EXECUTIVE CHAMBERS

HONOLULU

GEORGE R. ARIYOSHI
GOVERNOR

August 12, 1982

Mr. Roy R. Takemoto, Chairman
Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Takemoto:

Based upon the recommendation of the Office of Environmental Quality Control, I am pleased to accept the environmental impact statement for the Maalaea Boat Harbor improvements as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in deciding whether the action described therein should be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under applicable laws, and does not constitute an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the proposing agency to weigh carefully if the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and, together with the comments made by reviewers, provide a useful analysis of alternatives to the proposed action.

With warm personal regards, I remain,

Yours very truly,

George R. Ariyoshi

cc: Honorable Ryokichi Higashionna

Harbors Division
Dept. of Transportation
State of Hawaii

Revised Environmental Impact Statement for Improvements to the Maalaea Boat Harbor Maalaea, Maui

July 1982

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HARBORS DIVISION
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

REVISED ENVIRONMENTAL IMPACT STATEMENT
FOR IMPROVEMENTS TO THE MAALAEA BOAT HARBOR
MAALAEA, MAUI

TMK: 3-6-01, 2, 34, 43, 49, 50
3-8-14, 28, 31

This Environmental Document is Submitted
Pursuant to Chapter 343, HRS

PROPOSING AGENCY:

Department of Transportation
State of Hawaii

ACCEPTING AUTHORITY:

Governor, State of Hawaii

R Higashionna — June 16, 1982
R. Higashionna — Date
Director of Transportation

David K. Higa — June 18, 1982
David K. Higa — Date
Chief, Harbors Division

PREPARED BY:

R. M. TOWILL CORPORATION
677 Ala Moana Blvd., Suite 1016
Honolulu, Hawaii 96813

JULY 1982

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SECTION 1
SUMMARY

The Harbors Division of the State Department of Transportation has developed a Design Guide for a project to improve the interior facilities of the Maalaea Boat Harbor on the Island of Maui. This project has been developed over recent years in response to urgent requirements to increase the safety and berthing capacity of the harbor. The harbor in its present configuration is vulnerable to southern swells and especially to strong storms from the south. There is an urgent requirement to increase the berthing capacity from the present 102 boats to meet the boating demand and to increase revenues from the facility.

The U. S. Army Engineer District, Honolulu, Department of the Army, has recently completed an extensive report entitled, "General Design Memorandum and Final Environmental Impact Statement, Maalaea Harbor for Light-Draft Vessels, Maui, Hawaii," July 1980. This report describes in detail the proposed navigation improvements for the harbor and their environmental impacts. The proposed improvements are designed to alleviate adverse navigation conditions and to provide for the addition of berthing space. The recommended Federal plan of improvements provides for the dredging of a new entrance channel, a turning basin and an access channel, together with the construction of an extension to the existing south breakwater, including an exterior revetted mole. This Federal project will be jointly funded by the Federal and State governments.

Development of the Federal plan has permitted the development of the Design Guide for the interior harbor improvements, hereinafter called the State project, which are the subject of this environmental impact statement (EIS). The State project is concerned with the increased internal berthing accommodations and the general improvements to the support facilities throughout the harbor. Several berthing concepts were developed and reviewed at a public meeting convened at the Maalaea Harbor. This meeting and subsequent reviews by State and Federal agencies led to the recommended State project. The State project includes the following improvements:

Construction of a Harbor Center
Construction of an East Mole
Administration Building
Increased number of berths (102 to 251 ranging from 20'-100')
Increased number of parking stalls and paved areas
Fueling dock
New utilities (sewerage, water, electricity)

The new East Mole and Harbor Center areas will be characterized by stone revetments lining the new fill areas and by fixed concrete piers and berths. Architectural control will be applied to ensure a pleasing aspect to the new facilities. Landscaping will be accomplished on both the new and existing shoreside areas.

Construction will be in two major phases. The first phase will include the marine construction activities of dredging, compacting fill and rock revetment construction. This phase should proceed with the Federal project which includes the same tasks at the entrance channel and at the mole on the south breakwater. Concurrent construction should produce economies of scale that could realize significant savings for the State. The second construction phase will include the concrete piers and berths, the Administration Building, utilities, pavements and parking stalls.

Adverse short-term environmental impacts due to the noise, air pollution and water turbidity caused by construction will be mitigated by enforcement of existing regulations. Long-term adverse environmental impacts from the project are believed to be minimal.

It was initially planned to produce a single EIS for the Federal and State projects because of their interrelationship. However, it was not possible to produce the joint EIS because of scheduling priorities. The Final EIS

for the Federal Project has been reproduced and included herein as Appendix A for its information on the impacts related to the Federal project. This EIS is primarily concerned with the impacts of the State project upon the environment.

SECTION 2
PROJECT DESCRIPTION

A. PROJECT LOCATION

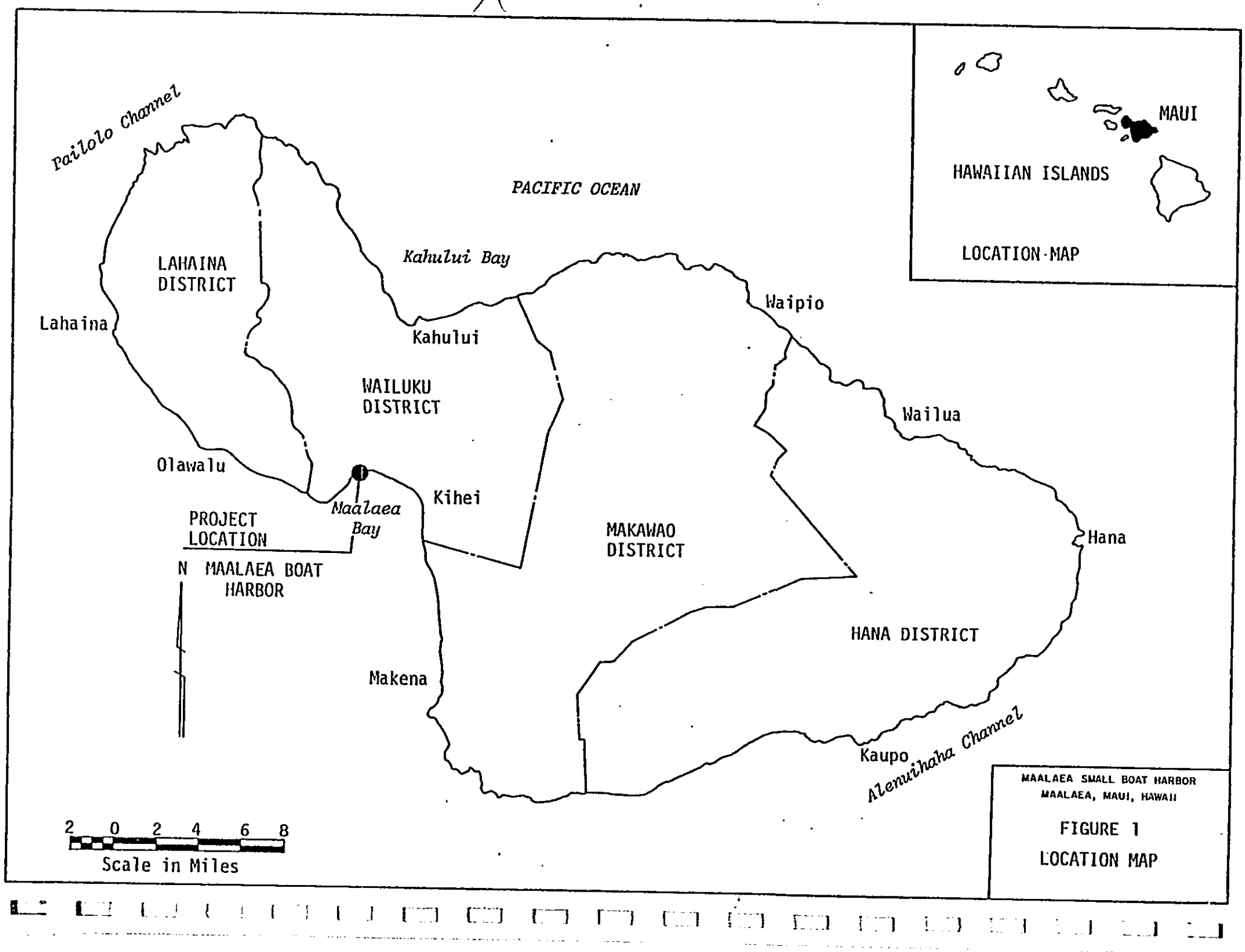
The Maalaea Boat Harbor is located on the southwest shore of Maui (Figure 1), second largest island in the Hawaiian chain. Situated between the two inactive volcanoes of east and west Maui, it is approximately 7 miles south of the County seat of Wailuku and 8 miles south of the commercial and business center of Kahului. It is on the shoreline of Maalaea Bay. The bay is characterized by a long, narrow coral-sand beach which is a major recreation site and tourist attraction. The Maalaea Boat Harbor is located in the western sector of this beach.

B. PURPOSE OF PROJECT

1. Project Objectives

The objectives of the proposed project are to provide safe navigation and protection for vessels using the harbor and adequate facilities within the Maalaea Boat Harbor, coupled with an efficient utilization of the water and land areas concerned. The objectives include increasing the number of berths that presently exist in the harbor and improving the existing harbor facilities in conformance with the Federal plan for navigation improvements for the harbor.

It was initially planned to produce a single EIS for the Federal and State projects because of their interrelationship. However, it was not possible to produce the joint EIS because of scheduling priorities. The Final EIS for the Federal Project has been reproduced and included herein as Appendix A for its information on the impacts related to the Federal project. This EIS is primarily concerned with the impacts of the State project upon the environment.


Pailolo Channel
PACIFIC OCEAN
Kahului Bay
LAHAINA DISTRICT
Lahaina
Kahului
Waipio
WAILUKU DISTRICT
Wailua
Olawalu
Maalaea Bay
Kihei
PROJECT LOCATION
N MAALAEA BOAT HARBOR
MAKAWAO DISTRICT
Hana
HANA DISTRICT
Makena
Kaupo
Alenuihaha Channel
MAUI
HAWAIIAN ISLANDS
LOCATION-MAP
2 0 2 4 6 8
Scale in Miles
MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII
FIGURE 1
LOCATION MAP

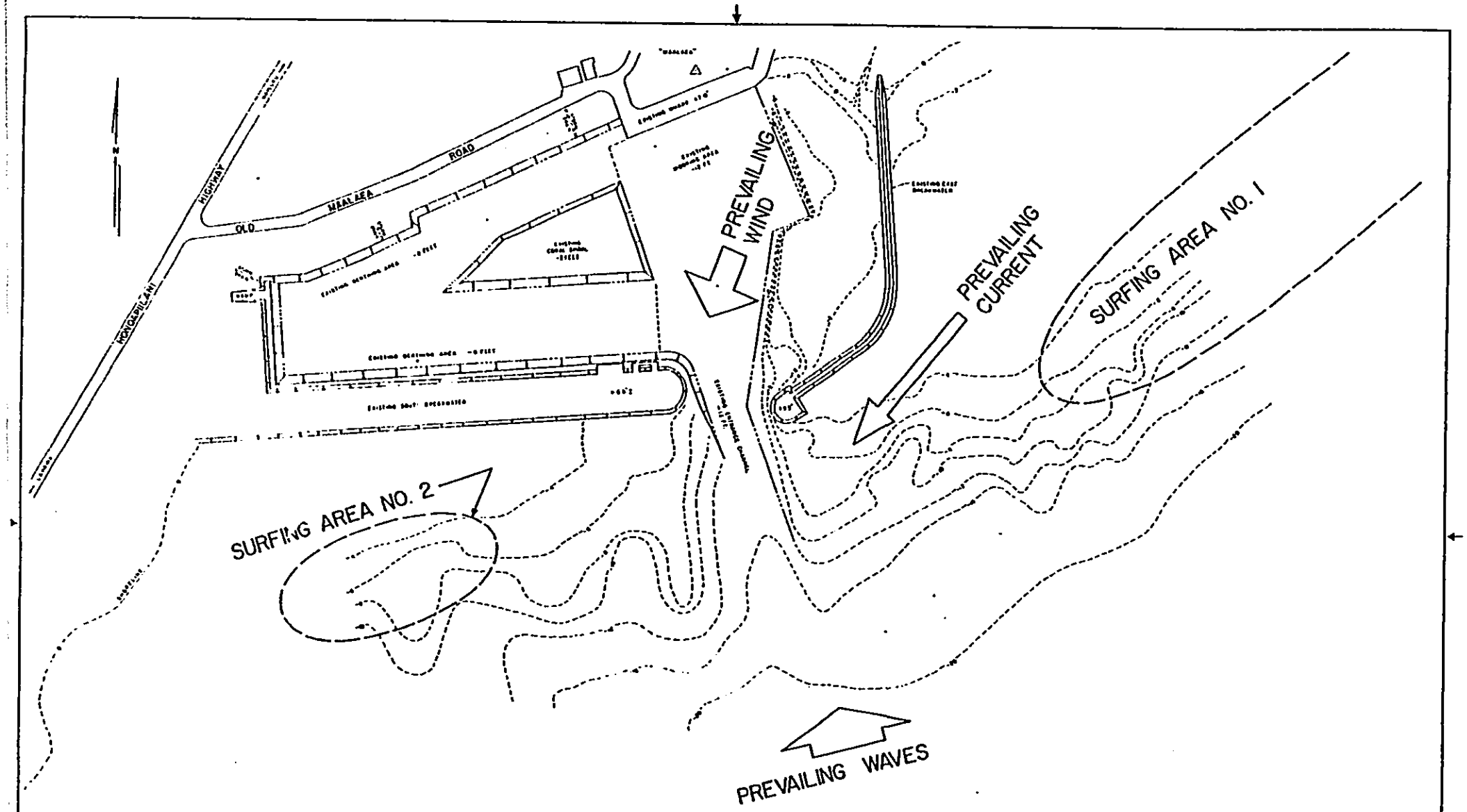
2. Description of the Problem

At the present time Maalaea Harbor is subject to severe harbor surge resulting from southern swells and "Kona" or southern storm waves. It creates not only navigational hazards at the harbor entrance and within the basin itself but also limits berthing by rendering portions of the harbor unsafe for mooring. The harbor needs additional availability of fresh water, electricity and fuel, office space, equipment, storage space, and car and trailer parking areas.

Lying in the Tropic of Cancer, the Hawaiian Islands are dominated by northeast trades for 70 percent of the year. These winds are most constant during the spring and summer months. The winter months are characterized by "Kona" weather conditions which are local low pressure systems replacing the trades. These conditions range from gale force, southerly winds with heavy rains to calm, humid or rainy weather.

The trade winds are especially affected by local topographic conditions on Maui. Coming from the northeast they become northerly as they are funneled between the mountains of east and west Maui and frequently obtain speeds greater than 25 miles per hour at Maalaea.

Maalaea Harbor is most affected by two wave conditions. The first, the southern swell, originates in Antarctic waters. Traveling to Hawaii it becomes a long period swell ranging from 14 to 22 seconds and obtaining heights of 1 to 4 feet. Upon occasion, 10-foot waves are produced, rendering the existing channel hazardous to navigation and creating heavy surge within the harbor. The southern swells occur over 50 percent of the year. Two well known surfing sites near the harbor are generated by this condition and are indicated on Figure 2.



