

We owe a vote of appreciation to Gov. Burns for his support of the \$16 million facility and to the Hilo Airport Advisory Committee for its thoughtful recommendations.

Terminal To Increase Noise Pollution?

A representative of the airlines said here Wednesday night that development of a new terminal at General Lyman Field will increase noise pollution.

At a hearing on the environmental impact of the proposed \$16-million new interisland-overseas terminal, Frank Der Yuen, chairman of the Airlines Committee, said flight crews "will attempt to shorten their landing run application of maximum reverse thrust," thus creating noise pollution to residents north of the 9,800-foot jet runway.

Owen Miyamoto, State Airports Division Chief, however, said the noise pollution can be controlled by requiring the pilots to follow their existing pattern of operation.

The hearing was conducted at the Council County Room and attended by representatives of Western, Continental, United Northwest, Hawaiian, and Aloha Airlines and 15 Hilo residents.

Miyamoto said there will be no adverse impact on vegetation and that there is no necessity to relocate residences in the airport area.

County Managing Director Bruce McCall urged the commencement of construction of the terminal since the project, he said, has been delayed for a number of times. He also asked the State consult with the County when it begins to let out concessions at the terminal.

The proposed terminal would be located on the south side (Puna side) of the main runway. It would be a cluster of three buildings providing separate facilities for passenger check-in, waiting and baggage claim.

Adm. Alvey Wright, deputy director of transportation, who presided over the hearing, opened the meeting with a brief description of history of the terminal project.

Wright said the project will be advertised in May of 1972. And groundbreaking is scheduled for July of that year, he said.

By November, 1972, the State will advertise for bid for the construction of the terminal building. By June of 1974, the entire project should be completed, according Wright's schedule.

Development of the terminal, which will have an apron

space for four interisland jets and eight overseas jets, has been opposed by the airlines. It also will be able to accommodate the 747 jumbo jet.

The airlines have proposed a \$5-million interim plan for expanding the existing overseas interim terminal. Der Yuen, restricted his testimony to possible environmental impact rather than restating the airlines' position.

Among other points of possible adverse environment impact, Der Yuen said:

- Congestion on the taxiway will be increased;
- The distance between the cargo station and the new terminal will be increased by 2.2 miles, thus increasing the hazard of transporting cargo or baggage to the airplanes;
- Congestion on the taxiway will cause excessive waiting and engine idling time; and
- The State has not given sufficient thought to the location of the proposed terminal.

Der Yuen also said the State failed to list in its impact report "the development of Ke-ahole airport in West Hawaii as an alternate for some overseas operation."

new drive to develop Hilo Airport

HILO — Big Island business interests are renewing their drive for the oft-delayed \$21.3 million development of a new passenger terminal at Hilo Airport.

Last week a letter from Byron M. Fox of the Hawaii Island Chamber of Commerce to Dr. Fujio Matsuda, State Director of Transportation, asked about the delay and expressed "concern about the present status of the new passenger terminal facility and overall expansion program for Hilo Airport."

FOX, CHAIRMAN of the Chamber's Economic Development Committee, asked Matsuda for a date when construction will start. He also asked for a timetable for completion and a "summary of particular problems that might be causing the delay."

For the last three years, East Hawaii business leaders have been uneasy about the delay in the terminal project in the wake of a \$19 million large-scale Kona airport completed at Ke-Ahole. However, Gov. John A. Burns committed his Administration to carrying out the Hilo airport master plan in July of 1970 when he spoke at the Ke-Ahole dedication.

Tired of Delays**Businessmen Push for New Hilo Airport Terminal**

HILO—Skeptical businessmen here have renewed a drive for the frequently delayed development of a new \$21.3 million passenger terminal at Hilo Airport.

They've written to Dr. Fujio Matsuda, State Transportation Director, asking him to explain the delays.

Work was to have begun last November. It was rescheduled for June of this year.

Now Owen Miyamoto, airports chief, says he doesn't know when work will begin. He blames the latest delay on the Federal Aeronautics Administration, which is studying an environmental impact statement the State prepared regarding the project.

Miyamoto predicts the statement will be accepted. He says the project will be completed in 1974 as originally intended.

Nonetheless, the Hawaii Island Chamber of Commerce is worried.

Byron Fox, one of its members, wants Matsuda to supply the Chamber with a timetable for completion and a summary of particular problems that might be causing the delay.

Despite reassurances from Governor John A. Burns that the project will go ahead, Hilo businessmen have been uneasy for three years.

In the back of their minds is the fear that Kona's Ke-ahole Airport, not Hilo's airport, will become the gateway serving transpacific flights, thus damaging Hilo's economic status.

Businessmen also fear delaying tactics on the part of the trunk carriers and the inter-Island airlines.

The trunk carriers want to expand the existing overseas

terminal at Hilo rather than build an expensive new one that the carriers will have to help pay for.

The big airlines will face outlays to help pay for Honolulu's new reef runway, and the costly Hilo project is just another burden.

The inter-Island airlines don't like their location in the Hilo terminal building as it's planned.

Commission Okays Airport Zoning; Hawaiian Homes Questions Raised

In the wake of two murmers of dissent, the Planning Commission Wednesday night recommended that zoning be approved to clear the way for proposed \$18.8 million Hilo airport expansion plans.

The recommendation was passed on to the City Council after Alike Cooper and Genesis Lee Loy posed questions regarding land ownership in the Gen. Lyman Field area.

Referring to several parcels rezoned in prior airport issues, Cooper asked who is the rightful owner of the property and what money or land exchange was made with Hawaiian Homes Lands when the parcels were rezoned.

He limited his questions to land already rezoned and in use by the airport and not to the 289.5 acres under consideration Wednesday night for extension of terminal expansion.

Cooper contended that if land or money exchange for the previous parcels was not satisfactory, then Hawaiian Homes Lands should be receiving payment siphoned from revenues produced by parking fees and profits realized from the land.

His questions drew equivocal responses.

Owen Miyamoto, chief of the airports division of the Department of Transportation, said he would check with his office to see if the queries would be answered.

Raymond Suefuji, county planning director, said the matter should be considered by the State Attorney General's office.

Genesis Lee Loy questioned plans for an access road through Hawaiian Homes Lands property adjacent to the airport and asked if a previous request that the route be changed was being heeded.

And James Juvik, assistant professor of geography at Hilo College, questioned the merit of claims that increased jet traffic will not significantly increase noise levels.

Planners were unanimous in their decision to recommend that the council approve the airport rezoning.

The State Department of Transportation plans to advertise for bids on site preparation Oct. 6 to permit scheduling the start of the site grading work Dec. 4 and terminal construction Jan. 2.

Airport completion is scheduled for May 31, 1974.

Chamber Replies To Konan

Two officials of the Hawaii Island Chamber of Commerce have written Dr. Fujio Matsuda, State director of Transportation, to attempt to refute objections to General Lyman Field new terminal development raised by a West Hawaii Committee spokesman.

They say that Hilo does not have a serious aircraft noise problem, nor are only a small group of Hilo businessmen pushing for Lyman Field expansion, as contended by Herbert C. Stecker, West Hawaii Committee vice chairman, who wrote Matsuda Aug. 15.

Byron M. Fox, Hawaii Island Chamber economic development committee chairman, and Herbert Segawa, Hawaii Island Chamber president, have told Matsuda that:

—No community concern exists about the noise created by planes landing in Hilo. Also major aircraft engine builders are spending big sums to develop quieter engines.

"Because the manufacturers have had measurable success," Fox and Segawa told Matsuda Thursday, "the West Hawaii Committee's concern for Hilo's aural health seems unwarranted."

—A potential shift of inter-continental flights to Keahole Airport "is not sound" because Kona's wind circulation pattern is conducive to real smog conditions—should air pollution sources increase.

—It is "reasonable to assume" that "hundreds of livelihoods" are tied to Hilo's airport and that "the effect of shifting the airport would have a devastating effect upon the community's economic pattern."

Stecker had written Matsuda to indicate that his group did not agree with Matsuda on Hilo noise conditions. He said his committee has not been satisfied with Kona noise study results and his group objects to what they said "has every appearance of blatant favoritism to a group of Hilo businessmen at the expense of the tourists, the airlines and the people of the Island of Hawaii in general."

"When we wrote to you on Jan. 3, requesting noise contours for the airports in Hilo and Kona," Stecker wrote Matsuda, "you made a number of statements relative to trying to explain why the problems encountered by Japan Air Lines at Hilo were not germane and how you would overcome objections to aircraft noise over Hilo 'if it becomes serious'."

"It would seem to us that, before the expenditure of millions upon millions of dollars is seriously considered there should be an equally serious study of the effects of landing many more and larger aircraft with the approaches directly over the most populated area on this entire Island, namely downtown Hilo.

"We have seen some outdated noise contour studies" on the

Hilo area with explanations that "approaches over the downtown Hilo area occurred only rarely, this last being a complete prevarication (deviation from the truth) since almost all approaches are directly over the city as anyone can observe if they spend a few days there."

Stecker also indicated Matsuda was quoted in a Honolulu newspaper as saying "Hawaii Island businessmen" have pushed for Lyman Field development.

This was not the case, declared Stecker, "but specifically, it was a small group of Hilo businessmen who could see a good chance for personal gain by continuing to keep tourists in their area before they set off for the real vacation area, namely the West Hawaii district."

"We feel that no further work should be done on General Lyman Field," explained Stecker, "until all alternatives are thoroughly explored and proper environmental studies are conducted and made public."

Fox and Segawa told Matsuda in their opening remarks that "the West Hawaii Committee, representing a vocal minority in Kona and Kohala, has taken exception to the development of the new terminal facility at General Lyman Field in Hilo."

They quoted the 1971 County General Plan to support their position that shifting inter-continental flights to Keahole is "not sound." It read, they said:

"On the leeward coast . . . the diurnal land and sea breeze pattern prevails. Since this circulation pattern is self contained within a limited area, . . . a concentration of pollutants can occur. The potential is great for smog conditions to develop, especially if vehicular and other air pollution sources increase. The Kona coast is typical of this situation."

"Finally," concluded Fox and Segawa, "the desire to have inter-continental flights remain in Hilo is not the concern of a small number of Hilo businessmen but of a very large number.

"Better than half of the island's population is clustered about Hilo and fully 80 per cent of the island's business is done here.

"Therefore, it is reasonable to assume that hundreds of livelihoods are tied to Hilo's airport.

"The effect of shifting the airport would have a devastating effect upon the community's economic pattern.

"Ours, therefore, is a concern for the majority rather than creating new economic opportunities for a few of Kona's residents."

J-Chamber Asks Airport Okay

The Japanese Chamber of Commerce and Industry this morning wrote the Federal Aviation Administration, urging early approval of an environment impact statement on the new terminal project at Hilo's Lyman Field.

The start of construction has been delayed because the FAA has been postponing its action on the statement. The Federal agency has received opposition to the statement from a Kona resident, Herbert Stecker, who also is a member of the West Hawaii Committee.

"It was with surprise that in yesterday's news we learned that a further delay was being made in the start of construction of the . . . terminal building," wrote Paul T. Mannen, chairman of the Chamber's Economic Development Committee.

Mannen said "the new terminal building would be further away from the business area and would decrease the noise level because of the greater distance from present and future zoned business areas." He said his organization has been on record favoring the immediate construction of the terminal building.

Mayor To Ask Airport Work Impact Statement Approval

Mayor Shunichi Kimura said this morning he will write Federal Aviation Administration (FAA) in Honolulu, urging early approval of an environment impact statement on the development of a \$21.3 million overseas-interisland terminal at Hilo's Lyman Field.

Approval of the statement has been held up by the FAA as a result of opposition raised by a retired Kona chemist, Herbert Stecker, who is a member of the West Hawaii Committee.

The committee has been pushing for shifting overseas flights to the Big Island from Hilo to Kona's Ke-ahole Airport.

In his letter to the FAA, Stecker raised the question of noise from increased air traffic at Lyman Field.

Commenting on Stecker's letter, Kimura said, "I think it is unfortunate."

"I hope they (FAA) will proceed with their approval of the impact statement," he said. "I'm going to write to the FAA."

"I don't think development of a new terminal will increase the noise level," he added.

In response to questions, Kimura said he hopes there will be no polarization between Hilo and Kona because of Stecker's letter.

"Ke-ahole and Hilo are not competing," he said.

The Hawaii Island Chamber of Commerce Thursday wrote Fujio Matsuda, State Transportation Director, disagreeing with Stecker's objection.

Hilo Airport Just Political Football Field to Airlines

By Keith Haugen
Star-Bulletin Writer

Does Hilo really need an overseas airport? Is the planned airport expansion and terminal improvement necessary?

-Can the airlines, already losing money on service to Hilo — stand the additional expense?

These are among the many questions arising out of State plans to expand General Lyman Field at Hilo — plans that have met with objection and disapproval from many of those most closely affiliated with air service to the Big Island.

Airline officials have called the expansion plan a "political football" and most argue that the construction of a new \$18 million terminal was to keep a promise. It had nothing to do with demonstrated need, they say.

THE LOWERING of the "Maui fence" and the traffic slump now being experienced at Hilo seem to support the airlines' position that the airport expansion is little more than a political move by the Governor.

The State plans to call for bids this month and begin construction on the new terminal in December. The project will include a 7,800 foot long access road, parking lot and circulation roads, a 150,000 square foot passenger terminal building, an aircraft apron and a sewage treatment plant.

It is scheduled for completion in May of 1974.

United Air Lines president Edward E. Carlson last year told a Hilo gathering that United is committed to the Hilo service and to paying its share of the new facility.

"Gov. John A. Burns wants to see the Hilo Airport improved and we want to assist him in that regard," Carlson said.

Carlson's logic is that the airline would have to pay increased landing fees whether or not they land in Hilo, so it will cost them no more to continue to use the facility — even after the improvements.

WILLIAM T. SEAWELL, president of Pan American — the only carrier to start and then pull out of the Hilo market — recently raised some questions about the need for improvements and called for a re-appraisal of scheduled airline needs.

There are others who support direct scheduled long-haul air carrier service not only to Honolulu and Hilo, but also to Ke-Ahole and even to Maui and Kauai.

A \$100,000 study has already been authorized to locate a new airport site which will accommodate four engine jets.

"This is an invitation to overseas carriers to provide direct service to Kauai," one airline official commented.

The Kahului Airport at Maui is currently master planned for a main runway of 11,000 feet. Only the acquisition of land for the clear zone at one end remains to make the master plan technically feasible.

EVEN NOW, from time to time, trunk carriers and certain supplemental carriers use Maui's present 7,000 foot runway to bring in charter flights directly from the Mainland.

Meanwhile Gov. John A. Burns is on record opposing direct service to Hilo, and is known to support the development of Ke-Ahole as Hawaii's logical second international airport.

And although the governor has stated repeatedly that Ke-Ahole Airport is the best situated of all airports in Hawaii from the standpoint of environmental conditions, he continues to woo Hilo voters by expanding the terminal and promising no further expansion at Kona.

Meanwhile the stimulation of new traffic to Hawaii as a result of the Hilo gateway has not been clearly demonstrated. The route has proven to be uneconomic and at least two carriers have delayed getting into the Hilo market.

Big Island leaders—both in government and industry—believe the market can be developed and that Hilo can be an important gateway.

Others suggest that inter-island scheduled service should be restricted to local carriers like Hawaiian and Aloha airlines, with West Coast and foreign scheduled service limited to Honolulu Airport.