REFERENCE: Maalaea Harbor for Light-Draft Vessels
Design Memorandum No. 1
United States Army, Corps of Engineers
April 1980

ELEVATION DATUM IS MLLW

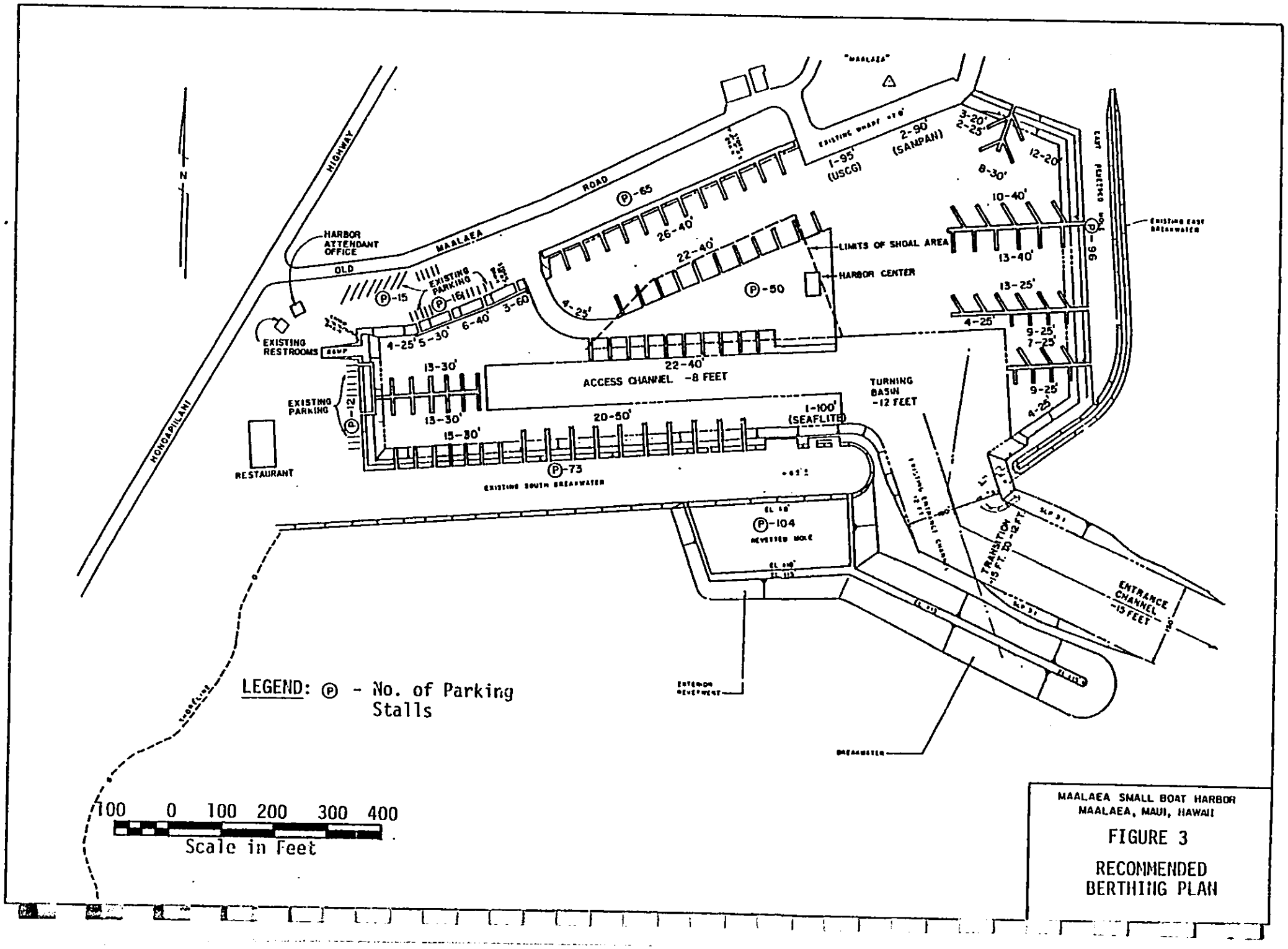
MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 2
EXISTING CONDITIONS

The second wave condition is "Kona" storm waves. These approach the islands from the south or southwest and may generate waves adversely affecting the harbor at Maalaea. Typical wave characteristics include wave periods from 8 to 10 seconds and wave heights of 10 to 15 feet. Kona storms are difficult to predict since in any given year there may be several storms or none at all. When they do occur, they are most frequent during the winter months. An instance of the severity of this type of storm is reflected in the January 1980 storm which caused more than $10 million worth of damage on Maui. Maalaea boatmen minimized damages to their vessels by securing them with extra lines and maintaining day and night watches. Another source of damaging wave conditions is hurricanes. However, these are infrequent, the last being in July 1978 with previous ones in December of 1957 and August of 1959.

C. PROJECT BACKGROUND

The Honolulu District of the Pacific Ocean Division, U. S. Army Corps of Engineers, in an effort to reduce severe surging within the harbor, has for the past several years been planning extensive navigation improvements to the Maalaea Boat Harbor. Figure 3 indicates the planned navigation improvements which include a 620-foot long extension to the existing south breakwater; addition of a 400-foot long revetted mole on the seaward side of the existing south breakwater; a 610-foot long entrance channel, varying in width from 150 feet to 180 feet, and varying in depth from 15 feet to 12 feet; and a 1.7-acre, 12-foot deep turning basin. About 80 feet of the existing east breakwater head would be removed. In addition, the plan would include a 50-foot wide, 720-foot long interior revetted mole and an 8-foot deep berthing area adjacent to the existing east breakwater. The total harbor area of approximately 27 acres would include 13.5 acres of water area available for berthing and access. The berthing layout indicated on Figure 3 was included to demonstrate a possible harbor configuration.



MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 3

RECOMMENDED BERTHING PLAN

The proposed State project will develop the internal improvements to the Maalaea Boat Harbor which are now feasible due to the navigation improvements planned by the Federal project.

The improvements to the interiors of the revetted mole and the east breakwater and all improvements to the internal harbor area, including the berthing area, are the responsibility of the Harbors Division of the State Department of Transportation. These "internal" improvements to the Maalaea Boat Harbor comprise "the State project" which is the subject of this report. The major improvements will be the development of usable land areas from dredged fill and the addition of berths within the basin to meet the heavy demand for boat berths. At present, there are approximately 121 individuals on the waiting list for berths at Maalaea.

In addition to the installation of additional berths, dredging will be required within the harbor to achieve the desired project depths near the east breakwater. Water, sewerage and electrical systems will be improved to handle the increased boating population. A new fuel station is planned. Particular attention will be paid to the shoreside facilities for parking and harbor access.

D. EXISTING HARBOR

Maalaea is one of only two small boat harbors on Maui, and it is the only public access point to Maalaea Bay in the western end of the bay. Present facilities at Maalaea include an 835-foot long east breakwater and a 1,070-foot long south breakwater or revetted mole which encloses a 17.3-acre basin.

The harbor is used as a mooring place for commercial fishing boats, charter boats and pleasure craft. On the west end of the basin is a launching ramp for trailer boats which also serves as a haul out and repair facility. Presently, the Coast Guard Cutter, Cape Newagen, is stationed at the harbor.

E. GENERAL DESCRIPTION OF THE ACTION'S CHARACTERISTICS

1. The State Project

The selection of an acceptable berthing configuration was the initial step in the process which developed the recommended harbor plan. Once the use of the water area was determined, land use and supporting facilities were developed to accommodate the water use.

The selected berthing scheme for Maalaea Harbor was determined by evaluating the feasibility and impact of several berthing alternatives (see Section 7). The major considerations in the selection process were environmental impacts, implementation impacts, compliance with applicable regulations and community benefits.

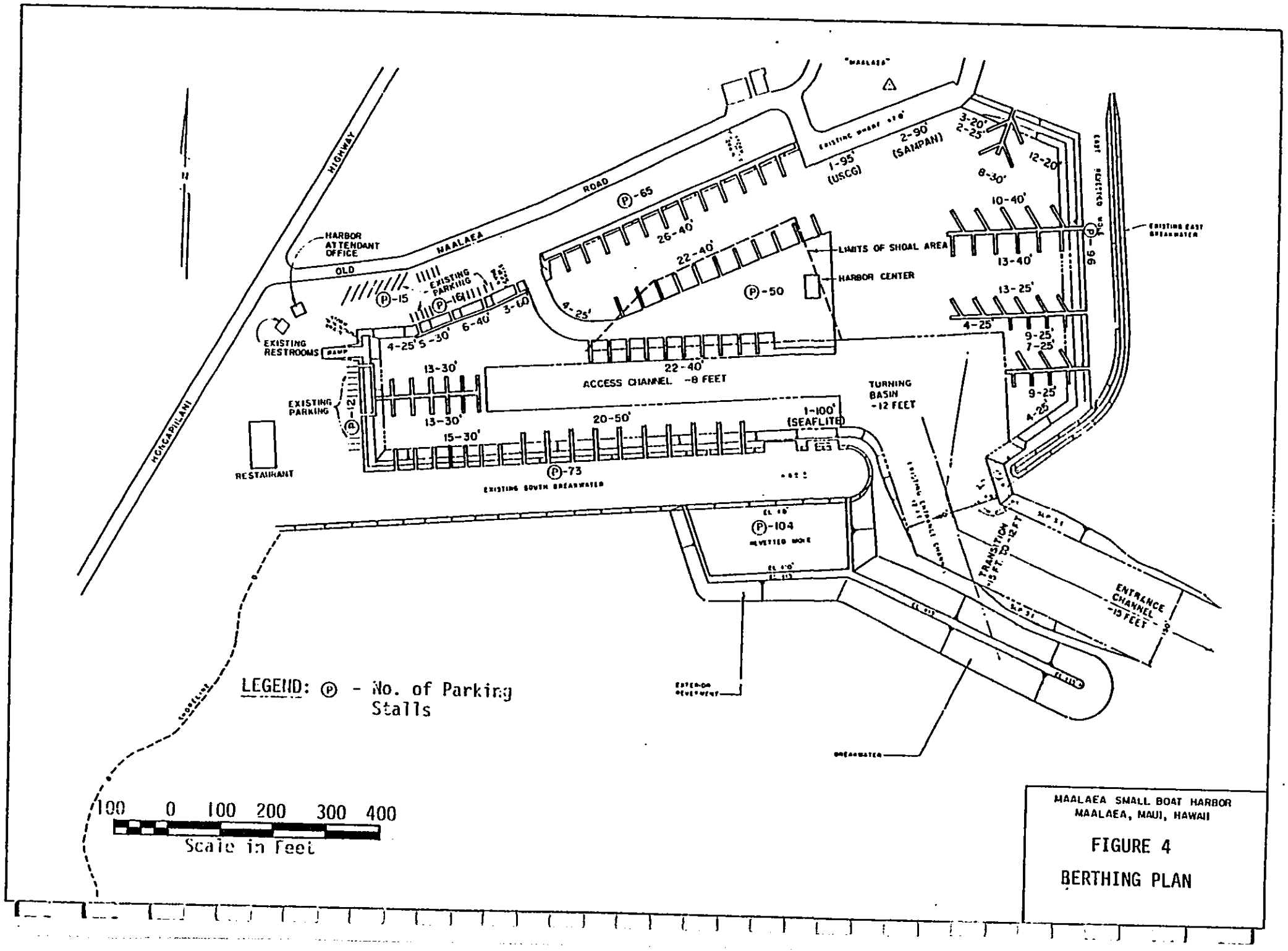
The alternate berthing concepts were reviewed in some detail, together with the comments developed at the public workshop. Additional guidance was then received from the Harbor Division to ensure due consideration of the potential parking problems, the need to maximize the berthing density and the facilities to front the condominiums at the east breakwater. A careful evaluation of all comments, the project scope, the new berthing mix, and the above design constraints led to the development of the State project berthing plan indicated in Figure 4, with a total of 251 berths and 431 identified parking stalls.

Table 1 shows a summary of the boat lengths of the current occupants and those on the waiting list, as well as the proposed new berthing mix. The proposed berthing mix maintains the existing percentages of berth lengths within the total of 251 berths.

TABLE 1

BERTHING MIX

Berth Length (Ft)	Existing		Waiting List		Recommended Berthing Mix	
	No.	%	No.	%	No.	%
20	6	6	9	7	15	6
25	21	21	31	26	56	22
30	23	22	32	26	54	22
40	40	39	36	30	99	39
50	8	8	8	7	20	8
60	-	-	3	2	3	1
70	-	-	-	-	-	-
90	2	2	2	2	2	1
95	1	1	-	-	1	0.5
100	1	1	-	-	1	0.5
TOTALS	102		121		251	



MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 4

BERTHING PLAN

2. Features of the Proposed Action

Features of the recommended plan are presented below, proceeding in a clockwise direction starting from the channel entrance:

a. The present Seaflite berth will be maintained, but may be converted to other use such as a berth for a large cruise boat or other commercial uses. In the area which was utilized by Seaflite, improvements will include a revetted mole (approximately 0.8 acre) which will provide a means of disposing of excess dredged material and create approximately 104 badly needed parking spaces for vehicles including buses. A 100-foot berth is also provided.

b. Berthing along the south breakwater will be used for multihulled craft and also for the larger vessels in the 50-foot range because of their ability to maneuver with the prevailing trades. Easy vehicle access along the south breakwater makes this an ideal location for commercial vessels. The existing berths are in poor condition and will be demolished prior to construction of the new fixed concrete piers. Twenty 50-foot berths are provided. Also included along the south breakwater will be fifteen 30-foot berths which would occupy the south breakwater area adjacent to the existing restaurant. Parking provided along this south breakwater will consist of approximately 73 parking stalls fronting the berths with a 5-foot access walkway. Available land fronting the ocean along the south breakwater will be maintained for open landscaping. A new comfort station will be added to the south breakwater.

c. The existing marginal wharf, fronting the restaurant and adjacent to the boat launching ramp, will be maintained to provide access to 26 vessels in the 30-foot range, the size which currently occupies this area. Encroachment into the

Corps of Engineers' proposed access channel will require the shortening of this channel by approximately 50 feet. The existing 12 parking stalls fronting this area will be supplemented with the stalls available along the south breakwater.

d. The existing marginal wharf, fronting the old Maalaea Road as well as the vehicle and trailer parking area, will also remain with little or no modification except for the addition of new electrical and water lines. Vessels to be berthed here will include three in the 60-foot range and fifteen in the 25- to 40-foot range. Parking provided for this area includes 31 parking stalls, including 8 car and trailer stalls. These existing parking facilities will be adequate for the area's proposed use. Additional trailer stalls may be provided in the area adjacent to the access roadway and the existing restaurant.

e. The new (1979) wharf and the area fronting this wharf, i.e., the existing shoal area, will be the site of major improvements. Some demolition work will be required to remove the present temporary dock structures installed by the boaters along the rock revetment. Proposed for the existing wharf area is the completion of the marginal wharf with the provision of piers for craft in the 40-foot range. This is the approximate size of craft which currently occupy this area. Twenty-six 40-foot berths are planned along the new wharf. The Harbor Center area will include forty-four 40-foot and four 25-foot berths. In an effort to maximize the utilization of the existing shoal area, a shifting of the access channel approximately 25 feet south of the COE original alignment is planned. This move will further minimize dredging requirements of the State.

Parking to be provided includes 65 parking stalls fronting the new (1979) wharf and 50 stalls with a turnaround on the proposed island.

The proposed Harbor Center (Figure 5) will be sited on the existing shoal area and will include loading docks, a fueling dock, a jib crane with a scales hoist and a sewage pumpout station. These functions would be near a proposed two-story masonry block Administration Building with dimensions of approximately 44' x 30'. The building will include a Harbor Attendant's Office, comfort station, a small store for the fuel and pump-out franchise, and a conference room for use of the boating public. Its design will be in full compliance with the County-implemented requirements of the Federal Flood Insurance Program. The rock revetment in the loading dock areas will be fronted by a concrete pile and horizontal slab structure to provide working space at the loading docks. Locating this Harbor Center facility on this shoal area offers many advantages:

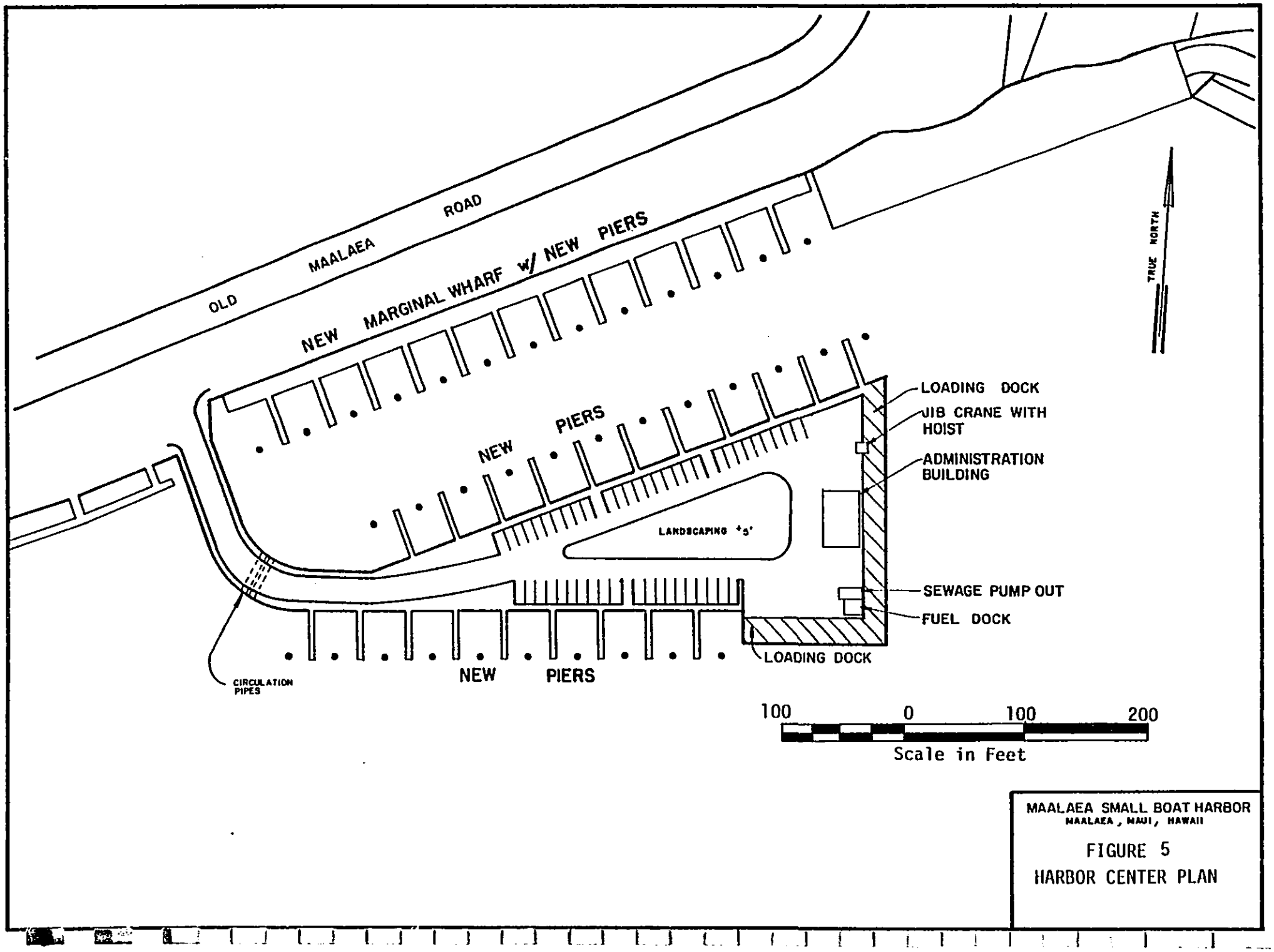
(1) Easy access to the facilities by all harbor users.

(2) Provides centrally located fueling and sewage pumpout stations as well as a secondary loading dock facility.

(3) Consolidation of these services leaves more usable land space.

(4) Acts as an additional wave absorber to further reduce the waves entering the harbor channel.

(5) Eliminates extensive shoal area dredging while also providing an area for disposal of some of the anticipated excess of dredged material within the harbor.



MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 5
HARBOR CENTER PLAN

(6) Provides a suitable and attractive Harbor Center location for the harbor attendant and other functions.

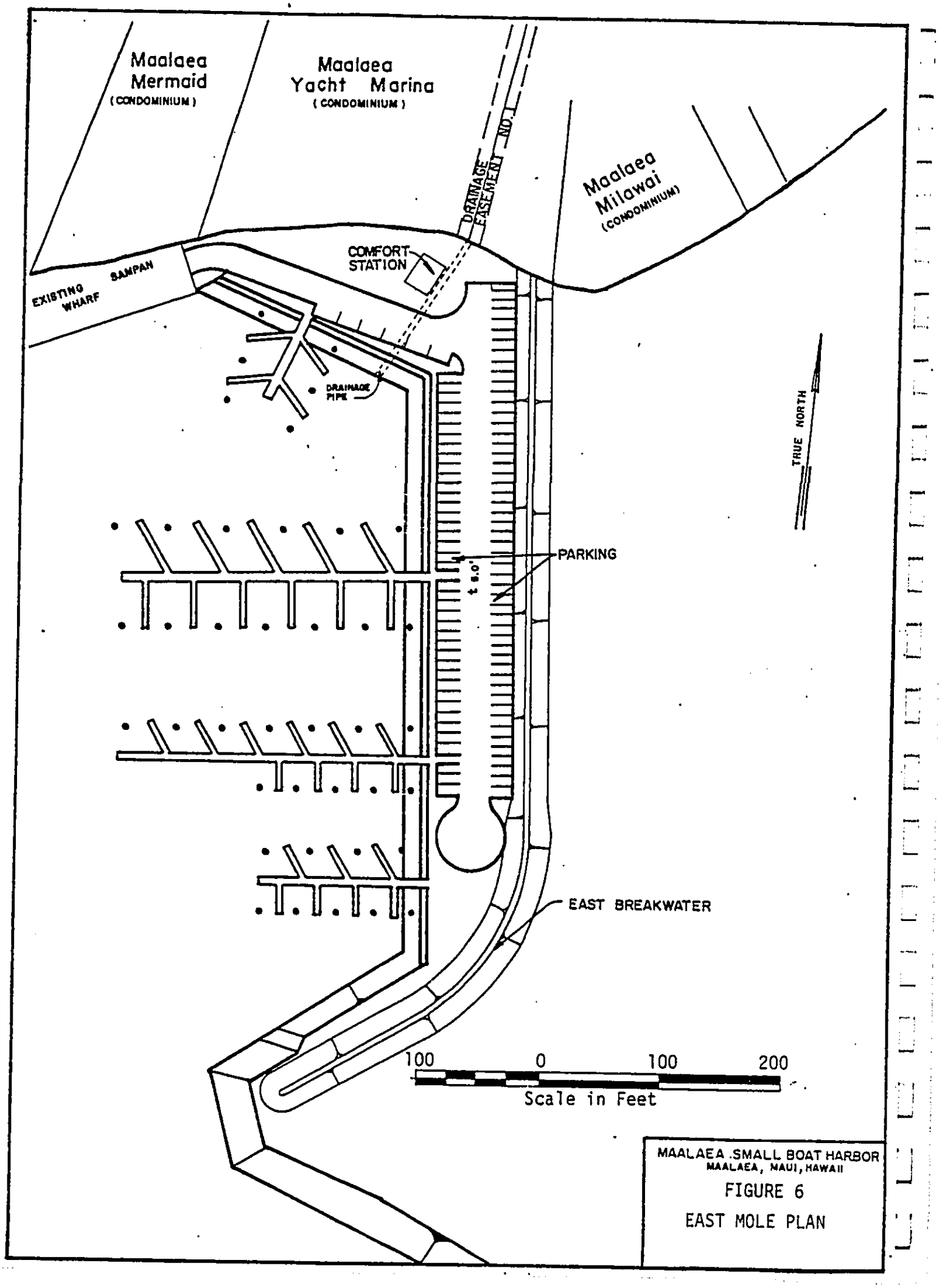
(7) Provides additional land area for harbor backup facilities.

Access to this Harbor Center facility will be by means of 30-foot wide causeway which will offer easy access to boats berthed near this facility. The causeway will have a 22-foot pavement for vehicles plus a 4-foot sidewalk on each side for pedestrians. Water circulation will be maintained under the causeway by use of culverts.

f. The existing "Sampan" Wharf currently providing berthing for the Coast Guard Cutter, Cape Newagen, as well as two tuna boats, will be maintained in its current use and condition. A new Coast Guard station has been constructed adjacent to the USCG berth. The wharf will handle one 95-foot berth and two 90-foot berths. The existing parking and loading areas on the wharf will be maintained in their present use.

g. The existing shoreline fronting the condominiums (Figure 6) and part of the harbor area will be used to provide an access road to the new east breakwater mole. The reclaimed area of land will also provide a disposal area for a portion of the harbor dredged material. The revetted road will provide access to twenty-five berths in the 20- to 30-foot range. Parking for these berths will be provided along the east breakwater.

Particular attention will be paid to the design of this area which fronts the existing condominiums. Dock lights will be shielded. Landscaping will be emphasized to minimize the visual impact of the new facilities. Residents of the


Maalaea
Mermaid
(CONDOMINIUM)
Maalaea
Yacht Marina
(CONDOMINIUM)
DRAINAGE EASEMENT NO. 1
Maalaea
Milawai
(CONDOMINIUM)
COMFORT STATION
SAMPAN
EXISTING WHARF
DRAINAGE PIPE
TRUE NORTH
PARKING
± 8.0'
EAST BREAKWATER
100 0 100 200
Scale in Feet
MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII
FIGURE 6
EAST MOLE PLAN

condominiums will be consulted during the development of these details. A new comfort station is planned for this area.

h. The east breakwater includes a 65-foot wide revetted mole (Figure 6) which will provide easy access to the new berths located on this side of the harbor as well as a turnaround and parking along both sides of the access roadway. Crafts in the 40-foot range would use these berths. Berths will include forty-six berths in the 25-foot range and twenty-three in the 40-foot range. A total of 96 parking stalls sited on the east breakwater will provide parking for these berths, as well as the twenty-six berths off of the revetted roadway fronting the condominiums.

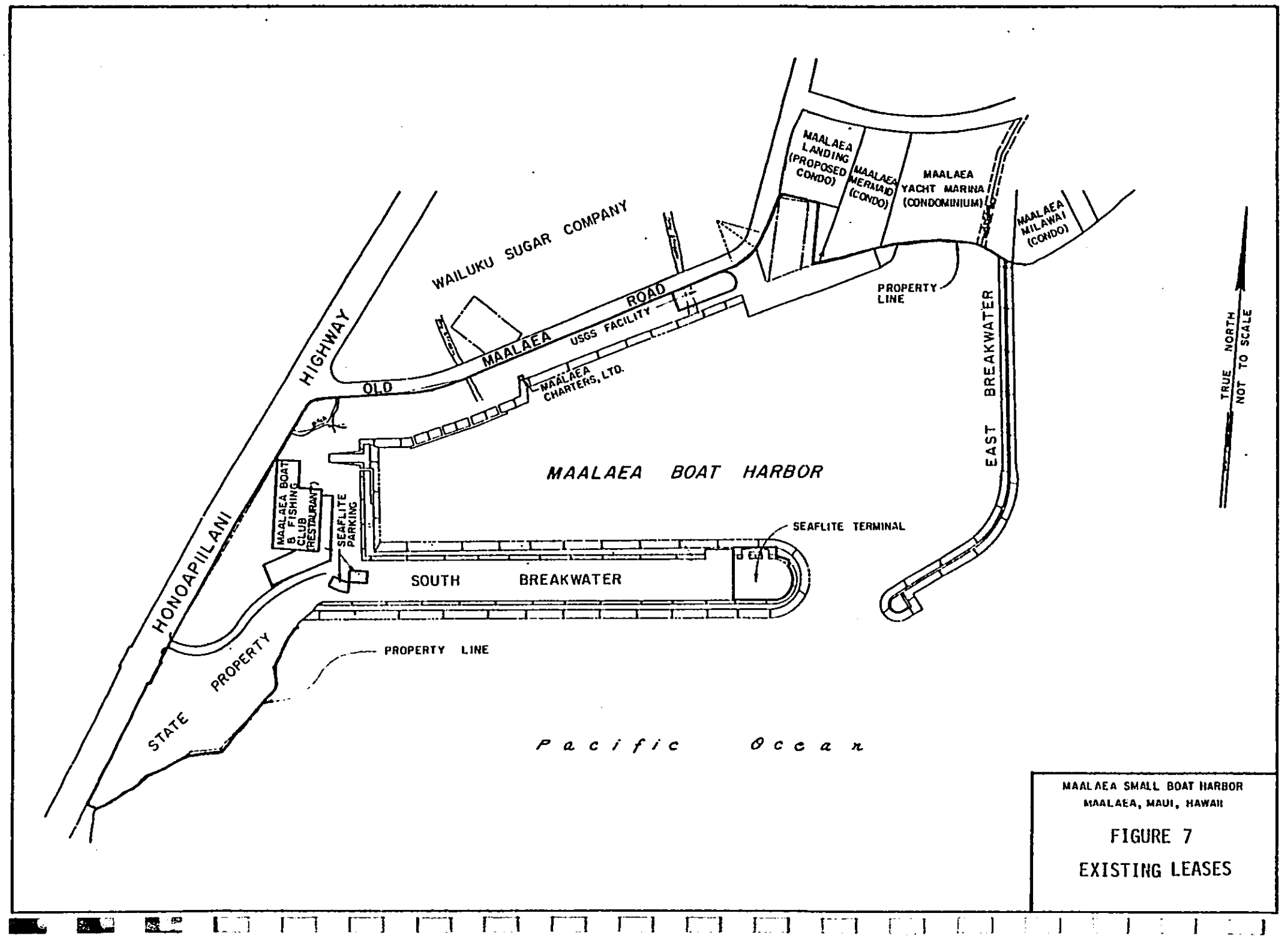
3. Land Use

Figure 7 indicates the State property boundary in the vicinity of the harbor and the location of the current leases held at Maalaea Harbor. Other proposed land uses include:

a. Retention of the existing boat launching ramp and boat winch located on the west side of the harbor, adjacent to the existing restaurant. The new launching ramps currently being designed by the State at Kihei should significantly reduce trailer boat traffic at Maalaea Harbor because of its closer location to popular fishing grounds.

b. The relocation of the current harbor attendant's office into the proposed Harbor Center facility.

c. The utilization of unused State land adjacent to Honoapiilani Highway and in the higher elevations of the southwest corner of the harbor area as a possible site for additional vehicle



MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 7

EXISTING LEASES

and trailer parking, boat washdown facilities and boat repair area. This area has also been identified as a potential clubhouse for boaters. Such use is to be encouraged, with the understanding that all facilities must be open to the public.

4. Circulation

a. Vehicular and Pedestrian

Proposed modifications to vehicular and pedestrian circulation include:

(1) Additional parking will be provided to accommodate the increased number of harbor users. Proposed areas include: the new revetted mole by the Seaflite facility, the State land area adjacent to Honoapiilani Highway and the area fronting Maalaea Road and adjacent to the new Coast Guard facility. Parking will consist of both vehicular and trailer type parking, some possibly being by parking permit only.

(2) An access way fronting the condominiums and leading to the revetted mole on the east breakwater is required for access to the new berths. This roadway will cover the shoreline fronting the condominiums. Special design considerations will minimize any impacts to the condominium residents.

(3) A 30-foot wide access causeway is planned to lead to the Harbor Center facilities and berths in the center of the harbor.

(4) Increased traffic to and from the boat harbor which may result from the improvements is possible. This problem, however, can be mitigated by providing speed change and

storage lanes (left turn deceleration storage lane, right turn deceleration lane, etc.) on Honoapiilani highway at the main entrance to the harbor.

b. Vessels

The harbor entrance is a 610-foot long channel with a varying 150 to 180-foot width. Project depth varies from 12 to 15 feet in depth. Major vessel circulation within the harbor is by means of an 80-foot wide by 670-foot long access channel with a project depth of 8 feet as well as a 1.7-acre turning basin with a project depth of 12 feet. Much of the harbor area, excluding the area adjacent to the existing east breakwater, is already at or below the required depth.

Fairway widths, by State Boating Design Standards, are a minimum of 1.75 times the length of the longest berth served by those fairways. All of the proposed internal harbor geometry is in accordance with the State Boating Design Standards.

5. Utilities

a. Electrical

Existing electrical systems furnishing power to Maalaea Harbor are provided by Maui Electric Company, Ltd. There are basically two independent systems in operation. One system, which receives power from a distribution line along Maalaea Road, supplies all State and private facilities who have requested electrical power. The second system, which receives power from a distribution line along Honoapiilani Highway, supplies only the Seaflite Terminal. Telephone service extends to the Seaflite Terminal, the restaurant and the new U. S. Coast Guard facility.

The proposed improvements include:

(1) High pressure sodium street lighting along the dock edge and adjacent parking areas shall provide 1.0 average maintained footcandles illumination.

(2) Special high pressure sodium post lights will be installed on the docking slips and the existing wharf in front of the condominium properties on the eastern boundary of the harbor.

(3) Fiberglass enclosure with 125 volts rated 30 ampere twist lock receptacle type power outlets will be provided at each slip with individually controlled circuits from a distribution panel. Metering will not be provided.

(4) Metering vault with harbor distribution power panel will serve all of the facilities under the jurisdiction of the Harbors Division. Separate metered services from Maui Electric Company will be obtained by concession tenants, which may include the following:

    (a) Sewage pump out facilities.

    (b) Fueling station.

    (c) Hoist assembly.

    (d) Boat repair.

    (e) It is not anticipated that new freezer facilities will be included within the harbor complex since there are existing facilities on Old Maalaea Road.

(f) Seaflite Terminal.

(5) Harbor facilities will include comfort stations and a small sewage treatment plant, the Harbor Center, street and dock lighting, and power outlets at slips.

(a) Commercial and recreational crafts will have mixed assignment to slips.

(b) Commercial vessels having special power requirements should be located in the near vicinity to Maui Electric Company's transformer. Two locations that can be designated commercial are the northern slips near the proposed metering vault and the slips near the Seaflite Terminal.

(6) Telephone service will be provided by the Hawaiian Telephone Company. Provisions for telephone ducts will be made along the waterfront at the comfort stations and at the Harbor Center.

While the energy demand, as of yet, is not fully developed, its design will be based on accepted County and State design criteria.

b. Water

The existing water systems to the harbor are provided by the Department of Water Supply, County of Maui. There are currently five independent systems.

(1) The Seaflite facility, berths along the south breakwater and the existing restaurant receive water from the 3-inch distribution line along Honoapiilani Highway.

(2) The State maintained public comfort station is serviced by an independent line which ties into a 3-inch distribution line along Honoapiilani Highway.

(3) Water service for the marginal wharf fronting the vehicular and trailer parking area is through a tie-in with the 3-inch distribution line along the Old Maalaea Road.

(4) The Coast Guard Mooring Facility, presently under construction, will be serviced by the 8-inch distribution line which fronts its property line which runs parallel to the Old Maalaea Road.

(5) Water service to both the new (1979) marginal wharf and the existing "Sampan Wharf" is through a tie-in with the 3-inch distribution line along the Old Maalaea Road.

Proposed improvements include new 4-inch water mains to all berthing sectors, to provide water to the hose bibb that will be placed at each berth. A 6-inch fire protection water main will be placed in parallel with the above system to provide the fire demand through the fire hose cabinets spaced at intervals so that all berths are within 100 feet of a fire hose cabinet. All of the above new mains are tied into the existing 8-inch main along Old Maalaea Road. The two parallel lines are required by the County Department of Water Supply. They permit metering of the 4-inch main which will be in continuous use while the 6-inch fire protection main will not be metered.

While the water demand, as of yet, is not fully developed, its design will be based on accepted County and State design criteria.

c. Sewerage

The existing sewerage system currently serving the harbor consists of four independent systems.

(1) The Seaflite facility, not in use at this time, pump its sewage by means of an ejector station located on the south breakwater, adjacent to the Seaflite Terminal. This pumped sewage is disposed of in a cesspool located near the land end of the south breakwater.

(2) The disposal of sewage from the existing restaurant is by means of an injection well located behind the building.

(3) The only State maintained restroom within Maalaea Boat Harbor is located in the northwest corner of the harbor. This facility wastewater is disposed through a cavitette and cesspool system.

(4) The fourth system consists of a sewage pumpout connection and cesspool located by the U. S. Coast Guard dock.

Sewerage requirements include accommodations for boaters, shoreside visitors and all existing facilities within the harbor. A sewage pumpout station is required at the Harbor Center loading dock as the primary means for discharging shipboard waste to a centralized onshore treatment facility. The onshore facilities will be sized and located to accommodate the anticipated boating and shoreside visitor populations in the various sectors of the harbor. Existing facilities which would include onshore facilities (existing restrooms), other marine related facilities (existing

restaurant and USCG Facilities) and independent facilities (Seaflite) will be incorporated into the newly proposed sewage system.

Proposed improvements to the existing sewerage system include the siting of three more public comfort stations: one on the south mole, one on the east mole and one in the Administration Building. The collection and on-site treatment and disposal of sewage are recommended for there are no imminent plans for a County sewerage system for the area around Maalaea Boat Harbor. The proposed improvements were essentially developed in the "Final Planning Document on the State-Wide Sewer System Improvements to Boating Facilities," November 1976 and are still generally valid.