IN VIEW OF these opposite positions, Seawell's questions become most meaningful:

"What are the economic, ecological and convenience advantages of Neighbor Island airports whose runways and terminals need satisfy only the requirements of short-haul, high capacity aircraft and inter-island checkin and baggage?"

"How do these benefits and their costs compare with those of 'everywhere' and an international airport philosophy, calling for more complex, extended, multipurpose airports offering direct Mainland and foreign service?"

"Is there enough of a cost advantage of the 'one international airport' concept to justify the conviction of its supporters that:

—Inter-island airline profitability and lower inter-island fares would result?

—That the savings of the long-haul carriers in eliminating duplicate facilities, landing fees, etc., would help keep overseas fares low?

—That environmental irritation would be appreciably minimized?

"IS THERE fact in the assumption of Hilo's tourist industry, especially its hoteliers, that their prosperity depends on direct flights, wide-bodied jets, and expanded multipurpose terminals? Or will the numbers of visitors lured to and through Hilo be increased by its attractions, tour patterns, and more reasonably fared, frequent scheduled flights through indigenous environmentally attractive terminals?"

"Which concept takes best advantage of the enormously expensive reef runway, and the great capacity increase and environmental improvements it promises?"

It should be noted that while traffic to Hilo has dropped of considerably, the Big Island—like Maui and Kauai—has continued to enjoy a welcomed prosperity.

Hotel occupancy rates have been high and while people may not be interested in flying directly to the Big Island, they seem to find their way to Hilo—sooner or later.

Time for a Review

Statistics released this week by the State Department of Transportation show that Mainland air traffic in and out of Hilo's General Lyman Field continued to drop during the month of September.

The number of passengers arriving at Hilo on flights from the Mainland was down 3.9 per cent from September a year earlier. This marked the sixth consecutive month that Mainland arrivals at the Big Isle airport were below the arrivals of the corresponding months of 1971.

Departures from Hilo to the Mainland last month were down 20.8 per cent from departures of September 1971 — continuing a trend that started almost a year ago. Departures from Hilo to the Mainland have been down in all but one month this year, and the over-all average is more than 18 per cent below last year's figures.

If this trend continues, airlines serving Hilo will be forced to take steps to curtail their mounting losses.

The obvious move, of course, would be to cut back on service.

Curtailing of service, however, would further reduce the attractiveness of flying in and out of Hilo — since there would then be fewer flights to choose from. And more people likely would turn to the Honolulu gateway where they can find convenient departure times.

In a Star-Bulletin series earlier this month, transportation writer Keith Haugen told of this dilemma and of suggestions by airline executives that there should be a complete re-appraisal of scheduled airline needs.

Air traffic records of the past nine months would support the need for such an examination of both airline service and needs as they relate to Hilo.

When plans were made for the expansion of the Hilo airport terminal, those responsible were faced with a different picture — and a different set of statistics.

Predictions were that traffic to and from Hilo would continue to increase. The nearly \$20 million project seemed to be well justified — at that time.

But those predictions have not materialized.

And some of the airlines already have indicated opposition to that expansion plan — a very costly project that will be paid for by the airlines and ultimately by the traveler.

Now is the time for the State to take a hard look at the terminal improvement project.

Stecker Pushes Noise Study On Hilo Terminal Expansion

By BILL MCGEE
T-H Kona-Ka'u-Kohala
Reporter

KAILUA-Kona—Herbert C. Stecker, vice chairman of the West Hawaii Committee, has renewed his demands for environmental impact statements concerning overseas landings at General Lyman Field in Hilo and Ke-Ahole Airport in Kona in a recent letter to Department of Transportation officials.

Stecker's letter to Owen Miyamoto, airports division chief, Department of Transportation, on Aug. 15 delayed advertising for bids for a \$18.8 million Hilo airport expansion project.

Stecker said in an interview, "It's most interesting, I think, and not entirely coincidental, that site preparation bids were to be advertised on Oct. 6, the day before the primary election, and bids for the terminal construction were to be advertised just before the general election."

He said he was in Japan when his letter made headlines, but that he has received many phone calls since his return.

"I am amused by the agitation caused when I perhaps inadvertently caught somebody with his hand in the Federal cookie jar," he chuckled.

Federal money will be used in site preparation, construction of aircraft aprons, taxiways and an access road at Lyman Field, so an environmental impact statement is required.

The Environmental Protection Agency in San Francisco is now awaiting a final environmental impact statement. The Federal funds

cannot be used until the Federal Aviation Administration in Washington, D.C. approves the impact statement.

Stecker's complaint claims that noise level studies in Hilo, made in 1964, were made with turbojet and turbo prop planes landing on Runway 26, away from Hilo, and that no studies for DC-9, 737 or 747 aircraft had been submitted.

"It should be noted," said the letter, "that Runway 8 (over downtown Hilo) is used for a substantial percentage of landings and the noise pollution is considerable."

Since the overseas terminal will serve all of Hawaii County, Stecker said, all sites in Hawaii County should be considered equally. He added that the proposed \$18.8 million Hilo airport expansion project is Phase I in an \$85 million total plan.

In letters to Matsuda, Stecker has repeatedly asked for "noise contours" for both Hilo and Ke-Ahole airports. He wrote: "I trust I can expect this information soon and that no further action be taken on the proposed terminal project until the question of noise is thoroughly researched, made available to the public and accepted by all concerned citizens as having the least environmental impact of all alternatives, not excluding Ke-Ahole Airport."

Stecker cites a statement from an Airlines Committee interested in General Lyman Field on the preliminary impact statement. "In their own words,

here's what the airlines people and pilots have to say:

—In order to reduce excessive ground time, flight crews will attempt to shorten their landing run by application of maximum reverse thrust. This . . . will create a noise factor disturbing to the residents north of Runway 8;

—Aircraft leaving the proposed terminal area will be faced with other situations which can result in more noise and air pollution than in the

present arrangement;

—For time critical inter-island flights, this option (takeoff on Runway 26) will be exercised by the Captain. The result: more noise over the City of Hilo;

Airlines have had considerable experience in other locales where the public have sought injunctions against flight operations or reduced flight operations after the planning and construction of new facilities. From this standpoint alone, the airlines are extremely apprehensive that the proposed plan has not been given sufficient thought to avoid the problems above described;

—Alternatives to the proposed action . . . fails to list Ke-ahole as an alternative for some overseas operations. It is recognized that of all airports in the State's system of airports, Ke-ahole is the only airport which meets the environmental standards."

In questioning the noise contour studies, Stecker cited the Environmental Protection Agency's ban on Japan Airlines training program in Hilo, about two years ago. But Matsuda answered in a letter to Stecker that the touch-and-go landings in the training program created a different public reaction than increased passenger aircraft operations would.

Planners anticipate a 25-fold increase in Hilo passenger traffic in the next 15 years, Stecker pointed out.

Stecker's objections to the draft environmental impact statement were echoed by the EPA in official review of the statement. "The statement is most deficient in failing to discuss the effect of an increased frequency of high noise levels from additional air traffic on the residents of Hilo," it said.

In an interview with the Tribune-Herald, Stecker claimed that not all Hawaii Island businessmen were pushing for the Lyman Field expansion program.

"I attended a hearing in Hilo and there were only 14 people there," he said. "When testimony in favor of the Hilo Airport was asked for, none of them spoke in favor. One man did, however, suggest moving it to Puna until Mr. (E. Alvey) Wright ruled him out of order." Stecker said.

He said the two members of Hawaii Island Chamber of Commerce who released a public statement last month to refute his objections to the Hilo expansion plans had failed to prove their case. He explained:

—Northerly winds in the Keahole Point area would quickly dissipate any exhaust from planes, driving it out to sea.

—If there is no community concern about noise in Hilo, why did Japan Airlines stop training pilots there? he asked.

—Rather than "hundreds of livelihoods" tied to the Hilo Airport, Stecker charged, there is only a "small group of Hilo businessmen who see a good chance for personal gain by continuing to keep tourists in their area before they set off for the real vacation area, namely, the West Hawaii district," said Stecker.

Mayor Says Hilo Terminal Needed

Mayor Shunichi Kimura has taken issue with recent critics of an overseas terminal project at Hilo's General Lyman Field.

He said he disagrees with the Honolulu Star-Bulletin on the newspaper's editorial calling for "hard look" at the nearly \$20 million project.

And he disagrees with a Kona critic whose inquiries into the environmental impact of the project have delayed the State's progress with its plans.

The Star-Bulletin editorial was published Friday, after a series of stories by the paper's transportation writer, Keith Hagen.

The editorial pointed out the State Department of Transportation's statistics show Mainland air traffic in and out of Hilo has continued to drop for the past several consecutive months.

In September, the arrivals

directly from the Mainland dropped by 3.9 per cent from the same month a year ago. Departures from Hilo were down 20.8 per cent.

(The figures differ from those of monthly tourists arrivals which include Mainland or foreign passengers coming to Hilo via the two interisland airlines.)

"If this trend continues, airlines serving Hilo will be forced to take steps to curtail their mounting losses," the editorial stated. "The obvious move, of course, would be to cut back on service."

"Curtailing of service, however, would further reduce the attractiveness of flying in and out of Hilo—since there would then be fewer flights to choose from. And more people likely would turn to the Honolulu gateway where they can find convenient departure

times."

The editorial said the terminal project was planned to meet the predictions of tourism growth some years ago.

"But those predictions have not materialized," the editorial said.

"I disagree with the editorial," Kimura said. "We should go ahead with the overseas terminal project. It's long needed."

Kimura said he has instructed his Department of Research and Development to study whether the removal of the "Maui fence" in the common-fare agreement has influenced the air traffic at Lyman Field.

In the original common-fare agreement, Maui served as a boundary line.

Under the common-fare plan, a passenger who entered Hawaii through the Hilo gateway and went beyond Maui

must exit from Honolulu. And those who entered from Honolulu and went beyond Maui had to go out through Hilo.

The "Maui fence," however, came down at the airlines' request early this year.

Without the fence, passengers may go out of Hawaii either through Honolulu or Hilo.

Kimura reluctantly supported the airlines' request because he said he was persuaded to believe that a "hill and valley" situation in hotel bookings during a week would be eliminated. Without a fence, the airlines argued, tourists can be flown to all Islands evenly throughout the week.

The removal of the fence, however, has not eliminated the "hill-and-valley" situation, according to the Research and Development Department.

The overseas terminal project has been opposed by the

overseas airlines serving the Big Island, although recently United Airline officials said they could "live" with such a development. The decline in air passenger traffic at Lyman Field may have added fuel to the airlines' claim that development of such a terminal is not necessary at the moment.

Kimura said he does not think the airlines are using the fenceless common-fare agreement to purposely lessen Hilo air traffic to make the Hilo gateway appear not to be in need of a new terminal.

In the meantime, Herbert C. Stecker, vice chairman of the West Hawaii Committee, has renewed his demands for environmental impact statements concerning overseas landings at Lyman Field and Ke-Ahole in Kona. His push for a noise study already has delayed advertising for bids for the Hilo project.

Stecker, who charged a "small group of Hilo businessmen" is trying to keep tourists in Hilo, complained the noise level studies in Hilo made in 1964, were made with turbojet and turboprop planes landing on Runway 26, away from Hilo, and that no studies for DC-9, 737 or 747 aircraft had been submitted.

Kimura said he has discussed Stecker's complaint with State Transportation Director Fujio Matsuda.

"I understand the Transportation Department will submit whatever the information the Federal Aviation Administration or the Environmental Protection Agency wants," he said.

Kimura said he does not foresee any difficulty in getting approval of the impact statements by the Federal agencies.

Candidates Polled On Hilo Airport

The Hawaii Island Chamber of Commerce, the Japanese Chamber of Commerce, the Downtown Improvement Association and other organizations concerned over the delays in commencement of construction of the new Hilo Airport Terminal Facility have polled candidates on the issue.

On Friday, Saturday and Sunday, the candidates were polled by telephone. The following are remarks made by candidates reached: As reported by the groups on whether the terminal should be expedited. It should be understood, however, that it was impossible to contact several candidates because of their busy campaign activities.

Mayor Shunichi Kimura—"Yes, definitely. Has been talking with Dr. Matsuda, the Governor and the Lt. Governor. Already has made a strong public statement."

Archie Hapai—"This is a one-island development of East Hawaii and West Hawaii will benefit as well. West Hawaii will someday need to have its own Airport Intercontinental Facility."

Robert Yamada—"There should be a strong recommendation from the County Council. We should ask Dr. Matsuda and the Governor to proceed as quickly as possible."

Joseph Garcia—"Yes, he is in favor of the Airport. He has consistently been in contact with the Department of Transportation to push the project ahead. He feels that the current problem with the Environmental Impact Statement is nothing more than a stymying device and has no merit."

John Farias, Jr.—"Yes, he is favor also, obviously, and has been for years. He feels that the County Council ought to make a strong resolution. A lobbying effort ought to be mounted with the Democratic majority of House and Senate."

Frank De Luz—"Yes, he is in favor of the airport and is prepared to travel to Honolulu, sit down with David McClung, and in a team effort, see if they can appeal to the Governor Dept. of Transportation."

Rick Edwards—"Yes, he is in favor of the airport and believes strongly that the County Council should come up with a resolution for a hasty commencement of the airport."

Dante Carpenter—"Yes, in favor. Will ask the Council to pass a resolution to move ahead with the Airport."

Herbert Matayoshi—"Yes, in favor and also believes a Council resolution should be made."

Josephine Yadao—"Yes, in favor. Council should take a stand. The airport has great economic importance to the entire community."

Tom Fujii—"Yes, in favor. He will personally look into the reason for present delays."

Jimmy Souza—"Yes, in favor. That the County and Legislators should "carry the ball" and try their best to expedite building our new Terminal Facilities. He has always worked towards this goal and will continue to do so."

New Hilo Airport Gains Big Backer in Mayor Shunichi Kimura

By **EUGENE TAO**

HILO—Mayor Shunichi Kimura is fighting a surge of strong pressure for reassessment of the multimillion-dollar new overseas terminal planned for Hilo's General Lyman Field.

He has instructed the County Department of Research and Development to find out what has been causing the decline in air traffic in and out of Hilo for the past few months.

He has taken issue with the Honolulu Star-Bulletin's recent editorial calling for a "hard look" at the nearly \$20 million project.

"I disagree with the editorial," Kimura said. "We should go ahead

with the overseas terminal project. It's long needed."

The editorial said the terminal project was planned to meet the growth of tourism as predicted years ago. "But those predictions have not materialized," the editorial pointed out.

From the beginning, the airlines serving Hilo have been opposed to the new terminal project because they will pay for it. Instead, they suggested the State remodel the existing terminal facilities for about \$5 million.

Despite the airlines' objections, Governor John A. Burns approved the project in August 1971. The

Governor said construction should be begun with "all due haste."

The new terminal plan calls for construction of three one-story buildings on the south side of the existing 9,800-foot main runway.

Connected by covered walkways, the three buildings will have 150,000 square feet of space, with 15,000 square feet of it for a passenger waiting area.

The terminal complex would have aprons for 12 passenger aircraft to park — four DC-9 turbojets such as are used by the inter-Island airlines, and eight DC-8 or 707 jets. The apron space also would be able to accommodate 747 jumbo jets.

Construction, however, has been held up pending approval of an environmental impact statement by the Federal Aviation Administration, although the project is scheduled to be completed in May 1974.

The impact statement indicated no adverse effects in the airport area.

But the statement has been disputed by a West Hawaii group.