The 1976 harbor population projections were for a boat population of 260, closely approximating the now planned boat population of 251. The projections included a boater population of 1,040 boaters, 100 trailer-boaters and 500 shoreside visitors with projected sewage flows of 11,000 gpd, 1,500 gpd and 7,000 gpd, respectively. The projected sewage flow from these proposed improvements is 19,500 gpd with an additional 240 gpd projected from shipboard waste. Existing facilities are expected to add another 9,000 gpd. The total projected sewage flow is therefore 28,740 gpd with all flows collected and treated before on-site disposal, primarily by injection wells.

Three comfort stations and a sewage pumpout station are proposed to supplement the existing system. One comfort station will be located on the south breakwater. A second comfort station will be located near the new mole at the base of the east breakwater. A third will be located in the Administration Building which will be, along with the sewage

pumpout station at the loading dock, located at the Harbor Center. These proposed facilities along with the four existing systems will be collected at a central treatment and disposal site located at the base of the south breakwater. The collection system consisting of a series of gravity and force mains, will be aided by combination wetwell-sewage pump stations. An interim package sewage treatment plant will treat and dispose effluent by way of a 100-foot deep, 4-inch diameter injection well, paired with one backup well. This interim sewage treatment plant will be phased out when the County sewage system is developed for the area, but this is not currently scheduled for construction. At that time, effluent would be pumped to an interceptor for off-site treatment and disposal.

6. Landscaping

Landscaping upon completion of construction is recognized as a design essential to enhance the visual appearance and enjoyment of the harbor. The final landscaping plan will be coordinated to include all sectors of the harbor into an integrated and pleasing marina setting. Emphasis will be placed upon trees and shrubs requiring little or no maintenance in this dry coastal climate.

Planting areas of colorful shrubs will be used to delineate the harbor areas and to screen parking areas. Uniform, rectangular planting strips will be avoided in favor of the more natural irregular outlines. Emphasis will be placed upon appropriate shade trees. Landscaping will be designed to soften building outlines within the harbor. Coconut palms should be avoided in the areas near boats and buildings because of their high maintenance costs and the hazards from falling coconuts. "Umbrella" type trees, especially those with colorful flowers (Poinciana, Shower, etc.) would be attractive in the open parking areas.

7. Architectural Control

The existing structures within the harbor area do not present any recognizable overall architectural control. They are basically functional and low cost. The proposed harbor improvements offer excellent opportunities for developing not only a functional, safe harbor but also one that is aesthetically pleasing both to the resident boating population and to the shoreside visitors. Particular attention to architectural control will be followed during the design phase.

The centrally located Harbor Center will be the visual centerpiece of the harbor. The proposed two-story Administration Building will therefore warrant particular attention as an opportunity to establish the architectural control of colors and textures in the construction material that can be repeated in the comfort station structures planned for the east mole and the south breakwater.

Construction materials will be selected so as to require little maintenance. Careful consideration will be given to the strong trade winds that prevail at the harbor and to the periodic storm conditions. The rough rock revetments which will line the harbor fill areas will offer a pleasing, natural look to the harbor perimeter and to the Harbor Center. Fixtures and accessories in public facilities will be designed for the marine environment and will be made vandal-proof to the extent practicable.

8. Arrangements for Implementation

a. Institutional Responsibilities

The authorized plan for construction of harbor improvements at Maalaea Harbor, Maalaea, Island of Maui, is described in detail in the Chief of Engineers' report, dated 11 April 1968. The report is contained in House Document No. 353, 90th Congress, 2nd Session.

The recommended Federal plan of improvements provides for the dredging of a new entrance channel, a turning basin and an access channel, together with the construction of an extension to the existing south breakwater, including an exterior revetted mole. This Federal project will be jointly funded by the Federal and State governments. The State project is concerned with the increased internal berthing accommodations and the general improvements to the support facilities throughout the harbor.

Federal participation in the construction and maintenance of the harbor project recommended in this report will be subject to the conditions that local interests will satisfy the following requirements:

(1) Provide without cost to the United States all lands, easements, and rights-of-way required for the construction and subsequent maintenance of the project and aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for the initial and subsequent disposal of spoil, and also provide necessary retaining dikes, bulkheads, and embankments therefor or the costs of such retaining works;

(2) Hold and save the United States free from damages due to the construction work or subsequent maintenance of the project when not due to the fault or negligence of the United States or its contractors;

(3) Assure continued public ownership and use of the facilities upon which the amount of Federal participation is based during the economic life of the project;

(4) Provide and maintain without cost to the United States necessary berthing or mooring facilities and attendant utilities, including a public landing with suitable supply facilities open to all on equal terms;

(5) Provide and maintain without cost to the United States depths in the berthing and mooring areas, and in the local access channels commensurate with the depths provided in the related project areas;

(6) Provide and maintain without cost to the United States all appropriate onshore structures, access roads, parking areas, public restrooms, and boat launching and retrieving facilities as necessary to insure a complete and adequate project;

(7) Accomplish without cost to the United Stated such utility, drainage, or other relocations or alterations as necessary for project purposes;

(8) Establish regulations prohibiting discharge of untreated sewage, garbage, and other pollutants in the waters of the harbor by users thereof, which regulations shall be in accordance with applicable laws or regulations of Federal, State, and local authorities responsible for pollution prevention and control; and

(9) Contribute in cash prior to construction of the project a lump sum payment in the estimated amount of $1,645,000 which is 35.5 percent of the estimated first cost of construction by the Corps of Engineers, the final contribution to be adjusted after actual costs have been determined.

The Harbors Division, Department of Transportation, State of Hawaii, the local cooperating agency, has reviewed plans of the harbor project and has indicated full support of the proposed Federal project. Additionally, the Harbors Division, as the representative of the State of Hawaii, has assured the District Engineer that it is willing and able to fulfill the necessary requirements of local cooperation and desires to undertake the project upon Federal approval.

The principal officer presently responsible for compliance with the local cooperation requirements of the project is:

R. Higashionna, Ph.D, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

b. Implementation Steps

Construction will be in two major phases. The first phase will include the marine construction activities of dredging, compacting fill and rock revetment construction. This phase should proceed concurrently with the Federal project which includes the same tasks at the entrance channel and at the mole on the south breakwater. The second construction phase will include the concrete piers and berths, the Administration Building, utilities, pavements and parking stalls.

9. Phasing and Cost Estimates

a. Phasing

It is desirable to develop phases of construction to accommodate the usually limited levels of funding which become available on a fiscal year basis. With this project, significant cost reductions can be realized if the construction of the State's waterfront work can proceed concurrently

with the Federal-State project, thereby achieving economies of scale and of single mobilization-demobilization costs.

The first significant expenditure of State funds for construction will be for the State's share of the Federal-State project. The Phase I construction effort of the State project will include those waterfront tasks (dredging, compacting fill and rock revetments) which should be concurrently constructed with the Federal-State project. The Phase II construction efforts of the State project will include all of the remaining tasks to improve the harbor as planned in the Design Guide. In the following breakdown of cost estimates, sufficient detail is provided to permit additional phases to be developed from Phase I and/or Phase II to accommodate extended funding levels as may be required. All cost estimates are as of May 1982.

b. Phase I - Cost Estimate (As of May 1982)

Item		Cost Estimate
(1) Federal-State Project Improvement (State's Share Only)		
35.5% of Corps of Engineers' Cost ($4,640,000)	$1,647,200	
Additional Non-Federal Cash Contributions:		
Exterior Revetted Mole	140,000	
Land Enhancement	5,000	
Jan 1980 Cost	$1,792,200	
Cost Escala. @ 10%/Yr to May 82	$2,210,380	
SAY		$ 2,210,000
(2) Dredging: Harbor Center		23,300
East Mole		104,200
(3) Compacting Fill: Harbor Center		43,300
East Mole		24,400

(4) Rock Revetment: Harbor Center		170,800
East Mole		96,500
TOTAL PHASE I		$ 2,672,500

c. Phase II - Cost Estimate

(1) Harbor Center

(a)	Concrete Piers and Fixtures	$ 404,800
(b)	Concrete Loading Docks	183,000
(c)	Concrete Culverts (Causeway)	46,600
(d)	Administration Bldg. (w/comfort station)	409,200
(e)	Utilities - Sewerage	51,200
(f)	Utilities - Water	104,200
(g)	Utilities - Electrical and Communications	280,600
(h)	Road and Parking Area Pavements	140,800
(i)	Fuel Facilities	35,500
(j)	Sewage Pumpout	53,200
(k)	Jib Crane, w/Hoist	11,100
(l)	Landscaping	11,100
(m)	Miscellaneous Construction	11,100
	SUBTOTAL	$ 1,742,400

(2) East Mole

(a)	Concrete Piers and Fixtures	$ 824,000
(b)	Concrete Culvert (Drainage)	59,900
(c)	Comfort Station	66,500
(d)	Utilities - Sewerage	43,600
(e)	Utilities - Water	117,600
(f)	Utilities - Electrical and Communications	339,400
(g)	Road and Parking Area Pavements	108,700
(h)	Landscaping	11,100
(i)	Miscellaneous Construction	11,100
	SUBTOTAL	$ 1,581,900

(3) Other Harbor Areas		
(a)	Demolition of Existing Berths	$ 16,600
(b)	Concrete Piers, Marginal Wharf and Fixtures	1,103,500
(c)	Comfort Station	66,500
(d)	Utilities - Sewerage	372,600
(e)	Utilities - Water	226,200
(f)	Utilities - Electrical and Communications	372,600
(g)	Roads and Parking Area Pavements	198,500
(h)	Landscaping	44,400
(i)	Miscellaneous Communications	11,100
	SUBTOTAL	$ 2,412,000
	TOTAL PHASE II	5,736,300
	TOTAL PHASES I & II	$8,408,800

SECTION 3
DESCRIPTION OF THE EXISTING ENVIRONMENT

The existing physical, economic and social environment in the planning area is described in this section. These conditions were considered when analyzing the alternatives and determining the impacts of the proposed action.

A. PHYSICAL ENVIRONMENT

The Corps of Engineers' Design Memorandum No. 1 entitled "Maalaea Harbor for Light-Draft Vessels" includes a Final Environmental Impact Statement which addresses the environmental impacts of the Federal project upon the environment, including the impacts on the humpback whale, surfing sites and reef resources (See Appendix A).

1. General

The Hawaiian Islands extend from Kure Atoll and the Midway Islands to the Island of Hawaii, a distance of nearly 2,000 miles. There are 6 major islands which comprise the State of Hawaii. From west to east they are Kauai, Oahu, Molokai, Lanai, Maui and Hawaii.

The project is located on the Island of Maui, the Valley Isle. It is the second largest island in the State. Maui has an area of 728 square miles and is approximately 58 miles southeast of Oahu. It is composed of 2 volcanoes which are joined together creating an isthmus between them. The older volcano gives rise to the West Maui Mountains and reaches an elevation of 5,788 feet. Haleakala, the second volcano, rises to 10,025 feet and encompasses the majority of Maui's land mass. Where these two volcanoes meet is the Central Maui isthmus which is a relatively level alluvial plain.

2. Climate

The climate on Maui varies according to altitude and to a lesser extent with position to windward or leeward. In the lowlands the

climate is semitropical while on the higher slopes of Haleakala it becomes temperate. The average temperature in the Kihei District where Maalaea is located ranges from the high 80's in summer to the high 60's during winter.

The Kihei District receives less than 15 inches of rain a year, making it an arid area. Most of the rain is produced by the higher intensity Kona rains during the winter months. This rainfall pattern tends to cause serious runoff and flooding problems which affects the lowlying areas. Fortunately, these conditions usually occur only a few days of the year.

Lying in the Tropic of Cancer the Hawaiian Islands are dominated by northeast trades for 70 percent of the year. These winds are most constant during the spring and summer months. The winter months are characterized by "Kona" weather conditions which are local low pressure systems replacing the trades. These conditions range from gale force, southerly winds with heavy rains to calm, humid or rainy weather.

The trade winds are especially affected by local topographic conditions on Maui. Coming from the northeast they become northerly as they are funneled between the mountains of east and west Maui and can obtain speeds greater than 25 miles per hour at Maalaea. Maalaea Harbor is also significantly affected by the two wave conditions described in Section 2 above.

3. Tsunami Zone

Maalaea Bay is located on the isthmus between east and west Maui which is a lowlying coastal area. This places it within the tsunami flood zone and subjects it to potential tsunami or seismic sea wave inundation. A severe tsunami condition may cause an abnormal rising and falling of the sea level. This can result in flooding of lowlying areas and the grounding of boats in the harbor.

4. Water Resources

The community of Maalaea is served by the Wailuku Water System. It is the largest public water system on Maui. It services Wailuku, Waihee-Waiehu, Wailuku Heights-Waikapu, Kahului (including the Airport), Spreckelsville and Paia-Kuau and the Maalaea-Kihei-Makena areas. Water for the Maalaea-Kihei-Makena area is supplied by a well in Waihee.

5. Geology and Soils

The undersea mountain range that makes up the Hawaiian Islands was almost wholly built up by volcanic activity. Maui is part of a large volcanic mass of two volcanoes. West Maui is geologically older as is evident from the valleys caused by a long process of erosion that is still continuing. East Maui is dominated by Haleakala still considered as potentially active. The lavas of Haleakala meet with the existing slopes of West Maui, creating the broad plain of the Maui Isthmus.

According to Sterns and MacDonald's "Geology and Ground-Water Resources of the Island of Maui," the geology around Maalaea has been classified as "Ra," unconsolidated deposits. This is chiefly younger alluvium consisting of unconsolidated, poorly sorted, poorly rounded, stream-laid brown silt, sand and gravel. There are small amounts of calcareous beach sand along the shore. Maalaea itself is a point of geologic interest in that it has a fossiliferous marine conglomerate overlain by silt. The Soil Survey by the U. S. Department of Agriculture classifies the soil in the Maalaea area as Ewa silty clay, 3 to 7 percent slopes in the Ewa series.

6. Coastal Water Quality

Under Chapter 37A of the Water Quality Standards, Public Health Regulations, issued by the Department of Health, State of Hawaii,

the embayment waters of Maalaea Harbor has been given the designation of Class A as stated in Section 3.3, Classification of Water Uses. The definition of this designation reads as follows:

"CLASS A - It is the objective of this class of waters that their use for recreational purposes and aesthetic enjoyment be protected.

Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. Such waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new industrial or sewage discharges will be permitted within embayments."

Maalaea is also covered under Section 3.4, Marine Bottom Ecosystems, as Class II. The definition for this designation is as follows:

"CLASS II - It is the objective of this class of marine bottom ecosystems that their use for protection and/or propagation of fish, shellfish, and wildlife, and for recreational purposes not be limited in any way.

The uses to be protected in this class of marine bottom ecosystems are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation. Any action which may permanently or completely modify, alter, consume, or degrade marine bottoms, such as structural flood control (channelization, dams); landfill and reclamation; navigational structures (harbors, ramps); structural shore protection (seawalls, revetments); and wastewater effluent outfall structures may be allowed upon securing approval in writing from the Director of Health, considering the environmental impact and the public interest pursuant to HRS 342-6, 342-32 and -33 and in accordance with the applicable provisions of the Administrative Procedures Act, Chapter 91, H.R.S."

Section 6.1 also lists the "Specific Criteria for Embayments" regarding water quality criteria (see Table 2). Maalaea Harbor is classified as a "Seasonally Wet" embayment.

Section 7.4 also includes Maalaea Harbor under the heading of "Artificial Basins" as a shallow draft recreational harbor. Artificial Basins are defined as dredged or quarried channels or harbors, and harbor-associated submerged structures. Many organisms

TABLE 2

WATER QUALITY STANDARDS FOR EMBAYMENTS

Parameter	Geometric Mean Not to Exceed the Given Value	Not to Exceed the Given Value More than 10% of the Time	Not to Exceed the Given Time
Total Kjeldahl Nitrogen (ug N/l)	200.00* 150.00**	350.00* 250.00**	500.00* 350.00**
Ammonia Nitrogen (ug NH_4-N/l)	6.00* 3.50**	13.00* 8.50**	20.00* 15.00**
Nitrate & Nitrite Nitrogen (ug (NO_3 +NO_2)-N/l)	8.00* 5.00**	20.00* 14.00**	35.00* 25.00**
Orthophosphate Phosphorus (ug PO_4-P/l)	10.00* 7.00**	25.00* 12.00**	40.00* 17.00**
Total Phosphorus (ug P/l)	25.00* 20.00**	50.00* 40.00**	75.00** 60.00**
Light Extinction Coefficient (k units)	0.40* 0.15**	0.80* 0.35**	1.20* 0.60**
Chlorophyll a (ug/l)	1.50* 0.50**	4.50* 1.50**	8.50* 3.0**
Turbidity (Nephelometric Turbidity (Units)	1.50* 0.40**	3.0* 1.00**	5.0* 1.50**
Non-Filtrable Residue (ug/l)	25,000.00* 15,000.00**	40,000.00* 25,000.00**	50,000.00* 35,000.00**

*"Wet" criteria apply when the average fresh water inflow from the land equals or exceeds 1 percent of the embayment volume per day.

**"Dry" criteria apply when the average fresh water inflow from the land is less than 1 percent of the embayment volume per day.

Applicable to both "wet" and "dry" conditions:

pH Units shall not deviate more than 0.5 units from a value of 8.1.

Dissolved Oxygen - Note less than 75 percent saturation.

Temperature - Shall not vary more than 1°C from ambient conditions.

Salinity (ppm) - Shall not vary more than 10 percent from natural or seasonal changes considering hydrologic input and oceanographic factors.

can attach to the vertical structures, but the soft, shifting sediment bottoms of harbors may only be colonized by a few hardy or transient species.

Maalaea is periodically inundated with silt coming from the agricultural lands north of the harbor. Three drainage pipes empty into the harbor with storm drain water bearing silt. At times silt deposits become severe enough to warrant dredging. This is especially so in times of heavy storms. An example of this condition is the storm of January 1980 when enough silt was deposited to strand some boats after the storm.

7. Historical and Archaeological Sites

In their report, "A Cultural History Overview of the Kahoma Stream Flood Control Project, Lahaina, Maui and the Maalaea Boat Harbor Project, Maalaea, Maui, Hawaii; Sept. 1979," Pauline K. Joerger and Michael W. Kaschko state the following about Maalaea Harbor:

"Maalaea Bay has had an important place in Hawaiian history as a stopover or transit place for travelers. One recorded event told by Kamakau was the procession which took the remains of the chief Kekaulike by canoe to Maalaea and then by land to Wailuku and Iao Valley (Kamakau, 1961:69). Other references in the writings of travelers were made to their arrival by canoe or small boat at Maalaea. At the end of the 19th Century a pier extended out from the shore into the sea (Figure 2).

By 1902 this pier was in a 'condition of extreme dilapidation' (Superintendent of Public Works, 1902:78-79). For reasons which were not stated, the Superintendent of Public Works of the Territory of Hawaii did not believe that Maalaea was suitable for the construction of a wharf. Instead he made plans for the Territory to build one near McGregor's Point (Superintendent of Public Works 1902:78-79, 1904:11, 1905:5-6; Maui News, 1906).

During World War II Maalaea Bay was used by the 4th and 5th Marine Divisions in joint ship-to-shore rehearsals before the 1945 battle of Iwo Jima (Allen, 1950:190). Maalaea was also used for amphibious landing practice (Allen 1950:190).

By the 1950's modern construction of a small boat harbor was begun (Board of Harbor Commissioners, 1951:9, 1952:8, 1953:8). By

March of 1953 a breakwater and dredging were completed. By 1958 a second breakwater was constructed. On maps and drawings these are designated as the west breakwater and the east breakwater (Hill, 1979:1).

In 1975 Pacific Sea Transportation, Ltd., began its interisland ferry service with the use of hydrofoils. The first boat, the Kamehameha, arrived at Maalaea and docked at a Sea Flite terminal which the company had constructed near the west breakwater (Department of Transportation, 1975:18, 20). SeaFlite continued to operate its ferry until the end of 1977.

The small boat harbor has been used as a mooring place for commercial fishing boats, charter boats and pleasure craft. The Coast Guard cutter Cape Newagen, a search and rescue vessel, is based at the harbor. There is a waiting list for mooring space at the harbor. In 1974 50 boats were on the list. By 1975 the number had increased to 131 (Department of Transportation, 1974:27, 1975:23).

Captain Percy A. Lilly, Jr. (Personal Communication), noted that Maalaea dry dock was used extensively. The small boat harbor would continue to be used, he felt, for small operations of commercial fishermen, charter boats and private vessels.

An interesting cultural attribute has become associated with Maalaea Small Boat Harbor and its breakwaters. Two areas in front of the jetty at Maalaea harbor and at Maalaea reef on the Kihei side of the harbor have been described as surfing areas (Facilities Manual, 1975:151-152).

While both areas are used today, it is off the west and east breakwaters where the experienced and expert surfers ride the waves. It is, however, off the east breakwater where "the best, fastest, and most beautiful tubes in the world" exist, according to John Severson, editor of Surfer magazine (Hill, 1979:8). Thus, changes in the entrance to the harbor could alter this surfing site.

A quick review of the works on surfing in the Hawaiian Collection at Hamilton Library did not identify Maalaea as an important surfing site in the first half of the 20th Century. Similarly, a review of the articles on surfing in Paradise of the Pacific brought about the same result. Maps showing ancient and modern surfing sites did not include Maalaea (Finney, 1959:48 passim). Residents of Maui, when questioned, stated that they remembered surfing at Maalaea every weekend and all summer about 30 years ago. With further questioning it became apparent that the most commonly used surfing area was at the reef on the Kihei side of the harbor."

According to resources at the Department of Land and Natural Resources' Historic Sites Office, there is also a historic site recorded for the area. Referred to as Site No. 50-09-1286 it is otherwise known as the Maalaea piko stone. This site is also included within District or Complex Site. No. 50-09-1400. The location of this stone will not be disturbed or affected by either the State or Federal project.

8. Flora and Fauna

Due to the rainfall distribution of the area, plant life is restricted to a few hardy species. The dominant vegetation species of Maalaea Bay area are kiawe (prosopis pallida) and bristly foxtail (Setaria verticillata). Both are exotic species introduced into the area. Planted along the south breakwater are coconut (Cocos nucifera) and ironwood (Casuarina equisetifolia). Ground cover consists of akulikuli (Sesuvium portulacastrum) and beach naupaka (Scaevola taccada). The seaside heliotrope (Heliotropium Curassavicum) is also found along the breakwater. Approximately 100 yards from the harbor can be found pauohiiaka (Jacquemontia sandwicensis) and the hoary abutilon (Abutilon incanum). Both are native species. The mao (Gossypium tomentosum Nutt) has also been reported for the general vicinity of the project area and there are also a variety of weeds and grasses growing.

According to a survey done by the U. S. Department of the Interior, Fish and Wildlife Service, two species of exotic passerine birds were observed in the area. These were the mynah (Acridotheres tristis) and house sparrow (Passer domesticus). Various gamebirds are known to inhabit inland areas of the bay but the immediate harbor area is not an optimal habitat for them. These include the ring-necked pheasant (Phasianus colchius torguatus), grey francolin (Francolinus pondicerianus),

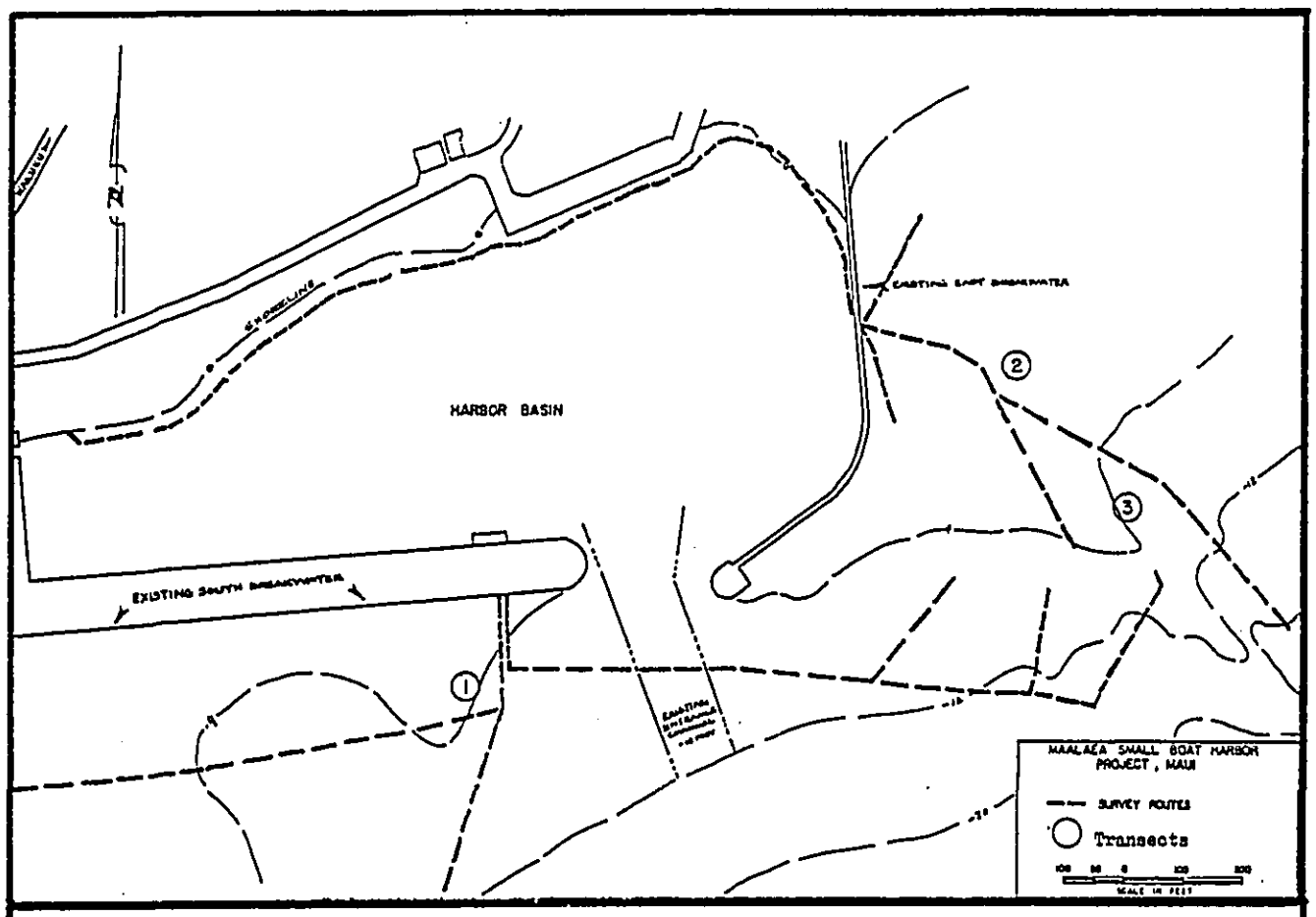
lace-necked dove (Streptopelia chinensis) and barred dove (Geopelia striata).

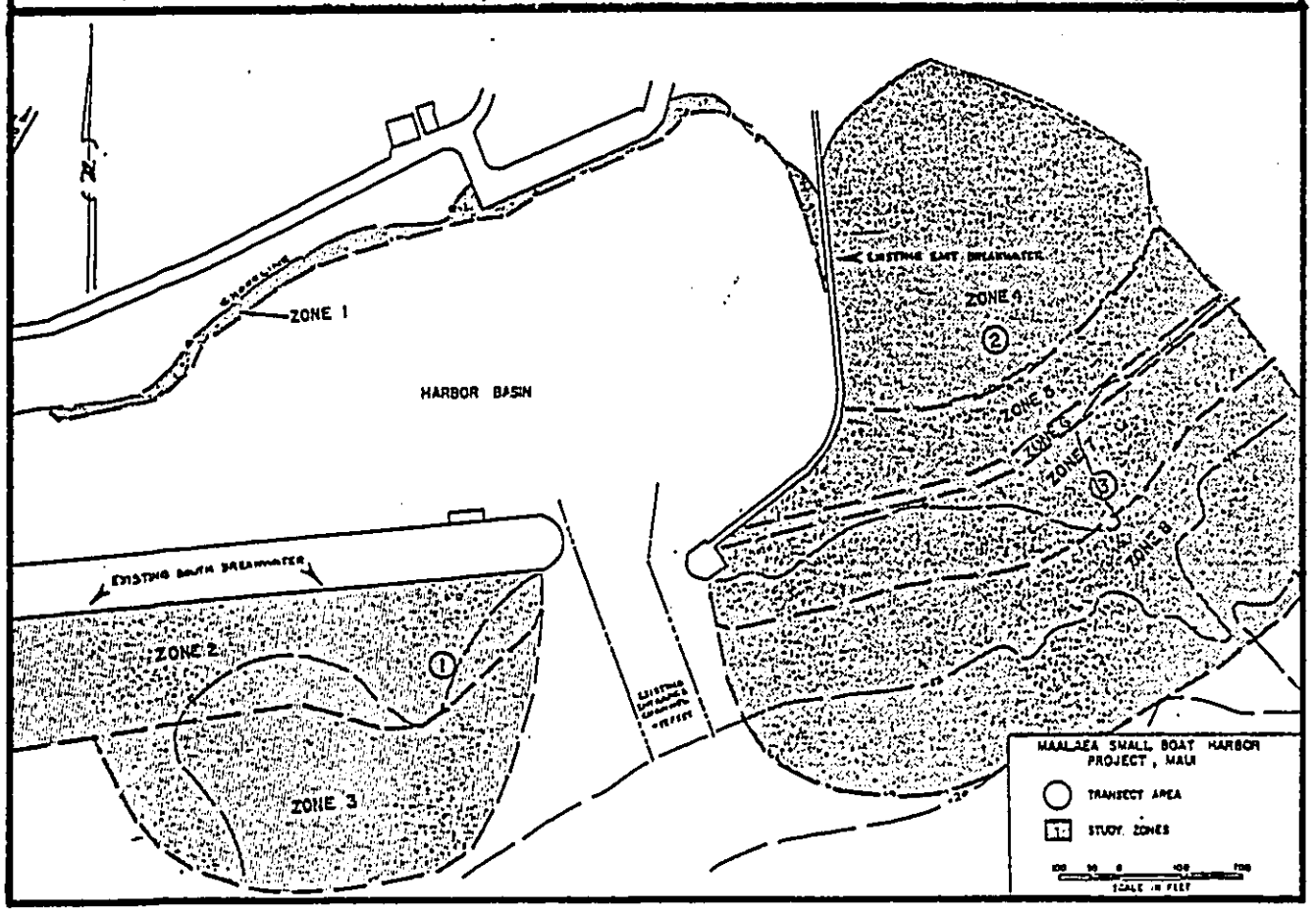
The Department of Land and Natural Resources Forestry and Wildlife Office also lists the housefinch (Carpodacus mexicanus), mockingbird (Mimus polyglottos), Northern cardinal (Cardinalis cardinalis) and Japanese White-eye (Zosterops japonica) as part of the avian population. A possible inhabitant is the spotted Munia (Lochura punctulata). Although the pueo or Hawaiian owl is considered an upland bird, it may be seen flying about the harbor area. This is also probably true for the introduced Barn Owl (Tyto Alba). It has been speculated that the condominum construction in the area has prevented common migratory birds such as the wandering tattler (Heteroscelus brevipes) and golden plover (Pluvialis dominica fulva) from using the small beach there.

The mammal population is limited to exotic introductions. These include the domestic cat (Felis domesticus), dog (Canis familiaris), house mouse (Mus musculus domesticus), both black and brown rats (Rattus rattus and Rattus norvegicus, respectively), the Hawaiian rat (Rattus exulans hawaiiensis) and the mongoose (Herpestes auropunctatus).

Reptiles include members of the Scincidae family or skinks, Gekkonidae or geckos and the Iquanidae or iquanas. These are all introduced species.

The following information has been obtained from a Department of Interiors, U. S. Fish and Wildlife Service Report dated June 1980 for Maalaea Harbor. The data on the marine fauna is the result of a two-day survey (Figure 8) to classify habitat types and their species composition, diversity and relative abundance.





Ref: Maalaea Harbor for Light-Draft Vessels
General Design Memorandum and Final
Environmental Impact Statement
Appendix D: US Fish and Wildlife Report
US Army Corps of Engineers, July 1980

FIGURE 8

SURVEY ROUTES
AND STUDY ZONES

Eight major physiographic distinctions were identified. Of these eight, only Zone 1 deals with the interior of the harbor basin. The remaining seven are involved with areas outside the breakwaters.

Zone 1 has been classified as follows: depth 5 feet; visibility 3 feet (turbid); temperature 23°C; salinity 32 o/oo. This zone follows the northern edge of the harbor along the dock and down along the eastern breakwater up to the point where the survey routes outside the harbor area branch off. Of the two marine algae phyla, Chlorophyta and Rhodophyta, found in the project vicinity, none were represented in Zone 1. The same applies to the orders Scleractinia (stony corals) and Zoanthinaria (soft corals) which make up the substrate composition within Maalaea Bay. There are only two phyla of macroinvertebrates represented in Zone 1. In the phylum of Arthropoda, the family Grapsidae is represented by Grapsus grapsus tenuicrustatus, or the a'ama, and Sesarma augustifrons an amphibious crab. The family Ocypodidae or ghost crabs is also found here. The a'ama is termed as being "abundant" whereas the other two are "occasional." These terms refer to the abundance in which they are found. The class Pelecypoda in the phylum Mollusca is represented in an "abundant" quantity by Crassostrea giga. The class Gastropoda in the same phylum is represented by the pihi (Cellana exarata), common nerite (Nerita picea), granulated morula (Morula granulata), and dotted periwinkle (Littorina pintado pintado). These are all termed as "abundant."

Among the fishes found during the survey, only a few inhabited the harbor basin. The family Acanthuridae is represented only by the manini (Acanthurus triostegus sandvicensis) and these in "abundant" numbers. The family Engraulidae is represented by the nehu (Stolephorus purpureus) which is also termed abundant. Aholehole (Kuhlia sandvicensis) of the Kuhliidae family, and the

barracuda (Sphyraena barracuda) of the Sphyraenidae family are found in "occasional numbers. Maalaea Harbor also supports a short, but intense seasonal, recreational fishery of hahalalu (Selar crumenophthalmus).

The lack of abundant marine flora can be attributed to the harbors characteristics. The existing harbor acts as a silt trap for three upland drainage channels emptying into the basin. The sediment originates from natural erosion and more directly from agricultural activities in the Kealia floodplain. However, the barracuda, nehu and aholehole, all estuarine species, are able to find a habitat here. Most of the molluscs observed were found in the eastern portion of Zone 1 which consists of reef-mud flats and in Zone 4 along the breakwater. Most common were the opihi, granulated morula and the common nerite.