In August, Herbert Stecker, vice chairman of the West Hawaii Committee, in Kailua-Kona, wrote State Transportation Director Fujio Matsuda that "no further work should be done on General Lyman Field until all alternatives are thoroughly explored and proper environmental studies are conducted and made public."

Stecker raised a few questions on noise impact. He said previous noise contour studies for the

airport are out-of-date. And he charged that the terminal project is being pushed by a "small group of Hilo businessmen" to try to keep business in Hilo.

Stecker's letter apparently has caused further delays in FAA's approval of the impact statement.

Stecker's objection to the terminal project is considered by some to be part of the effort of businessmen on the west side of the Big Island to promote expansion of Ke-ahole Airport near Kailua-Kona into an overseas terminal.

Stecker's letter has angered some Hilo business groups, notably the Hawaii Island Chamber of Commerce, the Japanese Chamber of Commerce and Industry, and the Hilo Downtown Improvement Association.

Officials of the three groups have written to Matsuda, rebutting Stecker's claims.

It should be noted that the terminal project has been supported not only by Hilo businessmen's groups: It has been consistently supported by Big Island legislators, County officials, and a number of organizations on the Island.

Direct Hilo-Mainland flights by overseas airlines began October 1, 1967.

A key feature of the Hilo-Mainland link is the common fare agreement between the trunk carriers and the two inter-Island carriers.

Under the original common fare plan, each passenger was allowed to visit each Island by paying an additional \$5 for each stopover.

Maui served as a "fence" under the old plan. Passengers who entered Hawaii through Hilo and went beyond Maui had to exit from Honolulu. Those who entered from Honolulu and went beyond Maui had to go out through Hilo.

The Maui fence was removed early this year at the request of the airlines, and the stopover charge has since been increased to \$9.

Without the fence, passengers may go out of Hawaii either through Honolulu or Hilo.

Kimura reluctantly supported the airlines' request for removal of the fence because he was persuaded to agree that the hill-and-valley situation in weekly hotel bookings would be eliminated. Without a fence, the airlines argued, tourists can be booked into hotels on all Islands evenly through the week.

The removal of the fence, however, has not resulted in reducing the hill-and-valley situation, according to the County research and development department.

Kimura has ordered the department to investigate, among other things, whether the removal of the Maui fence has affected the air traffic at General Lyman Field.

The Mayor said he does not think the airlines are using the fenceless common fare agreement to reduce Hilo air traffic purposely - to make a new Hilo gateway terminal facility unnecessary.

Kimura's immediate concern is to get FAA's approval of the environmental impact statement so construction work will not be delayed further.

"I understand the Transportation Department will submit whatever information the FAA or the Environmental Protection Agency wants," he said.

He does not foresee any difficulty in getting approval.

The Transportation Department sold \$25 million in airport revenue bonds about two weeks ago. A portion of the money will be used for expansion of Lyman Field.

The sale of the bonds perhaps indicates that the State is determined to build a new terminal for the Hiloans - after years of frustration.

Objections Told On Airport Plan

KAHALUU — Dr. Herbert Stecker, vice chairman of the militant West Hawaii Committee, has replied to a Federal Aviation Administration request that he elaborate his opposition to the proposed expansion of General Lyman Field in Hilo.

In a letter to an FAA official released this week, Stecker claimed the State's draft environmental impact statements lack data on noise pollution in Hilo and evidenced "complete absence of consideration for

alternate airport sites."

Stecker drew up a long list of considerations he said were ignored by the impact statement, comparing Kona's new Ke-Ahole Airport with the facilities in Hilo:

	Hilo	Kona
Airport zoning classification	urban	agricultural
size of airfield	1,391 acres	4,200 acres
additional land needed for expansion?	yes	no
distance from populated areas	0 miles	9 miles
normal weather	frequent rain storms field sometimes closed	no weather problem presently adequate
airport access	1½ miles new road displaces 350' of No. 3 runway threshold	
other road requirements	extension of Puainako Kaneolehu-Kekuanaoa signal widening of Kaneolehua widening of Kekuanaoa	none
land available for new construction	inadequate	adequate
runway extension required	2,200'	3,000'
land available for U-drives, etc.	inadequate	adequate
present parking	436	500
parked aircraft to nearest home	1,300'	9 miles
construction site to nearest home	3,000'	9 miles
violation of FAA regulations	yes	no
present sewage treatment	none	adequate
protection of passengers from weather	needed	not needed
storm draining problem	yes	no
hotel rooms for passengers	1,519	2,336

Stecker told the FAA that he found a "calculated lack of data" on noise pollution in Hilo and on alternate airport sites. He listed other alleged shortcomings of the draft environmental impact statement:

—Proposed sewage treatment facilities will result in a bacterial count of "zero," according to the statement. Stecker says no sewage treatment facility can accomplish such a complicated laboratory procedure.

—Statement contradicts itself by claiming there will be no increase in air and water pollution. Treated sewage will be injected into the ground, planes must taxi further, and more land surface will be paved, leaving less area of percolation for storm runoff and treated sewage.

—Statement says there is no acceptable alternative to General Lyman Field. Stecker says this shows absolute bias toward the Hilo airport. He says that "higher capital costs" claimed for extending the Kona airport neglects these additional expenditures anticipated at Hilo for the \$21.3 million expansion:

One and one-half miles of new access road, new service and circulation roads, extension of Puainako street, signals for Kanoelehua and Kekuanaoa intersection, widening of Kanoelehua for several miles, widening of Kekuanaoa Street to four lanes including property acquisition, more taxiway and

apron constructions, weather protection of walkways, storm drainage controls and extension of runway 26.

"It is not proven that an equivalent expansion of Ke-Ahole would cost as much," said Stecker's letter.

Auxiliary considerations of ultimate passenger destination, ideal weather conditions at Kona and environmental impact are of obvious importance, he said.

Stecker took exception to the impact statement's claim that "the busy industrial and commercial activities of the Island of Hawaii are centered about Hilo." He said this is only partially true and that more "tourist days" are spent in West Hawaii than in Hilo and that tourism is the Island's major industry.

He noted that there are 27.6 per cent more tourists on the Island this year than last and the number of tourists leaving and arriving at Hilo airport is down 22 per cent.

Stecker agreed with the impact statement that Lyman Field is "located close to populated areas with little or no room to grow and violates also the criteria of modern airport safety standards." He called for a complete and unbiased study on the project before any funds are for Phase I of the \$85 million master plan.

"It is surmised that a firm has been employed by the State to make these (environmental impact) studies and that this

firm has a financial or political stake in its promotion of General Lyman Field," Stecker charges. He calls for the FAA to investigate possible conflicts of interest.

Stecker said that noise pollution problems "in an area already patently unsuited for airport operations" will undoubtedly increase since more planes would land and take off.

Ke-Ahole Criteria Top Hilo's

Reports Aircraft Council Source

By BILL MCGEE

T-H Ka'u, Kona, Kohala Reporter

KEAUHOU-Kona—Not only General Lyman Field in Hilo, but Honolulu International as well are destined to become secondary airfields with the development of Ke-Ahole in Kona, according to a senior member of the National Council of Aircraft Appraisers.

In a report to Royal Hawaiian Management Corp., General R. Benjamin Miller Sr., stressed that Ke-Ahole is the only existing airfield in the State with the capacity to meet "Class A" standards.

At their Wednesday meeting, members of the West Hawaii Committee discussed the nation-wide regional airport in nonurban areas and create a feeder system out of most large currently existing airfield.

"All of New York's big fields would serve an international 'Class A' airport to be located in Pennsylvania. Urban residents would not be subject to the dangers and inconvenience of large jets flying over the city," said Herbert

Stecker.

Stecker has prepared comments upon the second General Lyman Field expansion impact statement for F.A.A. officials in Washington. He claims that the impact statement is inadequate because:

- It may have been prepared by a firm with financial interest in the expansion of the Hilo field;
- It does not consider alternate Island airport sites;
- The cost of acquiring residential property and Hawaiian Homelands houselots and for extending and widening access streets to the airport would be borne by the County at taxpayers expense.

West Hawaii Committee members deny the impact statement's claim that expanding the Kona airfield would be more expensive than expanding Lyman field.

"There is a graded and compacted 1,000-foot approachway at each end of our 6,500-foot runway. That could be paved cheaply to provide runways big enough for 707 jets. One more 1,000 feet and we'd be ready for the jumbos," said one member.

Others speculated that Ke-Ahole expansion planning is already under way since the State is equipping a large area with streets and lights which will serve car rental agencies and other support facilities. Construction mauka of the Ke-Ahole field is now going on.

"The question is, can the State of Hawaii afford this \$21 million expansion of Lyman field and a proposed expenditure of \$85 or \$90 million for the Lyman master plan, when everybody knows it's just a temporary measure?" asked one member.

Others claimed that the Hilo expansion project was a "political promise" which will be carried out no matter what plans may exist for Ke-Ahole.

Rev. Henry Boshard noted that the proposed widening of Kekuanaoa Street to four lanes would mean from 40 to 80 homes demolished to provide new airport access in Hilo.

Other land acquisitions necessary for the Hilo project will include extension of Puainako Street, widening of Kanoelehua and one and one-half miles more airport roads.

"In five years or so those overseas flights will be landing at Ke-Ahole, no matter how much is spent on this substandard and dangerous field in Hilo. I just don't think the State of Hawaii can afford to throw away so much money," Stecker said.

General Miller's report cites Ke-Ahole's "ideal geographic location and flying climatology and closer approximation to the Mainland (than Honolulu International)."

"The Kona Coast is fortunate in having near perfect year-round flying weather as opposed to the frequent inclement weather conditions at both Hilo and Honolulu airports," according to Miller's report.

The general outlined flight patterns over the Kona field which insure that landings and takeoff would be mostly over water and therefore safer in the event of emergency procedures.

Miller's report assumes that Ke-Ahole will be lengthened to 12,000 feet. He claims that even if the Honolulu reef runway is built, it will not provide adequate safety for heavy overseas traffic.

Hilo airport "cannot qualify for a future 'Class A' airport because of its inferior climate, topography and safety aspects. Larger airports than Hilo have been declassified in favor of other airports offering more desirable public safety conditions," according to Miller's report.

Honolulu International cannot compare with Ke-Ahole area in climate, public safety, topography, geography or expansion capabilities, the report read.

"In my opinion the Ke-Ahole Airport is the ultimate in a designer's dream of beauty, function, capabilities and economy of structure," according to Miller.

West Hawaii Committee ended their meeting with the reading of protest letters from Hilo residents and businessmen complaining about the noise and danger of low flying aircraft over that city.

AIR 8058

December 17, 1971

Dr. H. C. Stecker
P. O. Box 829
Kailua, Kona, Hawaii 96740

Dear Dr. Stecker:

This is in response to your inquiry at the public hearing held in Hilo on December 15, 1971 for the draft Environmental Impact Statement prepared by the Department of Transportation for the proposed terminal building at General Lyman Field. You requested drawings of sound contours at General Lyman Field.

Attached are prints of the sound contours used in the October 1964 report by Bolt, Beranek and Newman, Inc., titled Land Use Planning Relating to Aircraft Noise. Drawing number 1 represents perceived noise level contours in PNdB for civil turbojet and turboprop aircraft landings on Runway 26. Drawing number 2 represents perceived noise level contours in PNdB for takeoffs of civil jet transports for trip lengths more than 2000 miles on Runway 8. Drawings 1 and 2 represent the normal operating procedures in terms of landing and takeoff by the overseas carriers at Hilo.

Occasionally the aircraft land on runway 8 and this is shown on drawing number 3.

Noise contours are not available for the Douglas DC-9 or the Boeing 737. For turboprop jets on takeoffs contours must be reduced by 5 PNdB.

The noise contours should be used with extreme caution. They should not be considered to represent in any way the actual noise at General Lyman Field. The technique developed by Bolt, Beranek and Newman, Inc. is intended to be used for planning purposes for estimating exposure to aircraft noise and for relating the estimated exposure to community response. The 1964 report should be carefully reviewed before attempting to use the noise contours for Hilo.

Dr. H. C. Stecker
Page 2
December 17, 1971

The technique of planning for aircraft noise has been refined further in an August 1967 report by Bolt, Beranek and Newman, Inc. and is called Noise Exposure Forecasting. Because of the many drawbacks to the use of noise contours, the method of forecasting noise exposure is now performed by a computer program which takes into account the many variables of flight operations, weather, topography and other conditions. The procedure results in a plan for recommended land use boundaries around the airport.

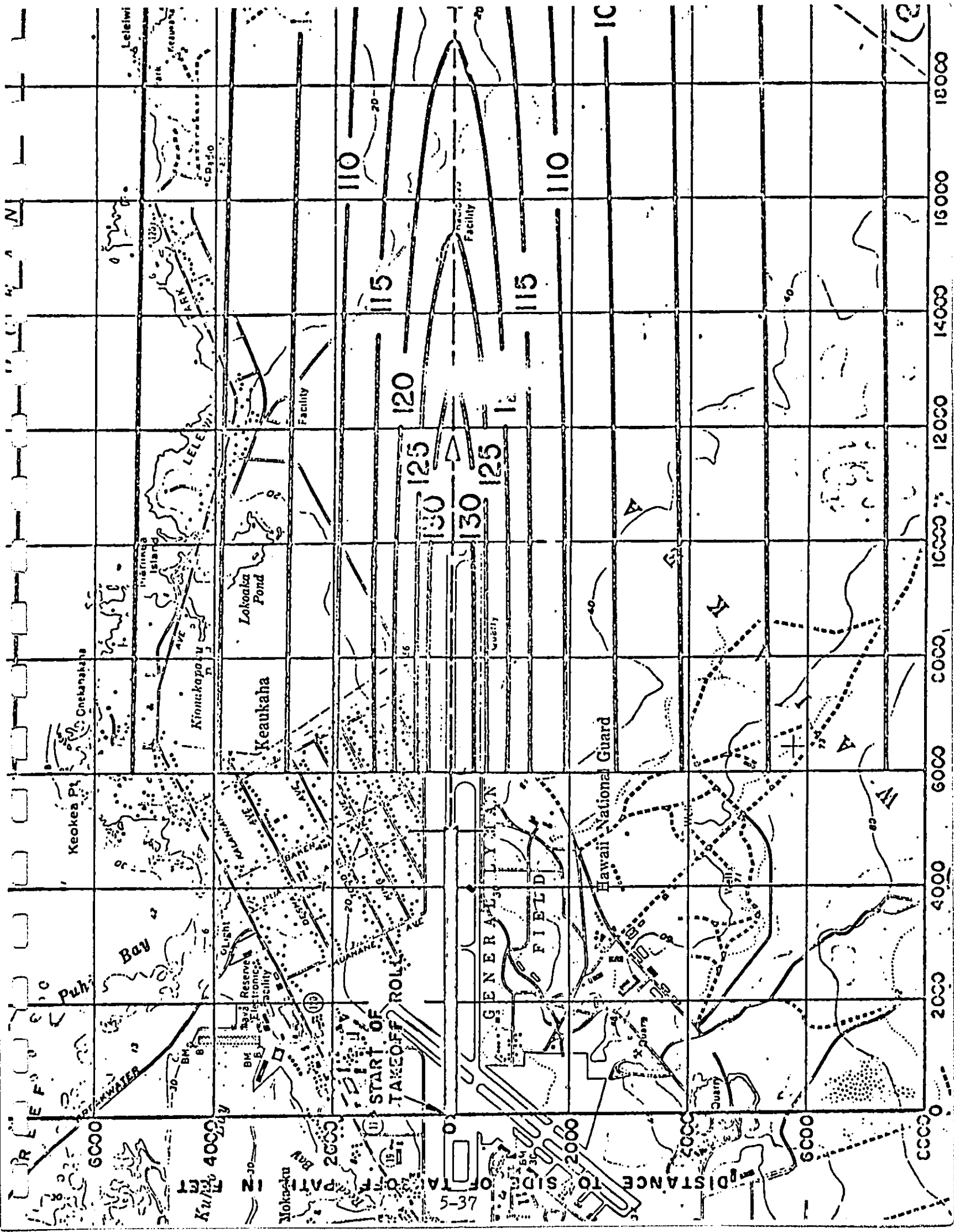
As mentioned at the hearings, we do not foresee a major change in noise on the surrounding community as a result of the proposed terminal project. If we can be of further assistance, please do not hesitate to call on us.