Another marine life form found in Maalaea Bay but not directly associated with the harbor is the humpback whale (Megaptera novaeangliae). This member of the Cetacean order winters in the waters of Hawaii through the months of November through May. Evidence supports that these mammoths of the sea perform breeding, calving and nursing activities in Hawaiian waters. They are protected as an endangered species under Federal and International law. Surveys taken to determine the winter population in Hawaiian waters seem to indicate heavy usage in the area bounded by Molokai, Lanai, Maui and Kahoolawe. The Kihei coast from McGregor Point to Cape Kinau together with the northeast coast of Lanai and south coasts of Molokai appear to be important calf-rearing areas in this four-island region. Sightings for the McGregor to Kinau area are heaviest in January, February and March with peak sightings in February. Usage patterns of Hawaiian waters appear to indicate that the greatest number of whales occur in areas far from areas of dense human population or usage. Therefore, whales are most often seen in waters off rural or little inhabited areas.

B. ECONOMIC ENVIRONMENT

1. Maui

In 1953 the main industry of Maui was agriculture. It included sugar, pineapple, cattle and diversified truck farming. Forty-seven percent of Maui's population provided the work force for three sugar and six pineapple companies. The population at that time was 37,966. The rest of the business community supported the agricultural industry and resident population. It included 18 construction companies, 13 hotels, 26 small restaurants, 45 doctors, lawyers and dentists, one architect, and 149 "mom 'n pop" retail stores. The agricultural sector had little expansion. This in turn affected the rest of the business community, forcing the young people to emigrate to either Honolulu or the Mainland. Between 1940 and 1960, 11,200 people migrated out of Maui.

Prior to 1954 there were 13 small hotels which catered essentially to commercial travelers. In 1954, the Maui Palms, the island's first tourist-oriented hotel opened, paving the way for the tourist industry on Maui. It is now the major industry, having supplanted agriculture. Evidence of this is reflected in the shifting of the working population. In 1952, 49 percent of Maui's work force supported the agricultural industry. By 1977, this had dropped dramatically to a mere 9 percent. This occurred when the total number of jobs increased by 87 percent. The increased number of jobs was probably a creation, directly and indirectly, of the visitor industry. The resident population also showed dramatic upswing with a 45 percent increase between 1953 and 1975. Population growth is greatest in Lahaina (including Kaanapali and Honolua) and Kula-Kihei where most of the hotels and visitor-oriented condominiums are concentrated. During the period 1970 to 1975 the resident population in Lahaina grew from 5,524 to 9,278 and from 3,670 to 9,347 in the Kula-Kihei area.

Personal and per capita income has far outstripped even the capital and business center of Honolulu. It has been rated as the fastest growing County, comparing a 120 percent growth rate to Honolulu's 59 percent. This has been a direct result from the visitor industry.

2. Maalaea

Maalaea has a small boating community where fishing has been the main occupation for decades. This is due to its protected bay and also its close proximity to Honoapiilani Highway, which is the main vehicular artery linking Lahaina to Wailuku-Kahului and to the Kula-Kihei area. It lies in the State designated district of "Urban" development which extends one mile north and west of the boat harbor. The County has classified the land immediately surrounding the harbor as "Light Industrial (M-1)." A narrow strip running northeast along the shore has been designated "Apartment A-2." Within this designated area, a steady increase in resort condominiums has occurred. The harbor's breakwater and revetment are classified for "Public Use." Two parcels of land, designated "Business (B-2)" and "Residential (R-2)," are north of the harbor and extend partially into the State-designated Agricultural land. In 1980 these two zones had not yet been developed and was still in sugar cane cultivation. West of Maalaea is another "Residential (R-3)" zoned area that extends up the mountain slope. This also is as yet undeveloped. Immediately southwest of the harbor is an area zoned for "Park." This is the site of an undeveloped park.

In 1970 only the Halekini-Polynesia, a small cottage resort existed in the harbor area. By mid 1980, 18 resort-condominiums had been completed with another under construction. Thus, a steady tourist-oriented growth is seen in Maalaea.

C. SOCIAL ENVIRONMENT

1. Maui

As of 1975 the population of Maui was evenly divided between males and females. The average age was 33 years with 50.2 percent under 29 years and 49.8 over 30. Those of school age represented 34.5 percent of the population and those 60 years of age and over accounted for 14.7 percent (see Table 3). The primary work force which is comprised of those over 20 and under 60 claimed 50.8 percent of the population.

Those of Japanese extraction made up 27.0 percent of Maui's population during this time. The Caucasians were second with 23.5 percent. Hawaiians and part-Hawaiians came next with 19.8 percent and Filipinos followed with 12.3 percent. The rest of the population were comprised of those with mixed ancestry, the Portuguese, Blacks, Chinese, Koreans, Puerto Ricans Samoans and others. The percentages of the races are indicated in Table 3.

The majority of Maui's population had a high school education or less. This constituted 66.7 percent of the population. Approximately 9 percent had a college degree or had done post-graduate work and 2.6 percent had completed business or trade school.

2. Maalaea

Maalaea has no community services within its limits other than the U. S. Coast Guard and the Harbor Division, of the State Department of Transportation. The nearest police station is located in Wailuku and the nearest fire department is in Kihei. Hospital facilities are in Wailuku with clinics located in Wailuku and Lahaina. Ambulance service is available to Maui Memorial Hospital in Wailuku. Private cesspools and eight small private sewage treatment plants servicing individual resort condominiums are the only sewage disposal facilities available in the area.

TABLE 3

POPULATION CHARACTERISTICS
MAUI ISLAND, 1975

		Total Number[1/]	Percent[2/]
Sex	Male	23,800	50
	Female	23,800	50
		47,600	100
Age	0-9	7,140	15.0
	10-10	9,282	19.5
	20-29	7,473	15.7
	30-39	5,522	11.6
	40-49	5,141	10.8
	50-59	6,045	12.7
	60-69	4,332	9.1
	Over 69	2,665	5.6
		47,600	100.0
Ethnicity			
	Japanese	12,852	27.0
	Caucasian	11,186	23.5
	Hawaiian & Part Hawaiian	9,425	19.8
	Filipino	5,855	12.3
	Mixed	4,284	9.0
	Portugese	2,380	5.0
	Black	571	1.2
	Chinese	381	0.8
	Other	333	0.7
	Korean	143	0.3
	Puerto Rican	143	0.3
	Samoan	47	0.1
		47,600	100.0
Education			
	Under 6 Years Old	4,522	9.5
	No Schooling	714	1.5
	Grades 1-8	12,709	25.7
	Grades 9-11	6,521	13.7
	High School Graduate	11,757	24.7
	Some College	5,807	12.2
	Bachelor's Degree	2,999	6.3
	Some Graduate Work	476	1.0
	Graduate Degree	857	1.8
	Business/Trade School	1,238	2.6
		47,600	100.0

1/Environmental Capital Managers, Inc., based upon most recent 1975 population estimates for Maui Island.

2/Obtained for Maui Island from: Survey and Marketing Services, Inc., OEO 1975 Census Update Survey - Maui County, Honolulu, Hawaii, February 1976.

Source: Environment Capital Manager, Inc., Economic Base Study, Maui Island 1980-2035. Prepared for U. S. Army Engineer Division, Pacific Ocean, 1978.

Maalaea's Boat Harbor and its associated surfing sites provide recreation opportunities for the area. The projected Kapoli Park will also enhance the recreational resources for Maalaea. In addition, Maalaea Bay Beach has become a major tourist attraction. This beach is east of Maalaea and stretches for 4 miles along the shore. The bay itself is popular for snorkeling, scuba, spear-fishing and shell collecting. The surfing sites on each side of the harbor are known as "Maalaea Pipeline" and "Off-the-Wall." The harbor is also extensively used by commercial fishermen. There is a 100,000-pound capacity cold storage plant at the harbor's edge which is operated by the Fresh Island Fish Company.

The social problems and needs of the Maalaea Boat Harbor Community are reflections of the present physical conditions and facility inadequacies. Navigational problems include severe harbor surging and navigational difficulties at the harbor entrance and in the basin. There is also a shortage of berths and harbor facilities servicing the fishing and boating community.

The problem of surging results from the present configuration and alignment of the harbor entrance which allows direct wave attacks through the opening. When wave heights exceed 2 feet at the entrance, significant surging is reported within the harbor basin with surging conditions becoming severe when waves occur at 6 feet and greater. This results in many instances of even heavy mooring lines being broken. Boat owners are forced to remain continuously with their endangered craft. Some vessels, including the Coast Guard Cutter, Cape Newagen, stationed at Maalaea, are forced to leave the harbor, leaving harbor users without assistance when it is most needed. These heavy surging conditions are reported to be significant 10 to 20 days of the year.

Surge conditions also limit the mooring capacity of the basin. During times of heavy surge, portions of the harbor become unsafe

for berthing. This has resulted in a shortage of berths, which is common throughout the State of Hawaii. Maalaea is one of the few harbors with the potential for additional mooring capacity once the present surging conditions are alleviated. The proposed Federal project will reduce the surge significantly.

Other inadequacies affecting harbor users are the inadequate availability of fresh water, electricity, fuel and equipment storage space. There is only one ramp available to harbor users and it provides both drydock functions and trailer boat launchings. This limits boat launching and retrieving activity. Parking space is also a very limited convenience for cars and boat trailers. Fuel needs of the boats are met by trucking fuel out to the berths.

SECTION 4

RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE

A. LAND USE PATTERNS

1. State Land Use

The State Land Use Commission has designated (Figure 9) the project site and areas adjacent to it as Urban. North of the harbor, the land is designated Agricultural, to the east and west it is Conservation. No conflict exists with project or the Commission's plans, policies and controls for this area.

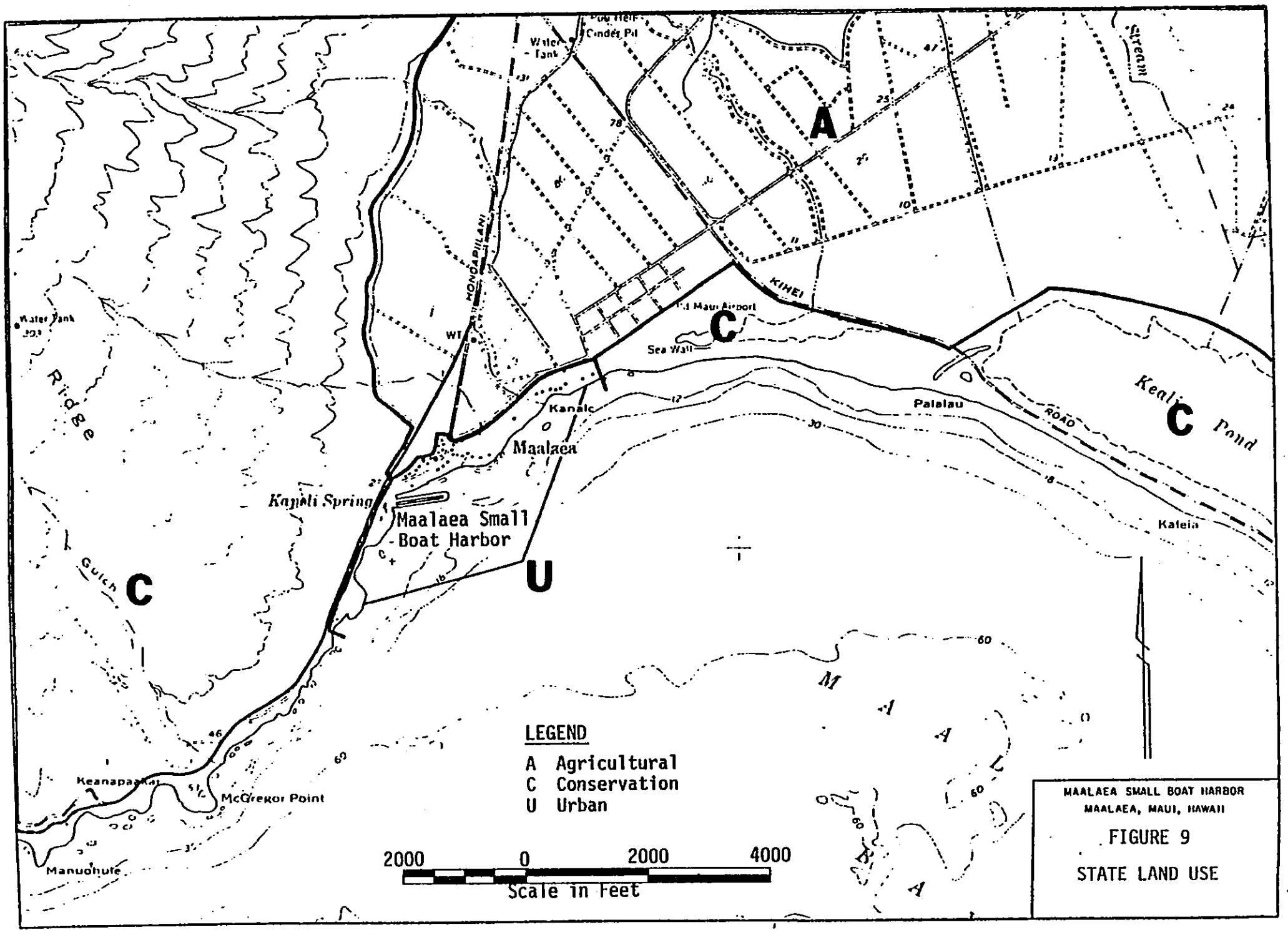
2. County of Maui Land Use

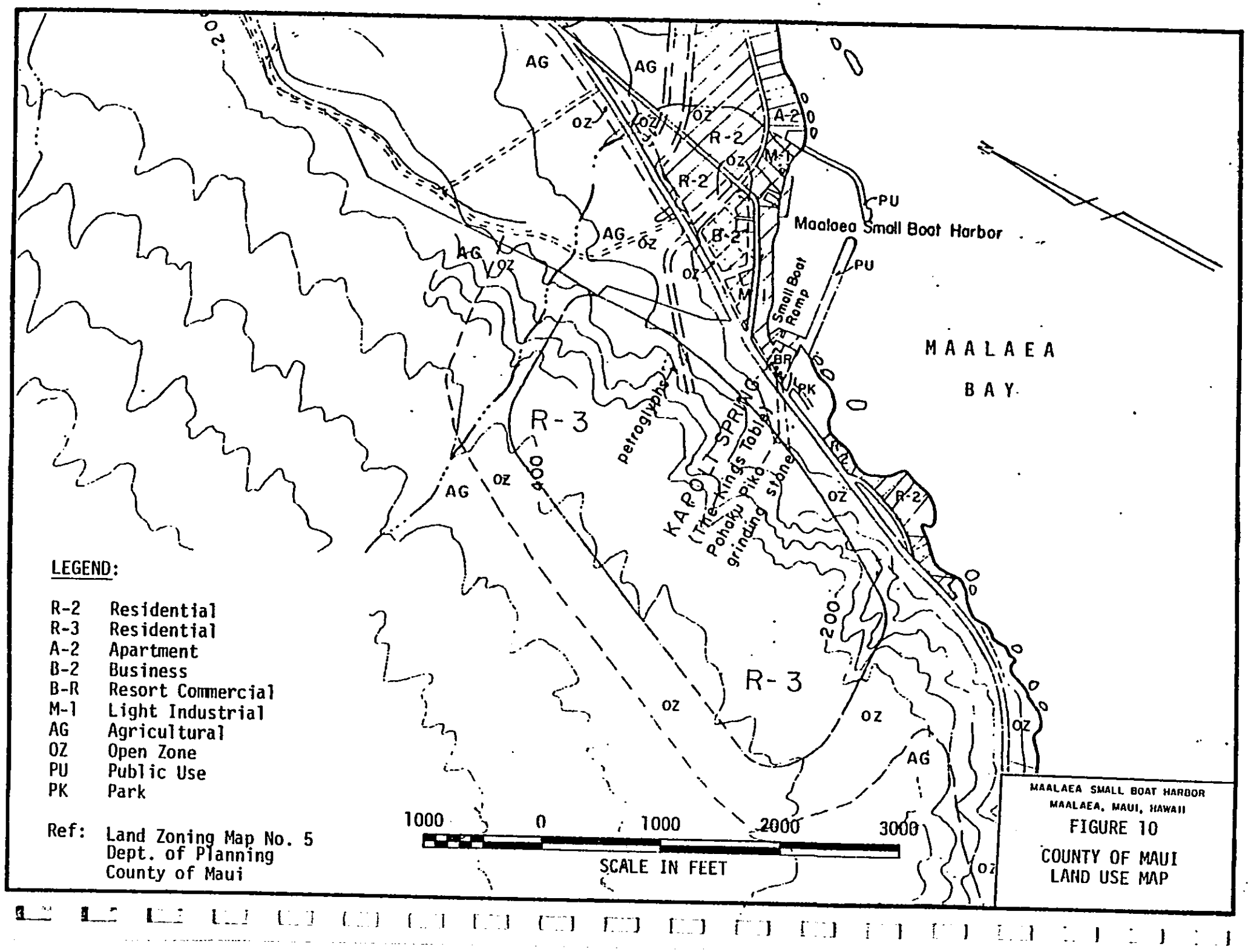
According to the County's Land Use Map (Figure 10), the harbor breakwater and revetment are designated "Public Use." The land immediately surrounding the harbor is classified as "Light Industrial" with a narrow strip running northeast along the shore designated "Apartment A-2." North of the harbor are two areas designated "Business (B-2)" and "Residential (R-2)" which extends into State-designated Agricultural land.

3. Coastal Zone Management Program

In response to public pressures and because of the importance of the coastal areas of the United States, Congress passed the Coastal Zone Management Act (PL 92-583) which was signed into law on October 27, 1972. This act was amended on July 26, 1976 by PL 94-370 which affirmed national interest in the effective protection and development of the coastal zone, by providing assistance and encouragement to coastal states to develop and implement rational programs for managing their coastal zones.

Guidelines and requirements for State program development and approval are contained in 15 CFR part 923, as revised and


Water Tank
Cinder Pit
Stream
HONOAPIILANI
KIHEI
Pt Maui Airport
Water Tank
WT
Sea Wall
Kanaio
Palalau
ROAD
Kealia Pond
Maalaea
Kapili Spring
Maalaea Small
Boat Harbor
Ridge
Gulch
Kaeanapaakai
McGregor Point
Manuohule
A
C
C
U
LEGEND
A Agricultural
C Conservation
U Urban
2000 0 2000 4000
Scale in Feet
MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII
FIGURE 9
STATE LAND USE


AG
A-2
R-2
M-1
B-2
PU
Maalaea Small Boat Harbor
Small Boat Ramp
MAALAEA
BAY
R-3
petroglyphs
KAPOLI SPRING
(The Kings Table)
Pohaku Piko
grinding stone
BR
PK
OZ
200
LEGEND:
R-2 Residential
R-3 Residential
A-2 Apartment
B-2 Business
B-R Resort Commercial
M-1 Light Industrial
AG Agricultural
OZ Open Zone
PU Public Use
PK Park
Ref: Land Zoning Map No. 5
Dept. of Planning
County of Maui
1000 0 1000 2000 3000
SCALE IN FEET
MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII
FIGURE 10
COUNTY OF MAUI
LAND USE MAP

published March 1, 1978 in the Federal Register. A summary of the requirements for program approval are that the State develop a management program that:

"(1) Identifies and evaluates those coastal resources recognized in the Act that require management or protection by the State;

(2) Reexamines existing policies or develops new policies to manage these resources. These policies must be specific, comprehensive and enforceable, and must provide an adequate degree of predictability as to how coastal resources will be managed;

(3) Determines specific uses and special geographic areas that are to be subject to management program, based on the nature of identified coastal concerns. The basis for management uses (or their impacts) and areas should be based on resource capability and suitability analyses, socio-economic considerations and public preferences;

(4) Identifies the inland and seaward areas subject to the management program;

(5) Provides for the consideration of the national interest in the planning for and siting of facilities that meet more than local requirements; and

(6) Includes sufficient legal authorities and organizational arrangements to implement the program and to insure conformance to it."

The legislature enacted the Hawaii Coastal Zone Management Act in 1977 (Act 188, SLH 1977) which established the basic State policy to guide State agencies and County governments in all actions affecting the State's coastal zone. This Act establishes objectives and policies for:

"1) Provision of recreational opportunities;
2) Protection and restoration of historic resources;
3) Improvement of scenic and open space areas;
4) Protection of coastal ecosystems;
5) Provision for coastal-dependent economic uses;
6) Reduction of coastal hazards; and

7) Improvement of the review process involving development activities, including permit coordination and opportunities for public participation."

The boundaries of the Special Management Areas (SMA) were established under the Shoreline Protection Act of 1975. The current SMA's include lands extending not less than 100 yards inland from the upper wash of the waves and the surrounding area extending 100 yards from the body of any surface water subject to salinity intrusion or tidal influences.

Developments in the SMA are subject to the following guidelines established by the County of Maui.

"a. All development in the special management area shall be subject to reasonable terms and conditions set by the Authority to insure that:

(1) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;

(2) Adequate and properly located public recreation areas and wildlife preserves are reserved;

(3) Provisions are made for solid and liquid waste treatment disposition, and management which will minimize adverse effects upon Special Management Area resources; and

(4) Alterations to existing land forms and vegetation except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of earthquake.

b. No development shall be approved unless the Authority has first found that:

(1) The development will not have any substantial adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public heath, safety, or compelling public interest. Such adverse effect shall

include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect and the elimination of planning options;

(2) The development is consistent with the objectives and policies, as enumerated in Chapter 205A, Hawaii Revised Statutes, and as recited herein under Sections 2-8.1. and 2-8.2., above; and Special Management Area guidelines set forth in this Article.

(3) The development is consistent with the county general plan, zoning, subdivision, and other applicable ordinances.

c. The Authority shall seek to minimize, where reasonable:

(1) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough, or lagoon.

(2) Any development which would reduce the size of any beach or other area usable for public recreation.

(3) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the Special Management Area and the mean high tide line where there is no beach.

(4) Any development which would substantially interefere with or detract from the line of sight toward the sea from the State Highway nearest the coast, or from existing public views to and along the shoreline.

(5) Any development which would adversely affect water quality, existing areas of open water free of visible structure, existing and potential fisheries and fishing grounds, wildlife habitats, estuarine sanctuaries, potential or existing agricultural uses of land."

4. Land Tenure

The harbor and its attendant land are under the ownership of the State of Hawaii with some parcels leased to various organizations. Adjacent to the State lands and in the area zoned as Apartment A-2 are a number of private landowners, several with resort-condominiums on their lands.

B. COMPATIBILITY OF THE PROPOSED ACTION WITH LAND USE POLICIES

All reclaimed lands of the harbor's East Mole, end of South Mole and Harbor Center will be rezoned by both State and County agencies. A petition to the Land Use Commission will be submitted to change zoning from conservation to urban. County zoning changes will also be instituted to allow for the development of harbor backup facilities.

The harbor area is included within the coastal zone Special Management Area (SMA). A SMA permit must be obtained prior to construction. The proposed project will significantly increase the coastal zone recreational opportunities and the coastal dependent economies of commercial and sport fishing. The coastal navigation hazards in the harbor will be reduced and the periodic damage due to wave surge within the harbor will be reduced. Coastal historic resources will not be affected. Some degradation of scenic and open space areas will result from the new structures within the harbor and the increased density of boats. The coastal ecosystem within the harbor will be temporarily degraded during construction.

SECTION 5

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATIVE MEASURES TO MINIMIZE ADVERSE IMPACTS

The impacts of the proposed action on the environment may be classified as primary and secondary. Primary or direct impacts associated with construction of the project, i.e., dust, noise and traffic disruption, are generally of a short-term nature. Primary long-term impacts may occur after completion of the construction. Secondary or indirect impacts may result indirectly from the improvement of a public facility such as a harbor. Uncontrolled traffic congestion, urban sprawl, induced land use changes and pollution of various types are examples of secondary impacts. Secondary impacts are generally long term in nature but short-term impacts may occur during construction.

A. PRIMARY IMPACTS

Several short-term physical impacts will arise from the construction of the project. These are the adverse impacts normally associated with construction activities and are unavoidable. Construction will normally be confined to weekdays and limited to daylight hours (generally between 7:00 a.m. and 4:00 p.m.). It is not anticipated that any significant impact will arise from this conventional time schedule. Since Maalaea is located far from major urban, industrial or tourist centers, the construction impacts will primarily affect boat owners using the harbor and its facilities, the residents of the adjacent resort-condominiums and the various small businesses operating in the harbor's vicinity.

1. Traffic - Land

The increased traffic from construction vehicles will cause some inconvenience to the residents, business operators and boat owners of Maalaea Harbor. Transportation of materials will necessitate use of the narrow Old Maalaea Road. There is no thoroughfare along the northern side of the harbor. To drive

from the launching facility near the restaurant to the "Sampan" wharf on the opposite end it is necessary to use the Old Maalaea Road and to reenter the harbor area at the wharf. Some congestion will probably result from the activities of construction vehicles.

Residents, business operators and boat owners will be apprised of pending construction. The Contractor will be required to keep Old Maalaea Road open to traffic at all times. He will also be required to use proper construction signs, barricades, flagmen to control traffic and any other devices necessary to insure minimum inconvenience and maximum safety to harbor users and residents.

2. Traffic - Water

The State project improvements of increased harbor depths (by dredging), berth and revetment construction will interfere with the normal water-borne activity to some extent. This will be mitigated by keeping boaters informed on all present and impending construction, by control of the Contractor to ensure minimal interruptions, and by the phasing of berth construction to ensure that all existing boaters with berths are continually accommodated with berths. Some movement to temporary berths may be required during the phased construction.

3. Dust and Emissions

Generation of some dust and vehicular emissions is expected during all phases of construction. These sources of pollution should be limited and have no significant impacts on the people around Maalaea. Dust control measures such as sprinkling, will be implemented as required to reduce dust levels. Increased vehicular emissions due to the presence of construction vehicles will be unavoidable. Current Department of Health air quality regulations will be observed by the Contractor.

4. Noise

Equipment used for demolition and construction purposes will undoubtably raise noise levels. The project operations must conform to the State Department of Health's Public Health Regulations, Chapters 44A and 44B. A noise permit will be required from the Noise and Radiation Branch of the Department of Health. The Contractor will be responsible for compliance with the conditions issued with the permit. Mufflers for noise control will be required for all construction equipment.

5. Economic

The construction of the harbor improvements should provide economic benefits for local construction firms and for County and State residents working on the project. Other beneficiaries will include local suppliers of construction materials and some retail businesses. The existing restaurant at the west end of the harbor and the store across from the new Coast Guard building will probably experience both adverse and beneficial effects. The construction itself may harm business by creating a temporary, undesirable construction atmosphere. The construction crews will probably take advantage of both the restaurant and store to accommodate their needs.

6. Archaeological

Although Maalaea has historical significance, none of the recorded sites in the area is of enough importance to warrant registration in the National Register. The improvement plans will not affect the known historical sites near the existing restaurant.

7. Flora and Fauna

Improvements to the harbor will be confined to the present harbor area. They will adversely affect the flora within this area to a limited extent but none are endangered species and many are

exotics. The same is true for the avian and terra fauna. Indeed it may be expected that members of both orders would avoid the area during hours of construction and some possibly during its duration. It is not expected that any would permanently desert the area. The harbor has been periodically subjected to construction stresses in years past with no known lasting adverse effects upon the flora and fauna.

The adverse effects of the project regarding the harbors marine life would be realized primarily during the construction phase. Dredging in the harbor would adversely affect the present marine biota within the harbor. Some coral and other non-mobile organisms would be destroyed while some fishes and other mobile sealife would be temporarily displaced and seek safer habitats elsewhere or be destroyed by the construction activity.

To minimize the potential for adverse impacts from construction on marine resources, the following precautions are suggested:

(a) Construction and fabrication (e.g., of dock assemblies and armor units) should take place insofar as is possible on fast land;

(b) Construction practices and special mitigative measures should be employed, especially during dredging, to prevent persistent turbidity and excessive sediment transport into areas of significant living coral coverage;

(c) Lumber and other construction materials treated with creosote or other preservative substances should not be permitted to contact the water until completely dry;

(d) Construction materials, petroleum products, human wastes, debris, and landscaping substances (herbicides, fertilizers,

pesticides) should not be permitted to fall, flow, leach, or otherwise enter the water.

(e) Explosives used to demolish the existing docks along the rock revetment should not occur during the season when Humpback Whales are in the area.

A possible adverse impact might occur to the endangered humpback whales wintering in the waters of Maalaea Bay. Some blasting may be used to aid in harbor depth excavation. The noise originating from this operation could possibly have an adverse impact upon this animal during the whale calving and nursing season. This will be avoided if blasting is kept to a minimum and accomplished during the whales summer season. This spans the months June to November when they are known to be feeding in northern waters. See Appendix A for further information on whales. The U. S. Army Corps of Engineers, Honolulu District, is continuing its investigation of possible adverse impacts upon the whales through additional consultation with the national Marine Fisheries Service. This agency, through the Endangered Species Act will issue a Biological Opinion which evluates the possible effects of the project on the whales.

8. Water Quality

Dredging would also cause a significant but temporary downgradation in the water quality of the harbor. Construction and maintenance dredging has periodically been accomplished within the harbor in years past. Storm runoff from the adjacent lands has also caused increased turbidity and siltation. Dredging is expensive and will be kept to a minimum.

9. Visual

The new construction and resultant increase in boating activity will change the waterfront scene for the owners of the adjacent condominiums. The new structures will be designed for a low profile to minimize any visual intrusion. Area lighting will be limited at night to the minimum for security and the safe operation of boats.

B. SECONDARY IMPACTS

The short term and long term secondary impacts associated with the improvements of Maalaea Harbor are discussed below.

1. Social

The greatest benefits arising from the modification of the harbor will be the safety and well-being of the people using the harbor and the increased opportunities for recreational and commercial boating. Relief from the financial losses and emotional stresses now felt in times of high wave conditions will be realized by the boaters and their families. Safer marine navigation will also be a benefit. The Coast Guard Cutter would no longer have to leave the harbor under surge conditions and would therefore be continuously available for providing emergency services when needed which would add to the community's welfare and well-being. Aesthetically, the modifications would increase the general visual impact of the harbor.

The increased number of berths will mean more space available for wet storage of boats. This new space will be used to accommodate those on the waiting list for berthing space. As there are many boaters already desiring berths, it is doubtful that the total boat population will increase significantly. The new harbor will allow existing boat owners easier access to the recreational opportunities in Maalaea Bay.

Adverse effects would include increased boating and vehicular traffic which may be ill-regarded by some of the existing boating community. It can be expected that vehicular traffic on Honoapiilani Highway will increase and that access to and from the harbor may become more difficult. This will be alleviated by providing speed change and storage lanes by the main harbor entrance. Some traffic mitigation will be realized by taking a number of boats now being trailered off the road as they are assigned to the new berths. There will also be an increase in emission and noise levels from vehicles and boats. The addition of lights around the harbor perimeter will provide safety and security for the boats moored in the harbor. However, the structures and area lights on and near the east mole could be a source of visual intrusion for persons in the resort-condominiums that front that view. Design considerations will ensure that the direct illumination from these lights is shielded from the resort-condominiums.

2. Economic

The public facilities and the recreational services of the harbor would be significantly improved. Channel navigational safety and increased berthing will allow for the mooring of a larger commercial fishing fleet which in turn enables larger fish catches. Regional economic growth should increase and the local employment rate would be improved. The harbor improvements should enhance long-term employment and the business sector of the community.

Local government revenues would benefit from increased property values and tax revenues. The increased navigational safety will decrease the potential of boat damage losses.

The improvements required for access to the east revetted mole will be in front of several condominiums. This may temporarily

decrease the value of some of the existing property amenities. However, it is believed that adjacent property values will increase with the planned harbor improvements.

The proposed improvements are relatively expensive and represent an irreversible commitment of money, labor and materials.

3. Water Quality

After harbor construction is completed, it is expected that water quality within the harbor will be somewhat less than now exists. The improvements will probably result in a decrease in water circulation and increased pollution from the increased harbor usage.

Litter, debris and oil from small spills will probably increase with the greater boating population and increased number of boats.

Pollution by sewage disposal and oil spills is a matter of some concern. Many boats are now equipped with Type I or Type II Marine Sanitation Devices (MSD) which discharge treated sewage. Others have portable toilets or Type III MSD holding tanks which are probably emptied at sea. To preclude sewage pollution in the harbor, a sewage pump out facility has been provided for at the planned Harbor Center. Dumping of raw sewage into harbor waters is prohibited by law. As there will be no bulk transfer of oil, it is not foreseen that any major oil spill will occur. Dumping of oil within the harbor is also prohibited by law, however, the State will increase the continuing efforts to inspect, maintain and enforce existing regulations which will ensure a clean environment.

4. Flora and Fauna

There has been some concern expressed about the long term secondary impacts of an increased boat population upon the whale population.

This is a subject which is still under investigation by the U. S. Army Corps of Engineers (Appendix A), assisted by other cognizant Federal agencies.

5. Urban Growth

No urban growth is foreseen around the project site as a result of the proposed harbor improvements. Current land use will be little affected by the improvements for the new berth will be filled by a predetermined waiting list of mostly established Maui residents.

SECTION 6

PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED

The unavoidable, adverse impacts of the proposed action are summarized in this section and include those discussed in the previous section which are adverse and unavoidable. The rationale for proceeding with the proposed action in spite of these unavoidable effects is presented.

A. PRIMARY IMPACTS

1. Probable Adverse Impacts

The short-term adverse impacts are on land and water traffic, air and water quality, and noise. Another short-term adverse impact is the loss of habitats for oysters, pipipi, makaawa, manini, nehu and other marine organisms due to construction along the project shoreline-marginal wharf area and Harbor Center fill area and causeway. Long-term adverse impacts include the initial capital construction costs and the costs of operation and maintenance of the harbor and its facilities.

2. Rationale for Proceeding

The short-term, adverse, construction impacts are believed to be conventional in nature and will be controlled through the application of existing regulations controlling the construction industry. Improvements of the project shoreline-marginal wharf area and Harbor Center fill area and causeway which will include, docks, piers and revetted surfaces may provdie an enhanced environmental setting for these displaced marine organisms. The capital construction operation and maintenance costs have been minimized by selection of cost-effective alternatives during the development of the plan for the project. The overall benefit:cost ratio indicates that the benefits will significantly exceed the costs of the project.

B. SECONDARY IMPACTS

1. Probable Adverse Impacts

Secondary adverse impacts of the proposed project include an increase in boating and vehicular traffic, and increased waterfront activity adjacent to the condominium owners. Another secondary adverse impact of the proposed project is the possibility of fish contamination with the toxin Ciguatera during the dredging and breakwater construction period.

2. Rationale for Proceeding

The project would alleviate the present problem of shortage of berthing space, provide much needed services to enhance the social well-being of the boating community and decrease the potential damage losses to boats. Increased berths and parking spaces will mitigate the increased traffic impacts. Special design considerations will mitigate the increased waterfront activity and structures near the condominiums.

Although the State Department of Health (Communicable Disease Division) has no formal ciguatera regulations, the following precautions are recommended during construction:

(a) Warn work crews during the construction period of the possible dangers.

(b) Avoid Kahala and Ulua caught in these waters.

(c) Circulation of State Department of Health publication, "What You Should Know About Ciguatera."