Very truly yours,

OWEN MIYAMOTO
Chief, Airports Division

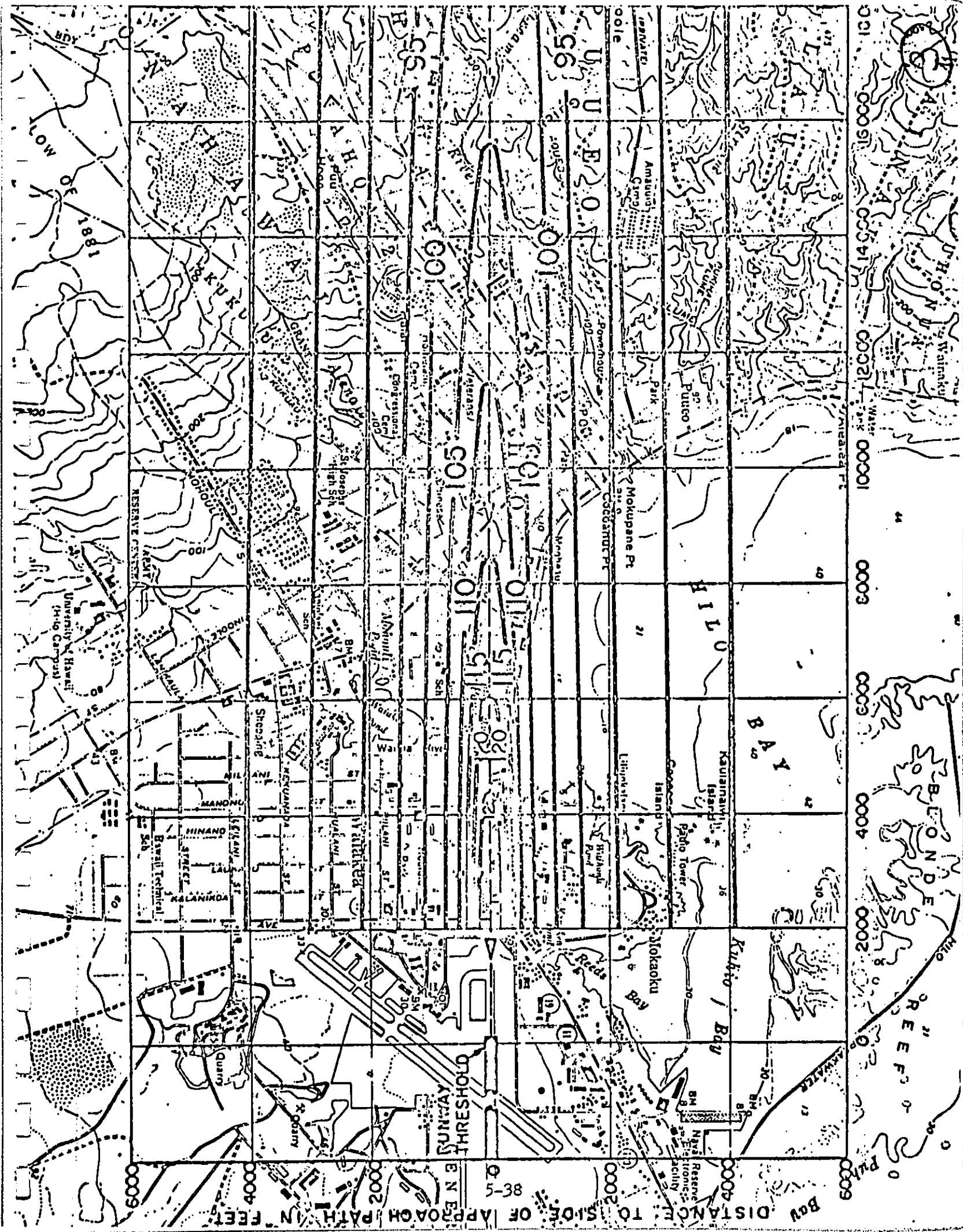
Attachments

bcc: DEP-O



5-37

DISTANCE TO SIDING



UHON
 Waianakui
 Water tank
 160000 170000 180000
 190000 200000 210000
 HILU
 Kauaiawili
 Island
 Pāho Tower
 Kūhio Bay
 ROKOAKO BAY
 REEF
 DISTANCE TO SIDE OF APPROACH PATH IN FEET

9813

January 3, 1972
Box 829
Kailua, Kona, Hawaii
96740

Mr. Fujio Matsuda, Director
Department of Transportation
Airports Division
State of Hawaii
Honolulu International Airport
Honolulu, Hawaii

Dear Mr. Matsuda:

On December 15, 1971, I attended a hearing at the County Building in Hilo, Hawaii, held for the purpose of discussing the environmental impact of the proposed new expanded airport facility at General Lyman Field. This new facility is to be Phase I of a master plan to expand all airport facilities in anticipation of a greatly increased passenger load and therefore the long-range effect on the populace must be considered.

My interest in this hearing was as a private citizen as well as Vice Chairman of the West Hawaii Committee and I was amazed to discover that the inevitable problem to the community of Hilo of noise pollution caused by take-offs and landings over and about the residential and business areas was not even considered a part of the environmental impact. I was also interested in noting that this hearing, which had as its theme the improvement of the economy and well-being of the Hilo area, was attended by only 14 private citizens of Hilo none of whom spoke in favor of the airport expansion but one of whom suggested that the airport be moved!

This recalled to my mind the difficulties encountered by Japan Air Lines when the public outcry from Hilo residents actually stopped the airline from continuing its activities because of noise pollution.

At this hearing I asked about noise contours in the Hilo area as they relate to the projected increased airport activities and also asked for similar data on Ke-Ahole Airport for comparison purposes. I was quite surprised that these studies had not been made (or were not available) and I asked that they be done and submitted to the public for consideration

PAGE 2

January 3, 1972

Mr. Fujio Matsuda, Director
Airports Division

before the expenditure of further money be made. This letter accordingly is to formalize this request and to inquire why Ke-Ahole Airport which is admittedly eminently better suited to increased passenger potential and destination usage (to say nothing of safety) was not even a consideration at the hearing. Since the airport is to serve all of Hawaii County, all logical sites in the County must be considered.

In the meantime I have received a letter and noise level contour maps from Mr. Owen Miyamoto, Chief, Airports Division, Department of Transportation. However these sound contours were taken in 1964 and then only for (1) civil turbojet and turboprop landings on Runway 26 (away from the town) and (2) civil jet transport take-offs on runway 8 (also away from the town). There was a third contour map (unidentified as to type of aircraft) concerning landing on runway 8 (approaches over the town) but with a note that this runway is only used "occasionally" for such purposes; it should be noted for the record that a substantial percentage of landings are made with approaches over the town and the noise pollution is considerable.

It was noted that no noise contours are currently available for DC-9's, 737's or 747's. It should also be noted that none of the contours covered noise levels from point of take-off or to point of landing roll and there are a considerable number of residences well within distances from the runway where noise levels could be very disturbing. Furthermore it should be noted that no contours of any kind were submitted on the other runway which has residential areas at or near both ends and as airport activity is increased (according to plan) more of the smaller jets may be expected to use it to avoid congestion on 8-26 at peak periods. No contours were submitted on Ke-Ahole Airport as I requested and apparently this superior facility is being arbitrarily by-passed to the benefit of Hilo and not necessarily for the good of the County which the airport is supposed to serve.

Mr. Miyamoto has referred to an August 1967 report by Bolt, Beranek and Newman, Inc. which provides Noise Exposure Forecasting involving consideration of weather and other factors. No data was submitted from this report and I would like to see the results of this noise forecast particularly as it has to do with the complication of heavy rains for prolonged periods of time as is frequent in Hilo. I would also wish to see the forecast as it applies to Ke-Ahole Airport.

PAGE 3

Mr. Fujio Matsuda, Director
Airports Division

January 3, 1972

One last observation is that we have been told repeatedly that there would be no appreciable change in noise on the surrounding community as a result of the "proposed terminal project". Obviously these statements refer only to the building of the new proposed terminal (Phase One of the master plan (in anticipation of the eventual proposed facility which would involve considerably more aircraft take-offs and landings) but I cannot believe that the planners intend to restrict aircraft activities to the current level if the new terminal is built. It is quite obvious that every additional aircraft coming into Hilo will increase the sum total of noise and that is part of the noise pollution picture. As a matter of fact, and to be specific, the planners anticipate a 25-fold increase in passenger traffic in the next fifteen years and this can only be translated into vastly increased aircraft traffic and noise pollution. Therefore I am not satisfied with Mr. Miyamoto's answer to my direct question relative to increased air craft traffic and its noise pollution effect on the community.

In summary my request for noise contours has only partially been met, the most difficult to justify not being submitted. Therefore I must again request the information on both Hilo and Ke-Ahole Airports and in addition I am now requesting the results of the above mentioned 1967 report. I trust that I can expect this information soon and that no further action be taken on the proposed terminal project until the question of noise is thoroughly researched, made available to the public and accepted by all concerned citizens as having the least environmental impact of all alternatives, not excluding Ke-Ahole Airport.

Sincerely yours,



Herbert C. Stecker, PhD.

HCS/bcs

cc: Mr. Philip M. Swatek
Pacific Regional Director
Federal Aviation Agency
1833 Kalakaua Avenue
Honolulu, Hawaii

AIRPORTS DIVISION
AIR
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AIR-FS

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AIR 8091

January 17, 1972

Dr. Herbert C. Stecker
P. O. Box 829
Kailua-Kona, Hawaii 96740

Dear Dr. Stecker:

Subject: Terminal Building Project No. H-91
General Lyman Field
Hilo, Hawaii

Your letter of January 3, 1972 concerning the Draft Environmental Impact Statement for the proposed terminal improvements at General Lyman Field has been received. You specifically requested that noise contours be furnished for the airports at both Hilo and Kona resulting from the August 1967 report by Bolt, Beranek and Newman, Inc.

The purpose of the public hearing held in Hilo on December 15, 1971 was to consider the economic, social and environmental effects of the proposed airport development at General Lyman Field. The development that was proposed included the construction of new terminal facilities for automobile parking, passenger handling and aircraft parking, to be located south of runway 8-26 and to replace existing facilities located west of runway 3-21 at General Lyman Field. The proposed development did not include any changes to the existing runways of the airport.

This project has been the subject of many public meetings and discussion in Hilo. When the Department of Transportation initiated work on the updating of the master plan for General Lyman Field a public meeting held on January 31, 1969 was well attended in the County Council Chambers in Hilo. Additional public meetings were held on June 20, 1970, March 23, 1971, April 8, 1971, April 20, 1971 and May 15, 1971. All were open to the public and the attendance generally represented a very good cross section of the people in Hilo. We do not understand why the attendance at the December 15, 1971

Dr. Herbert C. Stecker
Page 2
January 17, 1972

public hearing was so poor except that it may be the result of the Department's efforts to assure the people of Hilo that the project was moving ahead and would be completed on schedule. We feel from the response at the previous public meetings that the need for improvements to terminal facilities at Hilo has strong community support.

We believe the objections to the training flights conducted by Japan Airlines at Hilo does not represent the reaction that would result from increased aircraft operations. Japan Airlines was using a Convair 990 which we consider to be one of the noisier four-engine aircraft and was conducting touch-and-go operations with arrivals and departures occurring every five minutes or less. Should actual aircraft revenue flights occur at that frequency, the number of passengers that would be passing through Hilo would exceed the most optimistic forecast.

The effect of noise on the surrounding community resulting from any airport improvement program is always a consideration in our planning. From such studies, runway alignments were selected for Ke-ahole Airport and the reef runway at Honolulu International Airport to give these airports the desired additional capacity with minimum aircraft noise exposure to the surrounding areas. Should we consider the extension of any existing runways, the same type of examination and study would be conducted.

At General Lyman Field the studies concerning noise in the preparation of the long range master plan for that airport did consider the problem of aircraft operations on the existing runways. Should greatly increased operations and the objections to aircraft noise become serious, these studies indicate the site has sufficient expansion capability for the development of dual parallel runways located to permit all jet operations over water and away from built-up areas. Therefore, we have set aside in our long range master plan areas to be reserved for possible future runway development. This was described in detail at the prior public meetings held in Hilo and supports the major investments being made which are in consonance with the long range development potential for airport facilities at Hilo.

The October 1964 and August 1967 reports by Bolt, Beranek and Newman, Inc. were prepared for the Federal Aviation Administration of the Department of Transportation. The

Dr. Herbert C. Stecker

Page 3

January 17, 1972

reports outline procedures for determining community reaction to aircraft noise and were not designed or developed for any specific airport such as General Lyman Field or Ke-ahole Airport. We would be happy to let you examine our copies of these reports in the offices of the Airports Division at Honolulu International Airport. If you desire copies of this report, you should direct your request to the Federal Aviation Administration, Washington, D. C., 20591.

We believe that the proposed improvements to the terminal facilities at General Lyman Field will have no major effect on the environment insofar as noise is concerned. This project is urgently needed to improve passenger convenience and aircraft operations in the terminal area and can be completed without detriment to the environment.

Thank you for your interest in our airport program.

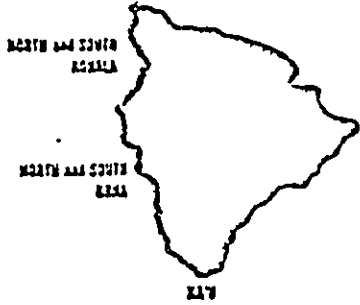
Very truly yours,

E. Alvey Wright

for FUJIO MATSUDA
Director

cc: Mr. Philip Swatek

bcc: Mr. Richard Puckey
AIR-E
Bechtel
AIR-H
AIR-N



WEST HAWAII COMMITTEE
P. O. BOX 669
KAILUA-KONA, HAWAII
96740

RECEIVED
E.P.A. REGION IX
MAY 5 2 52 PM '72

April 28, 1972

Mr. William Ruckelshaus, Administrator
U. S. Environmental Protection Agency
Washington, D. C.

Subject: Proposed Expansion of General Lyman Field
Hilo, Hawaii

Gentlemen:

Representatives of our committee have been very concerned about the above subject with particular reference to a serious increase in noise pollution in the residential and business districts of Hilo as a direct result of the above expansion plans.

We have attended meetings and written a number of letters on this subject and we have requested noise contours be furnished for both this Hilo airport and alternate airports.

We believe you should be made aware of the fact that we have not received pertinent noise contour charts and attempts have been made by Mr. Matsuda, director of the State of Hawaii Dept. of Transportation as well as others to mislead the public and arbitrarily minimize the serious problems involved.

We are writing to you for guidance on how to proceed so that noisy, unwanted and unneeded increased air traffic in Hilo can be avoided.

Sincerely yours,

A handwritten signature in cursive script that reads 'H. C. Stecker'.

Herbert C. Stecker
Vice-Chairman

HCS/bcs

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

Herbert C. Stecker, Vice-Chairman
West Hawaii Committee
P. O. Box 669
Hailua-Kona HI 96740

Dear Mr. Stecker:

Thank you for your letter of April 28, 1972 to Mr. Ruckelshaus expressing concern for noise pollution from the proposed expansion of General Lyman Field in Hilo, Hawaii. EPA is divided into 10 regions nationally, with Region IX covering the State of Hawaii. For this reason, Mr. Ruckelshaus has asked me to reply to your letter.

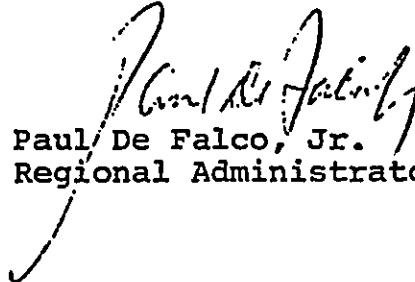
The Federal Aviation Administration, Pacific Region, has recently submitted a draft environmental impact statement on this project in compliance with the National Environmental Policy Act. This office has reviewed and commented on that draft. A copy of our comments, which were sent to Mr. John Hilton, Acting Director of the Pacific Region, is enclosed for your convenience.

As you can see, it was our opinion that the lack of data on the effect of noise pollution on the residents of Hilo was a fundamental weakness of the draft statement. It should be remembered, however, that the National Environmental Policy Act gives no Federal agency, including EPA, the authority to impose requirements of this type on another Federal agency. Although our comments have only the status of an advisory opinion, it is our hope that the FAA will consider them and address them in preparing the final impact statement. We might also suggest that you voice your specific concerns directly to the FAA in Honolulu and ask that your comments be addressed in the final statement.

Final decisions on major projects of this type are, of course, made by the President and the Congress. If you wish to make your concerns known at this level you might write the Council on Environmental Quality, which was established by the National Environmental Policy Act as advisor to the President on environmental matters. The address is 722 Jackson Place, Washington, D. C., 20006.

If we can be of further assistance to you on this or other environmental matters, please do not hesitate to call on us. Thank you for your interest in the environment.

Sincerely,


Paul De Falco, Jr.
Regional Administrator

cc: FAA, Pacific Region

Review and comment on the draft environmental impact statement submitted by the Federal Aviation Administration on the proposed New Passenger Terminal and Related Facilities, General Lyman Field, Hilo, Hawaii.

The draft statement needs to be expanded in several areas to include the relevant environmental impacts of a project as large and complex as the one proposed. The project is the first phase of not only an expansion of the physical facilities of General Lyman Field but, an increase in air operations with corresponding broad implications for Hilo and other parts of the State of Hawaii.

The statement is most deficient in failing to discuss the effect of an increased frequency of high noise levels from additional air traffic on the residents of Hilo. It is especially important to look carefully at this aspect before additional commitments of resources are made to this location, further locking-in Lyman Field as the island's major airport. The impact of high noise levels on people is not fully understood but, the best existing knowledge should be applied to airport planning in populated areas. Aside from the physical damage caused by exposure to particularly high noise levels, prolonged exposure to intermediate levels has additional effects. Among them are temporary raising of hearing threshold levels, interference with speech communication and disruption of sleep patterns. These occur at dBA levels of 60 and up, far lower than that experienced by many people living under commercial jet flight patterns.

The final statement should fully consider the general effect of airport noise on the residents of Hilo. This is particularly crucial since the terminal relocation and additional traffic may result in a large increase in take-offs over the city. Noise contour maps for take-offs and landings on all runways should be provided along with an explanation of the known impact of the noise levels indicated. Special areas of concern, such as schools and hospitals, should be pointed out. Noise control efforts, existing and planned, by other government levels in the Hilo area should be noted. Units of measurement used should be explained and comparisons between different units carefully documented. In total, the statement should clearly identify the known physical and psychological effects of expanded airport activities on the surrounding population.

The statement should clarify its discussion of waste treatment. It apparently overstates the result of its chlorination process by announcing that effluent will have a "bacteria count of zero." If enough chlorine were added to completely sanitize the effluent it would be extremely expensive, unnecessary, and possibly pose a danger to public health and wildlife. The location of the plant, the effluent injection well and the character of the groundwater aquifer into which the effluent will be pumped should be added to the discussion. Chemical or toxic liquid wastes in the system should be mentioned. The environmental effects of the proposed treatment plant, including its aesthetic impact on nearby residents, should be compared with the more economically expensive alternative of connection to the city treatment system. Control methods for large petroleum or chemical spills in the refueling and maintenance areas should be discussed.

The impact of increased flight operations on ambient air quality should be noted. Efforts to reduce aircraft emissions should be discussed including a rough timetable for their implementation.

It seems clear that the project will stimulate increased economic activity and change existing land use in the airport area. The general environmental impact of these secondary developments should also be noted.

If predictions are accurate, expanded facilities and increased flights will permit a tremendous increase in the number of visitors to the island in the near future. Since these visitors must be accommodated, hotels, motels, shops, restaurants and visitor related recreational facilities will have to be expanded. The general environmental effects of this demand should be noted, including the increased burden on public services.

More directly, it is acknowledge that airport related commercial activity will expand in and around the airport. Increased air cargo operations, for example, may mean increased truck traffic with its corresponding noise and vehicle emissions. The final statement should include area maps noting existing and anticipated future land use in the airport area. The effect of these changes on area residents should be included.

The statement does a generally good job in assessing the project's increased demand on public services. Several additional questions might be answered, however. Does increased demand for fuel from expanded operations pose a problem in terms of Milo's port capacity? Secondly, is the widening of Kekuanaoa Street a response to an increased traffic demand generated by the airport? If the answer to either question is affirmative the appropriate environmental considerations should be expressed.

The environmental impact of the alternatives mentioned should comprise the basis of their comparison. Since state planning calls for an expansion of Ke-ahole Airport on the Kona coast anyway, it is not clear why this is listed as an alternative to this project.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RECEIVED
E.P.A. REGION IX
JUN 7 11 03 AM '72

June 2, 1972

Mr. Herbert C. Stecker
Vice-Chairman
West Hawaii Committee
P.O. Box 669
Kailua-Kona, Hawaii 96740

Dear Mr. Stecker:

This is in response to your letter dated April 28, 1972, to Mr. William Ruckelshaus, Administrator, U.S. Environmental Protection Agency.

We have contacted our Regional Office in San Francisco in reference to the proposed expansion of General Lyman Field, Hilo, Hawaii.

It is our understanding that an impact statement was submitted to the Regional Office Impact Statement Review Section but that noise was not addressed in the statement. The comments from the Regional Office included the necessity to consider the noise impact of the proposed expansion.

We suggest that you contact the Regional Office in San Francisco since they are directly involved in the review of the General Lyman Field Environmental Impact Statement. Their address is as follows:

Environmental Protection Agency
100 California St.
San Francisco, California 94111
Attn: Todd Bergeson

Sincerely,

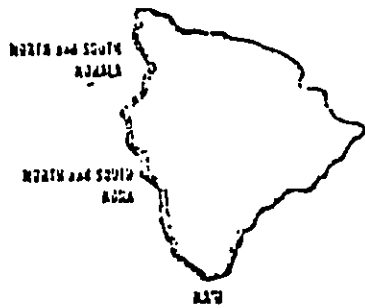
Alvin F. Meyer, Jr.
Director, Office of Noise
Abatement and Control

cc: Region IX (Todd Bergeson)

AXC

AMEN:TELkins:meh:1635 K:c-2-72

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RECEIVED
E. P. A. REGION

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WEST HAWAII COMMITTEE

POST OFFICE
KAILUA-KONA, HA

June 7, 1972

Mr. Todd Bergeson
Office of Noise Abatement & Control
U. S. Environmental Protection Agency
100 California Street
San Francisco, CA 94111

Dear Mr. Bergeson:

I am writing this letter in the absence of Dr. Herbert C. Stecker, Vice-chairman of our West Hawaii Committee. Our interest is centered upon the Environmental Impact Review as it covers the problem for expansion of General Lyman's Field, Hilo, Hawaii.

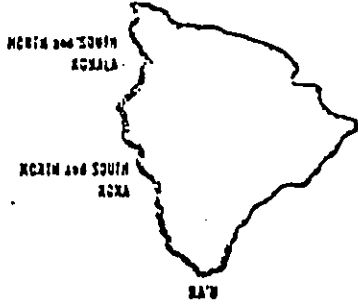
It is our understanding that no statement has been addressed to the noise impact involved in expansion of the Hilo Airport. We definitely feel that with the increase of service to that destination point, the noise impact upon the area will be detrimental to the health and safety of the thousands of people who live in areas surrounding General Lyman's field.

We would call upon your office to investigate immediately the foregoing. Thank you.

Sincerely,

Henry K. Boshard
Henry K. Boshard, Chairman
West Hawaii Committee

HKB:cs



WEST HAWAII COMMITTEE
P. O. BOX 669
KAILUA-KONA, HAWAII
96740

REC:
E. P. A. F
JUL 13 5

July 14, 1972

Mr. Todd Bergeson
Environmental Protection Agency
100 California Street
San Francisco, California 94111

Dear Mr. Bergeson:

Enclosed please find a clipping from the May 4th issue of the Honolulu Advertiser. I think it is a good summary of the effect increased use of General Lyman Field in Hilo has already created with regard to noise pollution over the town of Hilo.

We have already been in contact with Mr. Alvin Meyer, Jr. in Washington D. C. and with Mr. Paul De Falco, JR. in your San Francisco office concerning the noise pollution problem and other detracting factors involved with the enlargement of the Hilo facility. We would appreciate your keeping us informed on the status of this situation and also giving further consideration to the possibility of looking to Keahole Airport as a logical alternative not only because of it being a tourist destination area but because it has better flying weather and is designed to absolutely minimize noise pollution.

Sincerely yours,

A handwritten signature in cursive script, appearing to read 'H. C. Stecker'.

Herbert C. Stecker, Ph.D.
Vice Chairman

HCS/bcs

Hilo-rejected pilot school opened by JAL in California

By J. F. CUNNINGHAM
Advertiser Aerospace Writer

Japan Air Lines yesterday opened a \$3 million pilot training school at Napa, Calif.—a facility which JAL once wanted to place on the Big Island.

The center at Napa County Airport is the carrier's second flight school established in the U.S. since Hilo turned down the offer for such a school four years ago.

Hilo was JAL's first preference for a pilot training school, but many residents objected to the noise of the jets used by students as they made landing approaches over the city.

KENJIRO Okagawa, director at Napa, predicts that JAL will spend \$13 million in Napa during the next five years.

At the outset, there are 80

students using 32 single-engine Piper, Cherokees and twin-engine Piper Aztecs at the center.

By November, attendance will peak at 200 pilot trainees and 20 administrative staffers plus 70 instructors and maintenance personnel.

THE CADETS, all 21- to 24-year-old Japanese college graduates, will qualify for multi-engine and instrument ratings at Napa and receive licenses from the Civil Aviation Bureau of Japan.

"They will reside here for nine months to one year, depending on previous experience," said Okagawa.

The selection of Napa was a fortunate choice. This freedom of the skies, dependable weather and outstanding field will permit us to concentrate on the job at hand without interruption or distraction. This means that

our training will be faster and more efficient."

HE NOTED that JAL conducts less than a third of its in-flight training in Japan because of heavy air traffic, unpredictable weather and congested airports.

When a cadet graduates from Napa, he will return home for jet ground school, then head for Moses Lake, Wash., JAL's other flight training center in the U.S.

That is where JAL conducts pilot schooling on the flight decks of Douglas DC-8's and Boeing 747 jumbo jets. JAL moved to that eastern Washington field in November of 1968 after Hilo political and civil leaders rejected recommendations by Gov. John A. Burns and forced the Japanese carrier's training activity off General Lyman Field.

TRAINING at Napa will be conducted by the International Air Service Co. (IASCO), an enterprise formed by a group of pilots who were left jobless when Transocean Air Lines went out of business in 1960.

IASCO picked up Transocean's contract to furnish pilots to JAL, which did not have enough trained Japanese captains to go around. It has continued to place Americans at JAL controls ever since.

Environmental Protection Agency
Region IX
100 California Street
San Francisco, California 94111

AUG 2 1972

Mr. Henry K. Boshard
Chairman, West Hawaii Committee
Post Office Box 669
Kailua-Kona, HI 96740

Dear Mr. Boshard:

In response to your letter of June 7, 1972, to Mr. Todd Bergesen of this office concerning an Environmental Impact Statement for proposed improvements at General Lyman Field, a draft impact statement was submitted to Mr. Paul De Falco, Environmental Protection Agency Regional Administrator for Region IX (which includes Hawaii), on March 15, 1972. In our comments we noted that the draft impact statement was deficient in failing to discuss the effect of noise on the residents of Hilo. A copy of our comments was sent to Dr. Herbert Stecker, Vice-Chairman of the West Hawaii Committee, on May 22, 1972.

Before the proposed improvements at General Lyman Field can proceed, a Final Environmental Impact Statement must be filed. The final statement is supposed to contain revisions and additions as suggested by our comments on the draft statements. We will review the final statement when it is submitted and express any additional or continuing concerns at that time.

We encourage your interest in this important environmental matter.

Sincerely,

Orig. signed by
J. C. Merrill, Jr.
John C. Merrill, Jr.
Director, Categorical
Programs Division

bc: AMEd
S. Shevell
Reading File

Environmental Protection Agency
Region IX
100 California Street
San Francisco, California 94111

Dr. Herbert C. Stecker
Vice-Chairman, West Hawaii Committee
P. O. Box 669
Kailua-Kona, HI 96740

AUG 2 1972

Dear Dr. Stecker:

In response to your letter of July 16, 1972, concerning the proposed improvements at General Lyman Field, we will receive a Final Environmental Impact Statement from the Federal Aviation Administration concerning the proposed improvements before any construction can begin. We will review the final statement when it is submitted.

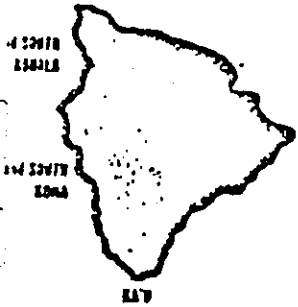
The possibility of Keahole Airport as an alternative was mentioned in the draft impact statement and we have every reason to believe it will be included in the final statement. Keahole Airport is briefly discussed in our comments on the draft statement, a copy of which we sent to you on May 22, 1972.

We appreciate your interest in this environmental issue.

Sincerely,

Orig. signed by
J. C. Maxwell, Jr.
John C. Maxwell, Jr.
Director, Ecological
Programs Division

cc: ANCH
S. Shevell
Reading File
SShevell/dh 8/2/72



WEST HAWAII COMMITTEE
P. O. BOX 669
KAILUA-KONA, HAWAII
96740

RECEIVED
E. P. A. REGION IX
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August 4, 1972

Mr. Todd Bergeson
Environmental Protection Agency
100 California Street
San Francisco, California 94111

Dear Mr. Bergeson:

Please refer to our previous letters relative to the proposed expansion of General Lyman Field Hilo, Hawaii and our request for a more meaningful environmental impact study with particular regard to the problem of noise generation over the community which surrounds the airport. We are most interested in the review and comments along these lines which we received from Mr. De Falco in his letter of May 22nd.

We have just been informed that the bids are soon to be let in Hilo for the beginning of a very significant expansion program at the above mentioned airport and apparently this work is going to proceed in spite of the lack of proper environmental studies and without regard to much more logical airport developments at more suitable sites such as Keahole Airport.

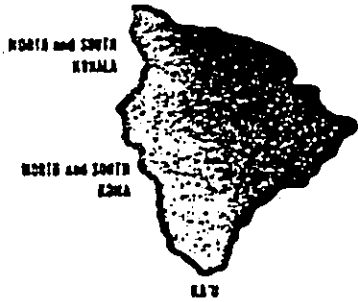
We understand that you are not able to do anything but advise FAA on these matters but it would seem most short sighted of FAA to not follow your suggestions; can FAA be held responsible for errors of judgement which may in a few years dictate reduced usage of General Lyman Field by a concerted demand of the community. We would like to see our comments included in the final statement made by the FAA on the subject of this airport expansion.

Sincerely yours,

A handwritten signature in cursive script, appearing to read 'H. C. Stecker'.

Herbert C. Stecker, PhD.
Vice Chairman

HCS/bcs
cc: Alvin F. Meyer, Jr.
Paul De Falco, Jr.



WEST HAWAII COMMITTEE

P. O. BOX 669
KAILUA-KONA, HAWAII
96740

August 10, 1972

Department of Transportation
Federal Aviation Administration
Pacific Region
Box 4009
Honolulu, Hawaii 96813

Gentlemen:

We have been informed by the San Francisco Environmental Protective Agency that you will prepare a final environmental impact statement regarding General Lyman Field in Hilo before you will allow any construction to begin on currently proposed improvements which are part of a very elaborate Master Plan. They also believe that your final statement will include the possibility of utilizing Keahole Airport as an alternative to the Hilo airport.

It would certainly be derelict not to give considerably more thought to Keahole Airport when it has already been demonstrated that the citizens of Hilo objected to increased noise levels at the time JAL wanted to establish a school in Hilo; of course another negative factor when comparing General Lyman Field with Keahole Airport is the weather problem.

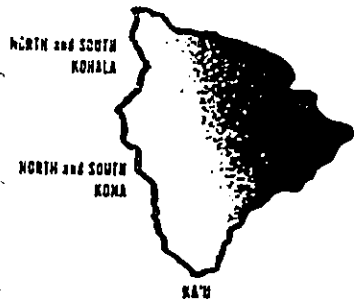
I am sure you have been made familiar with the various pro and con arguments in this controversy but just how many valid arguments can Hilo muster when they have the overwhelming environmental problems of landing over the most densely populated area on this Island, subjecting the people of Hilo to unnecessary and unhealthy noise levels and subjecting the airlines and its passengers to the comparative dangers of low (and no) visibility procedures due to the nature of the weather conditions in Hilo.

When your final environmental impact statement is issued we would like to receive a copy for our perusal and we hope it will reflect the needs of the tourists, the airlines and all of the people of this Island rather than only the desires of some of the people of Hilo.

Sincerely yours,

Herbert C. Stecker
Vice Chairman

HCS/bcs



WEST HAWAII COMMITTEE

P. O. BOX 669
KAILUA-KONA, HAWAII
96740

August 15, 1972

DEPT. OF
TRANSPORTATION
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DIRECTOR'S OFFICE

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Mr. Fjuio Matsuda, Director
Department of Transportation
Airports Division
State of Hawaii
Honolulu International Airport
Honolulu, Hawaii

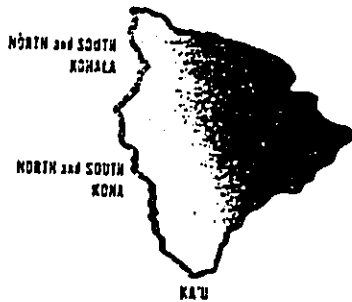
Dear Mr. Matsuda:

You were quoted in the Sunday edition of the Honolulu paper as saying that the beginning of the Master Plan for the expansion of General Lyman Field is set for bids next month and the beginning of construction shortly thereafter.

When we wrote to you on January 3rd, 1972 requesting noise contours for the airports in Hilo and Kona you made a number of statements relative to trying to explain why the problems encountered by Japan Air Lines at Hilo were not germane and how you would overcome objections to aircraft noise over Hilo "if it becomes serious".

It would seem to us that before the expenditure of millions upon millions of dollars is seriously considered there should be an equally serious study of the effects of landing many more and larger aircraft with the approaches directly over the most populated area on this entire Island, namely downtown Hilo. We have seen some outdated noise contour studies concerning the Hilo airport and its environs in addition to which explanations were attached stating that approaches over the downtown Hilo area occurred only rarely, this last being a complete prevarication since almost all approaches are directly over the city as anyone can observe if they spend a few days there.

Furthermore we have asked for similar contour studies and the feasibility of using Keahole Airport for Mainland flights but we have had no satisfaction in this regard. We think it should also be stated for the record that, contrary to your statement in the above mentioned press release, it was not "Hawaii Island businessmen" who were pushing for development of General Lyman Field but specifically it was a small group of Hilo businessmen who could see a good chance for personal gain by continuing to keep tourists in their area before they set off for the real vacation area, namely the West



WEST HAWAII COMMITTEE

P. O. BOX 669
KAILUA-KONA, HAWAII
96740

Mr. Fjuio Matsuda, Director
Airports Division
Honolulu, Hawaii

August 15, 1972

Hawaii district.

We feel that no further work should be done on General Lyman Field until all alternatives are thoroughly explored and proper environmental studies are conducted and made public. We object to what has every appearance of blatant favoritism to a group of Hilo businessmen at the expense of the tourists, the airlines and the people of the Island of Hawaii in general. We also believe that our objections should become a part of the final environmental impact statement.

Sincerely yours,

A handwritten signature in cursive script, appearing to read 'H. C. Stecker'.

Herbert C. Stecker
Vice Chairman

HCS/bcs

cc:Mr. Todd Bergeson
Environmental Protection Agency
100 California Street
San Francisco, California 94111

Mr. Alvin F. Meyer, Jr., Director
Office of Noise Abatement and Control
United States Environmental Protection Agency
Washington, D.C. 20460

Dr. Herbert C. Stecker
Vice-Chairman, West Hawaii Committee
P. O. Box 669
Kailua-Kona, HI 96740

Dear Dr. Stecker:

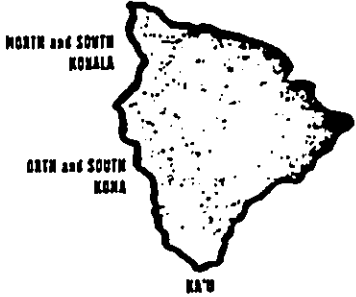
In regard to your letter of August 4, 1972, concerning the letting of bids for the expansion of Hilo Airport, we have found that no bids will be let until a final environmental impact statement is filed. The final statement is expected to be filed soon. As you know, construction cannot begin until the final statement is submitted.

Sincerely,

John C. Merrell, Jr.
Director, Categorical
Programs Division

bcc: AMEN
S. Shevell
Reading File

SShevell/dh 8/16/72



WEST HAWAII COMMITTEE
P. O. BOX 669
KAILUA-KONA, HAWAII
96740

October 9, 1972

Mr. Jack Webb, Director of Federal Aviation Administration
Pacific Region
P. O. Box 4009
Honolulu, Hawaii
96813

Dear Mr. Webb:

For your information I have attached a copy of a letter dated May 22, 1972 from Mr. De Falco, the Regional Administrator of the Environmental Protection Agency.

We have just learned that a new and revised Environmental Impact Statement has been submitted to your office. We would greatly appreciate your forwarding a copy for our consideration and response. If there are any charges with obtaining this copy please so indicate.

Sincerely yours.

A handwritten signature in cursive script, appearing to read 'H. C. Stecker'.

Herbert C. Stecker, PhD
Vice Chairman

HCS/bcs
encl.



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

Herbert C. Stecker, Vice-Chairman
West Hawaii Committee
P. O. Box 669
Hailua-Kona HI 96740

Dear Mr. Stecker:

Thank you for your letter of April 28, 1972 to Mr. Ruckelshaus expressing concern for noise pollution from the proposed expansion of General Lyman Field in Hilo, Hawaii. EPA is divided into 10 regions nationally, with Region IX covering the State of Hawaii. For this reason, Mr. Ruckelshaus has asked me to reply to your letter.

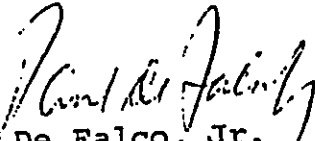
The Federal Aviation Administration, Pacific Region, has recently submitted a draft environmental impact statement on this project in compliance with the National Environmental Policy Act. This office has reviewed and commented on that draft. A copy of our comments, which were sent to Mr. John Hilton, Acting Director of the Pacific Region, is enclosed for your convenience.

As you can see, it was our opinion that the lack of data on the effect of noise pollution on the residents of Hilo was a fundamental weakness of the draft statement. It should be remembered, however, that the National Environmental Policy Act gives no Federal agency, including EPA, the authority to impose requirements of this type on another Federal agency. Although our comments have only the status of an advisory opinion, it is our hope that the FAA will consider them and address them in preparing the final impact statement. We might also suggest that you voice your specific concerns directly to the FAA in Honolulu and ask that your comments be addressed in the final statement.

Final decisions on major projects of this type are, of course, made by the President and the Congress. If you wish to make your concerns known at this level you might write the Council on Environmental Quality, which was established by the National Environmental Policy Act as advisor to the President on environmental matters. The address is 722 Jackson Place, Washington, D. C., 20006.

If we can be of further assistance to you on this or other environmental matters, please do not hesitate to call on us. Thank you for your interest in the environment.

Sincerely,


Paul De Falco, Jr.
Regional Administrator

cc: FAA, Pacific Region

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DIRECTOR'S OFFICE
PACIFIC REGION
P. O. BOX 4009
HONOLULU, HAWAII 96812 3

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30 OCT 1972

Dr. Herbert C. Stecker
Vice Chairman
West Hawaii Committee
P. O. Box 669
Kailua-Kona, Hawaii 96740

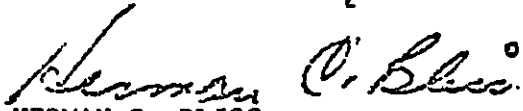
Dear Dr. Stecker:

The Director has asked that we reply to your letter of 9 October 1972, pertaining to the proposed new terminal at General Lyman Field, Hilo, Hawaii.

Thank you for the information transmitted with your letter. We have met with the State of Hawaii within the past few weeks to review the information included in their Environmental Impact Statement in addition to other inquiries made by private organizations such as the West Hawaii Committee of Kailua-Kona, Hawaii.

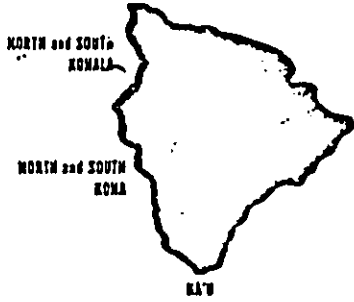
Representatives from the State have indicated they are in the process of reviewing all of the recommendations from the various organizations who have recently expressed further interest in their Draft Environmental Impact Statement. Enclosed is a copy of the Draft Environmental Impact Statement for your use. Please be assured that comments provided by your committee must be reviewed and considered by the State prior to acceptance of the final document by this agency.

Sincerely,


HERMAN C. BLISS
Chief, Airports Division

Enclosure

cc:
✓ Dr. Fujio Matsuda
Mr. Owen Miyamoto



WEST HAWAII COMMITTEE

P. O. BOX 669
KAILUA-KONA, HAWAII
96740

November 20, 1972

Mr. Herman C. Bliss, Chief
Airports Division
Federal Aviation Administration
Pacific Region
Box 4009
Honolulu, Hawaii 96813

Gentlemen:

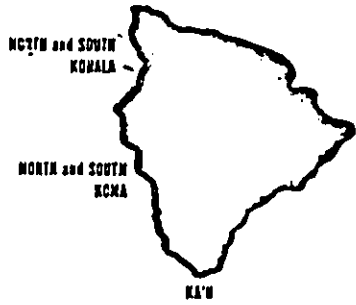
We have reviewed the Preliminary Environmental Impact Statement for the Hilo airport dated November 2, 1971 and expressed our thoughts on this document, particularly noting the lack of data on noise pollution and the complete absence of consideration for alternate airport sites.

We have more recently studied the Draft Environmental Impact Statement dated February 23, 1972, and have found a calculated lack of such data but with specious, self-serving and totally biased additions purporting to prove a previously contrived conclusion.

There are a considerable number of examples which are referred to below. We would like to point out, however, that the most noteworthy deficiency of the so-called "Final Environmental Impact Statement" is that it fails to recognize that local inhabitants, when subjected to increased aircraft noise at General Lyman Field, protested violently. The specific case in point is the Japan Airlines proposed training operation which, in many ways, would have brought new revenue into the community.

In the case of the expansion of the airport activities for large and more frequent jet operations, certain proponents have stated that they now accepted the increased noise as a trade-off for increased business in Hilo. It is our opinion that no one has the right to "trade off" noise pollution for present or future residents who have nothing to gain from the increased operations. The history of individual legal actions currently pending at many mainland cities is certainly evidence of the effectiveness of legitimate complaints against unacceptable noise pollution. Our comments on other specific statements are as follows:

1. The continuing unprofessional statement that sewage treatment would result in "a bacterial count of zero". As any microbiologist knows, the



WEST HAWAII COMMITTEE

P. O. BOX 669
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96740

Page 2

Mr. Herman C. Bliss, FAA

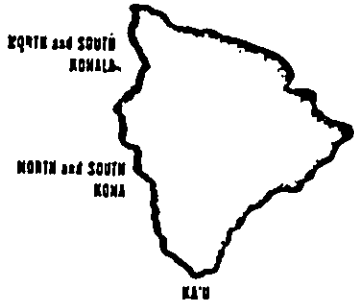
November 20, 1972

attainment of zero bacterial count is as elusive as the attainment of any form of perfection and can only be produced under conditions of multiple autoclavings separated in time from each other by varying periods designed to allow spore germination to occur prior to the next superheat treatment. Zero count cannot be attained under any sewage disposal conditions!

2. The statement that there will be no increase in air and water pollution. This statement even contradicts itself on this point (as on several other points), stating that "treated" sewage will be injected into the ground, planes will have to taxi further distances and more of the land surface will be paved to leave less area percolation.

3. The statement that there is "no acceptable alternate" to General Lyman Field expansion is an unfortunate conclusion not only for its lack of rationale but also for its thinly veiled absolute bias for Hilo facilities. Such statements as Ke-Ahole involving "higher capital costs" neglects to consider such costs in Hilo as:

- a. Building 1 1/2 miles of new access road at airport.
- b. Building additional service and circulation roads at airport.
- c. Extension of Puainako Street northward to terminal site.
- d. Signalizing intersection at Kanoelehua and Kekuanaoa.
- e. Widening of Kanoelehua "from several miles south of Kekuanaoa"
- f. Widening Kekuanaoa Street to four lanes (including land purchases to accommodate it).
- g. Further taxiway and apron construction.
- h. Weather protection of walkways, etc.
- i. Storm drainage control.
- j. Runway #26 extension.



WEST HAWAII COMMITTEE

P. O. BOX 669
KAILUA-KONA, HAWAII
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Mr. Herman C. Bliss, FAA

November 20, 1972

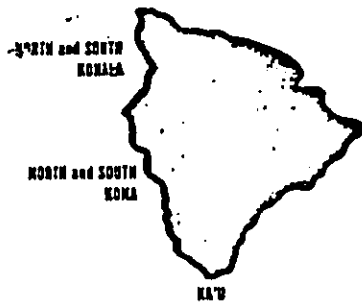
Other than the above costs, runway extension, taxiways and additional terminal facilities should cost the same or less at Ke-Ahole than at Lyman Field, so it is not proven that an equivalent expansion of Ke-Ahole would cost as much in the overall aspect. Also such obvious factors as environmental impact, ultimate passenger destination and overall safety enhanced by ideal weather are potent auxiliary considerations.

The statement makes the unprofessional comment that "there is no operational need" to move overseas operations to Ke-Ahole and continued on by comparing overseas passenger activity at General Lyman Field with no activity of that type at Ke-Ahole to prove "no operational need"---- a spurious argument at best.

As to the statement that "the busy industrial and commercial activities of the Island of Hawaii are centered around Hilo", this is only partially true and is more of historical interest than anything else. The fact of the matter is that the major industry on this Island is tourism and there are more "tourist days" in West Hawaii than in Hilo area (as proven by HVB reports and airline on - and - off loading records). Mayor Kimura is even now trying to determine why the overseas passenger count at Hilo has declined while the overall visitor count to the Big Island has increased.

4. The statement that the "new passenger terminal" will exert a beneficial influence on the orderly development of the Island of Hawaii. This statement could only be substantiated if the phrase "the Island of Hawaii" were changed to read "Hilo", but even then it would not include a consideration of environmental impact.

5. Frequent vague references to the "new terminal" being only the first phase of the "Master Plan" of General Lyman Field leave the very basic question of starting the project at all without first having a complete and unbiased study of the entire Master Plan from the viewpoints of need, cost and environmental impact. In the conclusions of the draft statement there is an admission that General Lyman Field is "located close to populated areas with little or no room to grow" and violates also the criteria of modern



WEST HAWAII COMMITTEE
P. O. BOX 669
KAILUA-KONA, HAWAII
96740

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Mr. Herman C. Bliss, FAA

November 20, 1972

airport safety standards". This brings up the question as to whether there is a Master Plan for the Island of Hawaii and the State of Hawaii. If so, where is it?

6. Lack of information on the author of the "preliminary" and the supposed final draft Environmental Impact Statement with particular reference to any possible conflict of interest. It is surmised that a firm has been employed by the State to make these studies and that this firm has a financial and/or political stake in its promotion of General Lyman Field.

7. Noise pollution problems are dealt with in generalities or in such a cavalier manner as to be immediately suspect and certainly not proven by any data at hand. It is only rational that if more passengers use General Lyman Field (as they themselves predict) more planes will land and take-off, more sewage will have to be treated and noise, air and water pollution will increase in an area already patently unsuited for airport operations.

In conclusion, these are only a few of the many points at issue but we trust you will include them in your study of the entire Master Plan and not just its "first phase".

Sincerely yours,

Herbert C. Stecker, PhD.
Vice Chairman

HCS/bcs



AIR-EB 10824

November 21, 1972

Dr. Herbert C. Stecker
P. O. Box 829
Kailua-Kona, Hawaii 96740

Dear Dr. Stecker:

Subject: Terminal Building
Project No. H-91
General Lyman Field
Hilo, Hawaii

We appreciate the concern expressed in your letter of August 15, 1972, regarding the proposed expansion of the terminal facilities at Hilo Airport and the impact of this project on the environment of the Island of Hawaii as well as the Hilo area. In this respect, we would like to refer to a letter dated December 17, 1971 from Mr. Owen Miyamoto, Chief of Airports Division, which transmitted to you a set of noise contours available at that time for the Hilo Airport. Please refer also to our letter of January 17, 1972 which was prepared in reply to your letter dated January 3, 1972.

Since then, you have written several letters to the Environmental Protection Agency as well as the Federal Aviation Administration and copies of these have recently been transmitted to us for information by the Honolulu office of the Federal Aviation Administration.

As you recall, a first draft for an Environmental Impact Statement on the proposed New Terminal Facilities at Hilo was prepared in November 1971 and copies of it were available at a Public Hearing on December 15, 1971.

Since then the Environmental Impact Statement has been updated and considerably expanded, and we understand that all points of concern, including those voiced by you, were considered and incorporated. However, for your benefit, we shall summarize in this letter, the problems involved,

Dr. Herbert C. Stecker
Page 2
November 21, 1972

AIR-EB 10824

and at the same time, attempt to reply to the questions raised and the concerns voiced in your letters to us and other agencies.

As a part of the Statewide program of airport development, the Department of Transportation plans improvements for the various airports on the Island of Hawaii on a continuing basis. In recent years, the most pressing need was the replacement of the inadequate and substandard airport at Kailua-Kona on the western side of the Island. A new and modern facility was constructed at Ke-ahole Point in 1970, which was planned to satisfy the requirements for West Hawaii to the year 1980 with ample capacity for expansion beyond that date. Earlier, a relatively minor improvement to the terminal facility at Hilo was initiated for the immediate requirements of General Lyman Field when it became the second gateway to the Islands.

The Airport Master Plan for Hilo indicates the existing facilities would be overcrowded by 1970. In 1971 the aircraft parking apron proved to be inadequate for use by large overseas jets. Consequently, plans were drawn up to replace the existing terminal buildings and the substandard parking apron with operationally satisfactory new facilities, all in accord with the Master Plan for General Lyman Field at Hilo.

Any new development is unavoidably accompanied by environmental problems and to avoid or at least minimize their impact, a concerted effort of all citizens, government agencies and interested groups, is required. An excellent example of this was the relocation of Kona Airport to Ke-ahole Point. When Public Hearings were conducted in Kailua-Kona in 1968 to discuss this proposal, the effect of jet noise on rural environment and recreational facilities was a major issue.

In the case of the Hilo Airport, the problems of noise pollution are somewhat different. General Lyman Field is located close to the town of Hilo. Admittedly, the noise factor may increase as more aircraft use the existing terminal and runways. However, the Master Plan for this airfield recognizes this fact and proposes a relocation of the terminal to the south side of Runway 8/26, further from existing housing. In future years, as aircraft operations and attendant noise increase, the airport has sufficient expansion capability for the development of new runways permitting all

Dr. Herbert C. Stecker
Page 3
November 21, 1972

AIR-EB 10824

operations to be conducted over water and away from populated areas.

The noise problem at a given airport site is a complex one. A procedure has been developed as a guide for land use planning with respect to aircraft noise and is described in a technical report by the Acoustical Consulting firm of Bolt, Beranek and Newman. This procedure first determines generalized noise contours which permit an estimate of the noise produced during takeoff, landing and run-up operations for several classes of aircraft. These contours express aircraft noise levels in units of "Perceived Noise Decibels" (PNdB). A PNdB level is a quantity calculated from measured noise levels that correlates with subjective responses to various kinds of aircraft noise.

PNdB contours permit the estimation of aircraft noise generated by present or future operations. The procedure is to collect information on the nature of aircraft operations at the airport in question. On the basis of this information, the appropriate sets of noise contours are selected and from them the perceived noise levels for the area in question are determined.

Those contours developed for Hilo Airport are shown on Attachments 9 and 10 of the Environmental Impact Statement for the New Passenger Terminal. For your information, we enclose a copy of each of these attachments. Also enclosed are noise contours for Ke-ahole Airport, one of which shows existing operations for jet aircraft, such as DC-9's and B-737's. The other contour projects the noise levels for Ke-ahole by assuming overseas type aircraft, such as B-707's, DC-8's and B-747's or similar aircraft.

Attachment 9 shows the PNdB's for operation in 1972, with 32.3 percent of landings and 94.7 percent of takeoffs on Runway 8. Attachment 10 shows the PNdB's for 1975 - 1985 operations assuming the same percentage of runway utilization.

To keep the takeoffs over the town of Hilo to a minimum, it is planned, in the foreseeable future that all airlines continue the existing operational pattern. The State Airports Division indicated during the Public Hearing on December 15, 1971 and on other occasions, that they will require the carriers to maintain their existing traffic operations.

Dr. Herbert C. Stecker
Page 4
November 21, 1972

AIR-EB 10824

It should also be noted that the noise contours on Attachments 9 and 10 are based on noise levels associated with the type of aircraft presently operating at General Lyman Field, as well as with landing and takeoff procedures established in the past. However, a significant reduction of noise generated by jet aircraft of the Boeing 707, Douglas DC-9 and Boeing 737 class presently in use can be achieved in the future from joint Federal Aviation Administration/National Aeronautics and Space Administration research programs for retro-fitting these planes with quiet engines to reduce their noise emission. Any newly produced aircraft will have to pass a rigid certification procedure which determines whether the aircraft complies with the Federal Aviation Regulations, Part 36, "Noise Standards: Aircraft Type Certification". Further reductions in the takeoff noise will be experienced when the airlines abide with the new Federal Aviation Administration's climb-out procedures which became effective August, 1972. In addition, the present generation of wide-bodied aircraft, including B-747's, DC-10's and L-1011's are designed to operate at reduced noise levels. Consequently, it can be expected that in the immediate future the aircraft noise especially over the populated areas of Hilo, will be reduced to an acceptable level in spite of the expected increase in air traffic.

Referring to the comments and objections expressed in your letter of August 15, 1972 and in previous letters, we wish to point out that those items were covered in part in previous communications to you as well as in the final version of the Environmental Impact Statement presently being reviewed by the Honolulu office of the Federal Aviation Administration. For your convenience, we shall summarize them herein as follows:

In your letter of August 15, 1972, you mentioned the problems encountered by the Japan Air Lines' training flights at Hilo and we would like to put this item in the proper perspective. At that time, Japan Air Lines was using a Convair 990, considered to be one of the noisier four-engine jet aircraft and was conducting touch-and-go operations at approximately five-minute intervals. This is, in no way, comparable to normal landing and takeoff procedures presently being used or anticipated for General Lyman Field in the future. As you know, the training flight operations were discontinued by JAL in response to numerous complaints.

Dr. Herbert C. Stecker
Page 5
November 21, 1972

AIR-EB 10824

When you compare the detailed noise contours on the attachments to this letter with the basic contour maps transmitted to you with Mr. Owen Miyamoto's letter of December 17, 1971, you will notice that the attached contours take into account the impact of future landings and takeoffs, satisfying your request of the effect of increased aircraft operations at General Lyman Field.

As to your suggestion of favoritism towards a small group of Hilo businessmen, we would like to point out that seven Public Meetings were held as indicated in our letter of January 17, 1972. All of these meetings were open to the public, on the average well attended, and we feel the response at the meetings demonstrated both a need and strong community support for improvements to the terminal facilities at Hilo. The Hilo Airport Advisory Committee which reviewed and commented on the proposed expansion plans during several of the Public Meetings included several members from the Kona, Kohala and Kamuela areas on the western side of the Island and we cannot see justification for your statement that only a small group of Hilo businessmen are promoting the proposed development of General Lyman Field.

Weather considerations are always an important aspect in airport planning and it is a fact that the airlines and their passengers at Hilo were never exposed to dangerous operations as one might surmise from reading your correspondence. On the contrary, the airfield in recent years, was never closed to aircraft because of weather conditions and in the year 1971, for instance, instrument landings were only required for approximately 10 percent of all operations.

In your letters you suggested that Ke-ahole Airport be expanded to an Overseas facility. As an alternative, we have thoroughly reviewed this possibility and it will be discussed in the Environmental Impact Statement. Relocating the overseas operations at Ke-ahole will not only involve higher capital costs for the construction of longer runways, taxiways and additional terminal facilities, it would also require that supporting facilities be constructed for fuel storage, maintenance operations, flight kitchen, cargo handling and other similar needs.

You may rest assured that the Final Environmental Impact Statement will be available to the public and it will incorporate all comments received

Dr. Herbert C. Stecker
Page 6
November 21, 1972

AIR-EB 10824

including those from you as a private citizen as well as, vice president of the West Hawaii Committee. When reviewing the final version, you will find that it is comprehensive and has been updated considerably in its final form.

In addition, the Department of Transportation staff is willing and ready to meet with you and the West Hawaii Committee to review any questions you may still have. If you can suggest a convenient time for this meeting in Kona or Hilo, the Airports Division staff will make all necessary arrangements.

Very truly yours,

Fujio Matsuda

FUJIO MATSUDA
Director

Enclosures



HAWAII ISLAND CHAMBER OF COMMERCE

ESTABLISHED 1897 180 KINOOLE STREET ROOM 203 HILO, HAWAII 96720

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September 21, 1972

Mr. Jack G. Webb, Director
Pacific-Asia Region
Federal Aviation Administration
Department of Transportation
P. O. Box 4009
Honolulu, HI 96813



Dear Mr. Webb:

It has come to our attention that the West Hawaii Committee, representing a vocal minority in Kona and Kohala, has taken exception to the development of the new terminal facility at General Lyman Field in Hilo. The Committee's concern centers on noise created by aircraft and the greed of a small number of Hilo businessmen who stand to gain personally somehow by the new facility.

In respect to aircraft noise, no community concern exists under normal flight operations. Furthermore, it is my understanding that 747's engines are considerably quieter than those of the 707 and DC-8. As an Air Force Reserve Pilot and previous employee of United Aircraft Corporation, I am aware that the major engine manufacturers are spending great sums to develop quieter engines. Because the manufacturers have had measurable success, the West Hawaii Committee's concern for Hilo's aural health seems unwarranted.

In view of the air circulation pattern existing in Kona, however,

Mr. Jack G. Webb
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September 21, 1972

the Committee's suggestion that inter-continental flights be shifted to Keahole Airport, is not sound. The 1971 General Plan for the County of Hawaii reads as follows on the subject:

"On the leeward coast, which is the side of the island sheltered from the tradewinds, the diurnal land and sea breeze pattern prevails. Since this circulation pattern is self-contained within a limited area, as opposed to the tradewinds which are part of a much larger circulation system, a concentration of pollutants can occur. The potential is great for smog conditions to develop, especially if vehicular and other air pollution sources increase. The Kona coast is typical of this situation."

Jet engine emissions trapped by this weather pattern would be unpleasant at best.

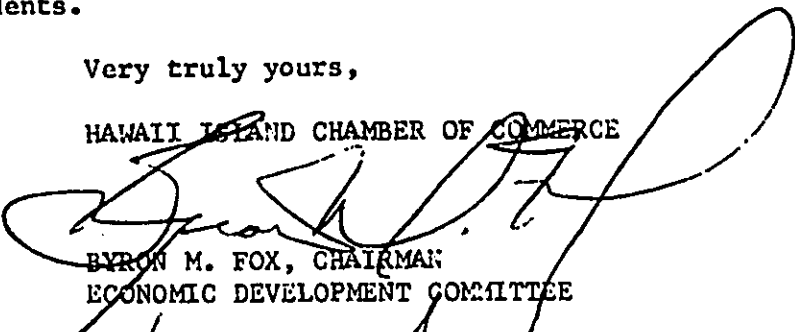
Finally, the desire to have inter-continental flights remain in Hilo is not the concern of a small number of Hilo businessmen but of a very large number. Better than half of the island's population is clustered about Hilo and fully 80% of the island's business is done here. Therefore, it is reasonable to assume that hundreds of livelihoods are tied to Hilo's airport. The effect of shifting the airport would have a devastating effect upon the community's economic pattern. Ours therefore, is a concern for the majority rather than creating new economic opportu-

Mr. Jack G. Webb
Page 3
September 21, 1972

nities for a few of Kona's residents.

Very truly yours,

HAWAII ISLAND CHAMBER OF COMMERCE



BYRON M. FOX, CHAIRMAN
ECONOMIC DEVELOPMENT COMMITTEE



HERBERT A. SEGAWA, PRESIDENT

BMF/HAS:dld

cc: Dr. Fujio Matsuda, Director
Dept. of Transportation
Airports Division
State of Hawaii
Honolulu International Airport
Honolulu, HI

Mr. Todd Bergeson
Environmental Protection Agency
100 California Street
San Francisco, CA 94111

Mr. Alvin F. Meyer, Jr., Director
Office of Noise Abatement and Control
United States Environmental Protection Agency
Washington, DC 20460

Japanese Chamber of Commerce and Industry of Hawaii

310 KAWAIAHAO AVE. ROOM 5

HILO HAWAII 96720

PHONE 935.8462

September 24, 1972

Federal Aviation Administration
1833 Kalakaua Avenue
Honolulu, HI

Gentlemen:

Re: Hilo General Lyman Field
Terminal

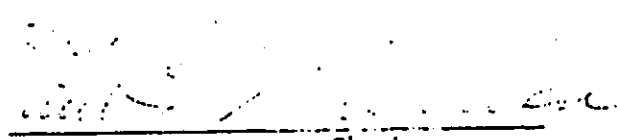
It was with surprise that in yesterday's news we learned that a further delay was being made in the start of construction of the General Lyman Airport Terminal Building.

The letter filed by a Kona resident August 15, 1972 just served to emphasize the fact that the new terminal building would be further away from the business area and would decrease the noise level because of the greater distance from present and future zoned business areas.

The Japanese Chamber of Commerce and Industry of Hawaii is already on record favoring the immediate construction of a new airport terminal facility at General Lyman Field.

You are urged to take the necessary action now needed to expedite the calling of bids by the State of Hawaii, Department of Transportation, Airports Division for this much needed and long overdue Terminal Building.

Sincerely,


Paul T. Hannon, Chairman
Economic Development Committee

PTM/alc

cc Dept. of Transportation
Airports Division
Honolulu, County of Hawaii

5-78



OFFICE OF THE MAYOR — county of hawaii, hilo, hawaii 96720

October 13, 1972

SHUNICHI KIMURA
MAYOR

Mr. Jack Webb, Administrator
Federal Aviation Administration
P.O. Box 4009
Honolulu, Hi 96813

I humbly request your assistance in expediting the call for bids and the start of construction of the overseas terminal building and related improvements at General Lyman Field.

These new facilities would greatly enhance the viability of Hilo as a second gateway to the State of Hawaii.

I recall in Civil Aeronautics Board hearings about six years ago when airlines vigorously pushed for authority to serve the Hilo gateway. At that time there was doubt expressed as to whether hotels and other visitor facilities could keep up with the growing traffic.

That doubt no longer exists since our hotel room inventory as of this writing is 4,663 rooms and an additional 1,544 is expected to be operating in 1974.

The 1974 inventory of rooms operating at a 70 percent occupancy level can accommodate 808,000 visitors per annum, as compared with the projected 600,000 visitors this year. An 80 percent occupancy level could handle 924,000 visitors in 1974.

Hotel operators have come through on their promise to have adequate accommodations. Agriculture enterprises, which would export their commodities by air, have also expanded and shown signs of greater future growth.

The immediate need for construction of the Hilo gateway terminal is strongly evident.

The entire Big Island Community pushed very hard to secure the jet runway and overseas terminal for General Lyman Field in Hilo. The County of Hawaii co-sponsored that drive in conjunction with the representatives of the entire Island.

Mr. Jack Webb, Administrator
Page 2
October 13, 1972

The County's position is even stronger today to urge the building of the much needed terminal.

Again, I beg your support in expediting this project vital to our island economy.

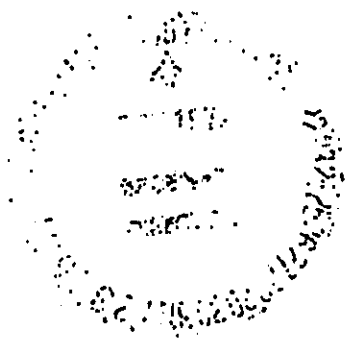
Thank you very much.

Sincerely,

Shunichi Kimura
SHUNICHI KIMURA
MAYOR

SK:pak

cc Environmental Protection Agency



DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

9330

-Asia
PACIFIC REGION
P. O. BOX 4009
HONOLULU, HAWAII 96817-3



24 OCT 1972

Honorable Shunichi Kimura
Mayor
County of Hawaii
Hilo, Hawaii 96720

Dear Mayor Kimura:

Thank you for your letter of 13 October 1972. The Federal Aviation Administration has recently met with representatives of the Airports Division, Department of Transportation, State of Hawaii, in regard to the Environmental Impact Statement for the proposed new terminal at General Lyman Field, Hilo, Hawaii.

The National Environmental Policy Act of 1969 requires the FAA to review in detail the environmental impact of proposed construction under the Airport Development Aid Program. Certain areas of the statement are to be further evaluated by State representatives prior to resubmission for our review.

Again, I wish to thank you for your interest in the development of aeronautical facilities on the Island of Hawaii.

Sincerely,

Original Signed By
Jack G. Webb

JACK G. WEBB
Director

cc:
Dr. Fujio Matsuda

DIRECTOR'S OFFICE
OCT 25 2 30 PM '72
DEPT. OF
TRANSPORTATION

DIC 2213
xc - MC - dir

HILO FLORISTS & SHIPPERS ASSOCIATION DIRECTOR'S OFFICE
P. O. BOX 1292
HILO, HAWAII 96720

933

OCT 31 12 27 PM '72

OCTOBER 26TH, 1972
DEPT. OF TRANSPORTATION

DR. FUJIO MATSUDA, DIRECTOR
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

DEAR DR. MATSUDA:

AT OUR MEETING OF THE BOARD OF DIRECTORS OF THE HILO FLORISTS AND SHIPPERS ASSOCIATION ON OCTOBER 17TH, 1972, WE AGREED TO STRONGLY ENDORSE THE BUILDING OF THE INTER-ISLAND OVERSEAS AIRLINE TERMINAL IN HILO. AND TO PROCEED WITHOUT FURTHER DELAY.

WE THEREFORE, THE ENTIRE ASSOCIATION, WOULD LIKE TO GO ON RECORD AS UNANIMOUS IN ENDORSING THIS PROJECT TO THE FULLEST.

SINCERELY,
HILO FLORISTS &
SHIPPERS ASSOCIATION

/s/ JOHN KODANI, PRESIDENT

BY *Richard R. Sappi*
RICHARD R. SAPPE, SECRETARY

JK:RS



BANYAN LIONS CLUB

P. O. BOX 1248 • HILO, HAWAII 96720
November 16, 1972

The Honorable Jack Webb, Administrator
Federal Aviation Administration
P. O. Box 4009
Honolulu, Hawaii 96813

RE: Request your aid in the early construction of the new air terminal in Hilo

Dear Mr. Webb:

The members of the Banyan (Hilo) Lions Club have instructed me to write this letter to you. We have gone on record in favor of this request. We ask your aid for the early start and construction of the new facilities in Hilo. Hilo is growing fast in many ways and for the good. We have every confidence that with the early construction of the terminal, Hilo will grow much more.

We humbly ask that with the new construction, a covered walkway into the huge planes be built, as you know Hilo is called the "rainy city".

Your assistance in the early completion of the terminal is solicited by our entire membership as well of the whole island of Hawaii.

Very sincerely yours,

Jack Y. Ouye
Jack Y. Ouye, Secretary
Banyan (Hilo) Lions Club
Hakalau, Hawaii 96710

CC: Prexy Kanoho



Luncheon Meetings every 2nd and 4th Mondays

HAKALAU VOLUNTEER FIRE-FIGHTERS

7331
9563

DIRECTOR'S OFFICE

(HILO TO HAKALAU)
Volunteer Company #5, County of Hawaii
Hakalau, Hawaii 96710

Nov 20 2 15 PM '72

November 16, 1972

DEPT. OF
TRANSPORTATION

The Honorable Dr. Fujio Matsuda, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813

RE: Request of early construction of the new Hilo airlines terminal

Dear Dr. Matsuda:

The Hakalau Volunteer Fire Fighters, 75 strong and their families, humbly request that the new inter island overseas airlines terminal in Hilo, be constructed at the earliest possible date. We have waited long and we have waited too long. Maui's terminal is up to date and large. Honolulu's is about completed. Hilo is growing fast in many ways for the good and we need a new larger terminal to meet the demands.

We also ask that you look seriously into obtaining a covered walkway into the huge trans-pacific planes, we must admit that Hilo is a "rainy city". We ask that you give this matter serious consideration.

Your early attention to these request is humbly solicited.

Very sincerely yours,

J. Ouye
Jack Y. Ouye, Sec'y-Treas.
Hakalau Volunteer Fire Fighters
Hakalau, HI 96710

CC. Chief Sunahara

Volunteer Fire Chief

Assistant

5-84

F. Sunahara
 Battalion Chief, Secretary-Treasurer



CRESCENT CITY LIONS CLUB

Chartered June 7, 1956

P. O. BOX 8

HILO, HAWAII 96720

November 20, 1972

1972-1973

President
STANLEY ABE

Immediate Past President
SIDNEY H. KUSUMOTO

First Vice President
JOHN KODANI

Second Vice President
JOHN YUEN

Third Vice President
JOHN S. OKINO

Secretary
KENJI KANEKUNI

Treasurer
KOICHI IWASAKI

Tail Twister
PANCHO S. MURASHIGE

Lion Tamer
EDWARD T. KOZUKI

Director
(1 year)
HAROLD ASHIDA
MASASHI CHIBA

(2 years)
MASASHI HATADA
ARTHUR LEE, JR.

Charter Members
HAROLD ASHIDA
DR. FRITZ FORBES
HARRY I. HARA
REX Y. MATSUNO
HENRY MENINO
ROBERT TAKAHASHI
GEORGE TAKETA
YUKIWO TANIGUCHI

Zone Chairman
Region V - Zone 1
ROBERT TAKAHASHI

Mr. Jack Webb, Administrator
Federal Aviation Administration
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Mr. Webb:

The general membership of the Crescent City Lions Club have unanimously gone on record to kindly request your good office the full assistance and cooperation to expedite as soon as possible the construction of our new inter island overseas airlines terminal in Hilo. To further express our deep concern we have enclosed a Resolution supporting our request.

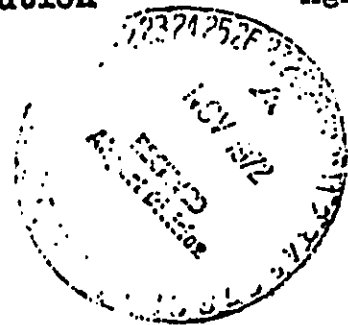
Thank you very much.

Sincerely yours,

CRESCENT CITY LIONS CLUB

Kenji Kanekuni
Kenji Kanekuni

Enc1-1 Resolution



5-85



Meetings Every First and Third Mondays
Hilo Lagoon Hotel - 12:00 Noon

RESOLUTION

WHEREAS, continued delay in the construction of the new inter-island overseas airlines terminal in Hilo can only serve to further penalize, inconvenience and burden the citizenry of the County of Hawaii and airport users with inadequate, antiquated facilities; and

WHEREAS, mindful of, and in spite of last-ditch environmental impact concerns being voiced by a few, clear justification exists for the immediate construction of said airport facilities and improvements to serve the public necessity and convenience: and

WHEREAS, the membership of this civic organization deem it imperative to join the swelling ranks of the heretofore silent majority whose concerns seem to be frustrated by indecisiveness, of those within whose offices and powers public decisions ought be made with dispatch and sound judgment.

NOW, THEREFORE, BE IT RESOLVED BY THE MEMBERSHIP OF THE CRESCENT CITY LIONS CLUB, LIONS INTERNATIONAL, chartered in the City of Hilo, Hawaii, that it does hereby expresses its concern over the delay and urgently request the immediate start of construction of the new airlines terminal and improvements in Hilo, Hawaii.

BE IT FURTHER RESOLVED that copies of this resolution be transmitted to Dr. Fujio Matsuda, Director, State Department of Transportation, Mr. Jack Webb, Administrator, General Aviation Administration, and to Mr. Charles Seeley, Environmental Protection Agency.

Adopted this 20th day of November, 1972.

CRESCENT CITY LIONS CLUB

Stanley Abe
STANLEY ABE, President

Kenji Kanekuni
KENJI KANEKUNI, Secretary

KIWANIS CLUB OF HILO

November 22, 1972

Mr. Jack Webb, Administrator
Federal Aviation Administration
P. O. Box 4009
Honolulu, Hawaii 96813

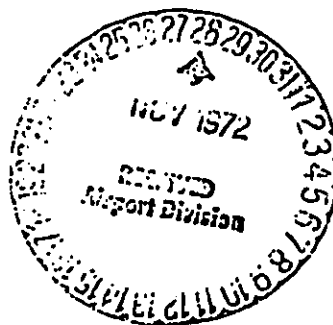
Dear Mr. Webb:

The members of the Kiwanis Club of Hilo at its November 16th meeting held at the Orchid Island Hotel expressed great concern over the delay in starting the construction of the new Interisland Overseas Airlines Terminal in Hilo.

Hilo needs a new terminal now and we strongly feel construction should be started immediately. The Kiwanis Club of Hilo, therefore, went on record to ask for your support in getting the construction started without any further delays.

Sincerely,

Hiroshi Aruga
Hiroshi Aruga
Secretary





KIWANIS CLUB OF EAST HAWAII

KIWANIS INTERNATIONAL DIV. 22

P.O. Box 44 • Hilo, Hawaii 96720

December 23, 1972

Mr. Jack Webb, Administrator
Federal Aviation Administration
P. O. Box 4009
Honolulu, Hawaii 96813

Dear Sir:

With the increasing traffic flow of inter island airlines as well as overseas airlines passengers, the airport terminal here in Hilo has become an undue hardship to incoming as well as departing passengers.

Construction to improve Honolulu Airport has been going on for years. I agree with you that the air traffic in Honolulu has grown considerably, but you must also consider that the outer islands are also growing. To spend money on temporary construction on buildings I find is not feasible, investment wise. You must visualize, as well as realize that Hilo will become a great city in the near future.

Therefore as president of the Kiwanis Club of East Hawaii and on behalf of its members, I urge you to reconsider for the immediate construction of the overseas as well as the inter island terminal here in Hilo. Your favorable consideration in this matter will be greatly appreciated.

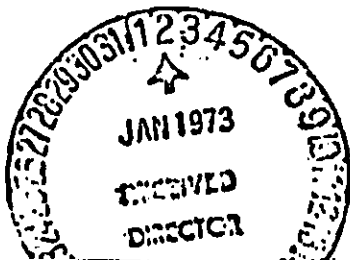
Sincerely,

Hiroshi Seto

Hiroshi Seto, President
Kiwanis Club of East Hawaii



cc: Mr. Marvin Lida



5-89

REFERENCES

Final
Environmental Impact Statement
New Passenger Terminal
General Lyman Field
Hilo, Hawaii

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