SECTION 7
ALTERNATIVES TO THE PROPOSED ACTION

A. GENERAL

The alternatives to the proposed action that are available includes: (1) "no action", (2) selection of alternative sites. Should there be a "no action" decision, the capacity of the harbor to moor boats would remain the same. However, the demand for mooring space is expected to continue to increase, thus creating an increasing stress on the very limited facilities available. If there is no project to improve the harbor as envisaged by the Federal Corps of Engineers, the planning Benefit-Cost Ratio will not be sustained and there will be "No Federal Project" as well. As for the selection of alternative sites, the demand from the south central Maui area would include Maalaea, Lahaina and Kihei as possible alternatives. The harbor modification project proposed for Maalaea Small Boat Harbor is included in a survey study for the coasts of the Hawaiian Islands which was authorized under Section 110 of the River and Harbor Act of 17 May 1950. The report, "Survey of the Coasts of the Hawaiian Island" was completed 30 June 1967. The project at Maalaea Harbor was included as one of three harbor projects recommended for authorization. The Maalaea project, included in House Document Number 353, 90th Congress, dated 8 July 1968, was authorized for construction by Section 101 of the River and Harbor Act, 13 August 1968 (Public Law 90-483). The project remained in an unfunded status until November 1978, when advanced engineering and design studies were funded and initiated by the COE. The State Department of Transportation, Harbors Division, concurrently initiated plans to improve the internal berthing configuration of the harbor. The proposed new Lahaina Boat Harbor, another project authorized by Congress, but under another authorization, had proceeded to the planning phase by the State but was abandoned because of strong opposition from historic and environmental interests. This has placed increased importance upon the improvements to nearby Maalaea Harbor. The Kihei site was not considered because no harbor exists there at

the present time, because of the substantial investment already committed by the State at the authorized site, and because of the expressed desire of harbor uses to upgrade the existing Maalaea Harbor.

There were a number of environmental, design and construction considerations in the development of the planned harbor improvements. Conceptualizations were required, based upon these considerations, which:

1. Afforded maximum utilization of available land and water areas;

2. Offered small craft operations adequate facilities and services;

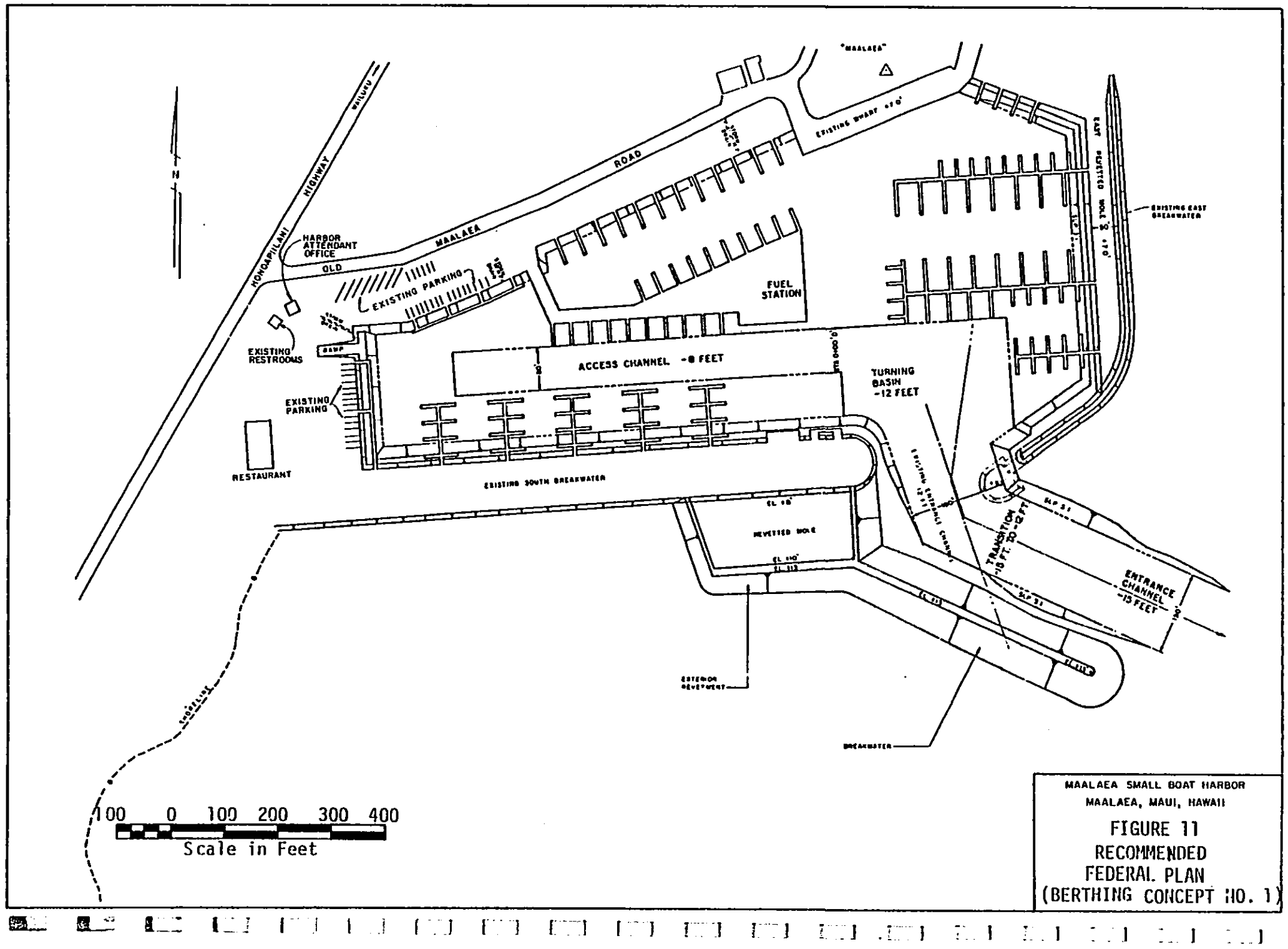
3. Offered a variety of recreational and appropriate commercial opportunities both within and around the harbor; and

4. Would make the harbor a source of pride to all the citizens of the State.

Conceptualizations consisting of three alternate berthing concepts were developed and are discussed in this section.

B. BERTHING CONCEPT NO. 1

Berthing Concept No. 1 (Figure 11) is the berthing configuration suggested by the U. S. Army Corps of Engineers in its Design Memo No. 1 of April 1980. This concept would handle approximately 296 berths. Proceeding in a clockwise direction around the harbor, the current Seaflite facility (1 berth) would be maintained at its current location. Proposed improvements in this south breakwater area included a 0.8-acre revetted mole which would provide additional parking for harbor users. Along the south breakwater, 81 berths were planned. These would handle craft in the 20, 30 and 70-foot range.



MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 11
RECOMMENDED
FEDERAL PLAN
(BERTHING CONCEPT NO. 1)

The existing marginal wharf fronting the existing restaurant would be extended to span the west side of the harbor, except in the boat ramp area which will remain. This extended marginal wharf would handle an additional 13 berths in the 30-foot range.

The existing marginal wharf fronting the trailer parking area and running parallel to the old Maalaea Road would be maintained in its present condition. This would handle 11 berths in the 50, 70 and 90-foot range.

The concept provided for the development of a usable land area developed on fill on the shoaling reef in the middle of the harbor. A causeway would connect this area to the shoreline of the harbor. The fill area would include a fueling station that would provide fuel and sewage pumpout services as well as an alternate loading dock area. Included in this new area were 50 berths, in sizes of 20, 40, and 70 feet.

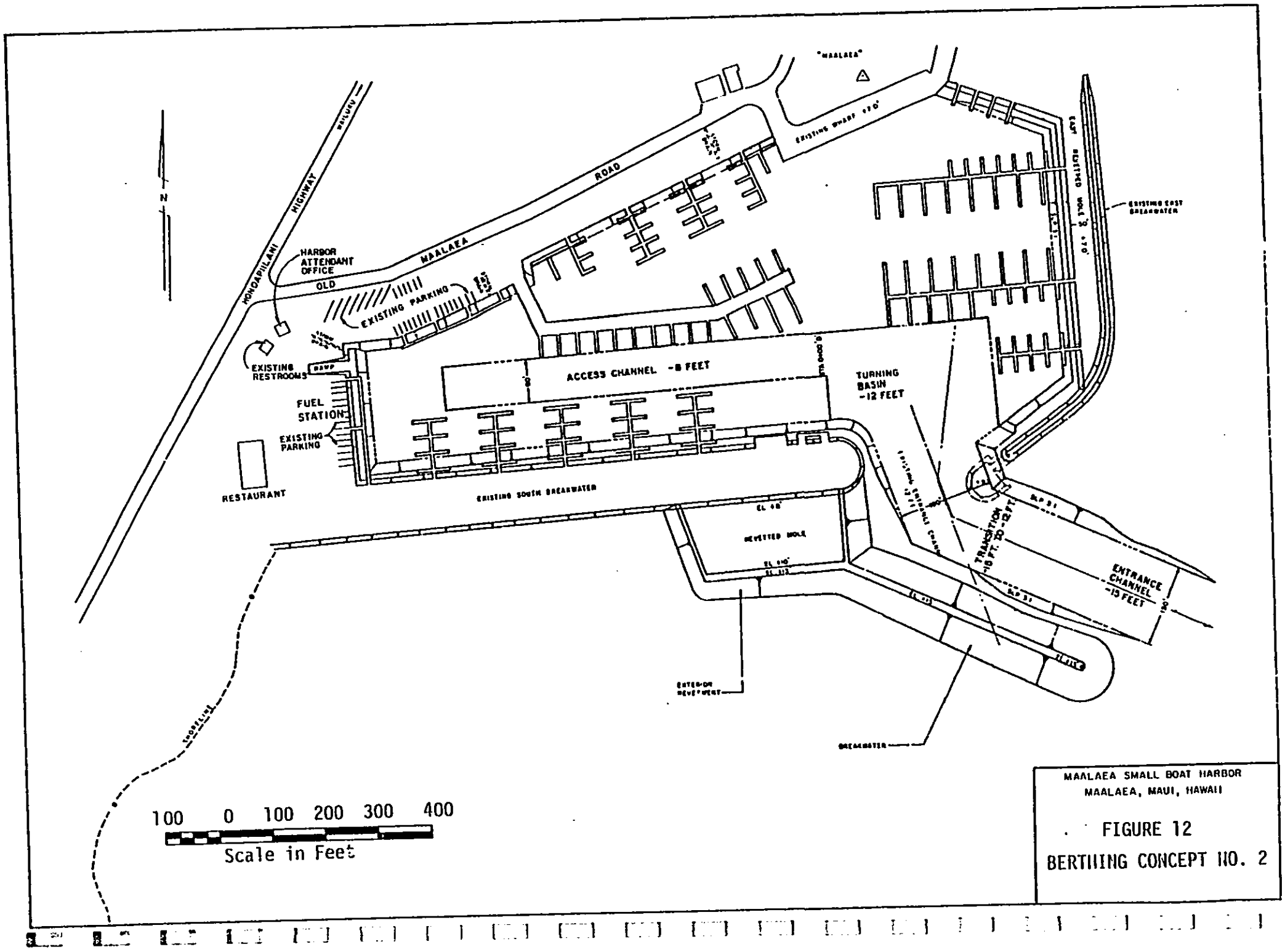
The new (1979) wharf area along the north side of the harbor would be improved with finger piers to accommodate six 25-foot berths and 23 50-foot berths for a total of 29 berths.

The existing wharf adjacent to the condominiums included three berths and would remain unchanged. It accommodates the USCG cutter and the two tuna boats.

A revetted mole would be developed along the beach area fronting the condominiums and extended along the east breakwater. It would provide vehicular access to 108 new berths, in sizes of 25, 30, 40, 50, 60 and 70 feet.

C. BERTHING CONCEPT NO. 2

Berthing Concept No. 2 (Figure 12) would include approximately 283 berths. In this concept, an angled pier extends into the center of the basin



MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 12

BERTHING CONCEPT NO. 2

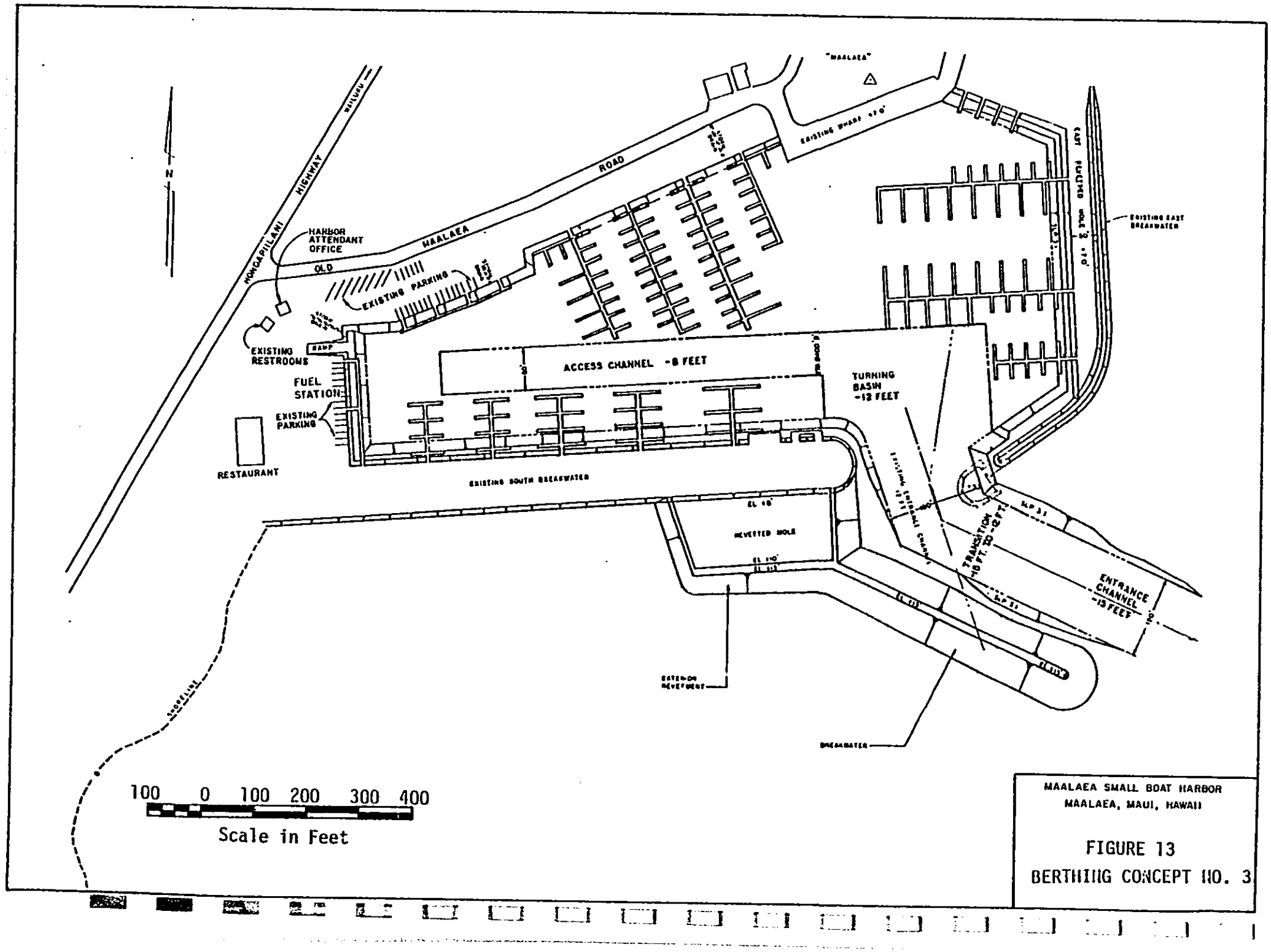
and more finger piers are added to the new wharf area. Several of the finger piers off the east breakwater were removed. The fueling station was relocated to a site adjacent to the boat launching facility. This concept increased the number of berths as well as the length of the berths in this area. It would allow an increase in density of boats at the new wharf area. Berth numbers there would increase from 29 to 48, ranging from 20 feet to 40 feet.

D. BERTHING CONCEPT NO. 3

Berthing Concept No. 3 (Figure 13) would handle approximately 315 berths. The south breakwater berths would be changed to include a greater variety of berth lengths. Also, there would be no land area in the middle of the harbor. The fuel station would be relocated to the area adjacent to the boat launching facility. The high density of berths in the new wharf area would provide 125 berths.

E. THE RECOMMENDED PLAN

The selected berthing plan (Figure 4) for Maalaea Harbor was determined by evaluating the feasibility and impact of each alternative. The major considerations in the selection process were environmental impacts, implementation impacts, compliance with applicable regulations and community benefits. (See Section 2)



MAALAEA SMALL BOAT HARBOR
MAALAEA, MAUI, HAWAII

FIGURE 13
BERTHING CONCEPT NO. 3

SECTION 8

THE RELATIONSHIP BETWEEN LOCAL SHORT TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

The proposed project will provide for a much improved harbor environment for the boaters of Maalaea. The prime objectives of safer navigation and providing for a greater berthing capacity in an economically and environmentally acceptable manner will be accomplished by the proposed project.

The initial short term adverse impacts from the construction of the required facilities and those long term impacts from the operation of the harbor are to be balanced against the long term benefits of navigational safety and alleviation of the present berthing shortage.

The proposed project will also enhance the visual quality of the harbor and utilize to the maximum extent the available land and water areas. The proposed project will not extend beyond the physical limits of the present harbor area. It will contribute significantly to the maintenance and enhancement of long term productivity in the areas of increased fishing and recreational activities.

SECTION 9

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The project will require several irreversible and irretrievable commitments of resources such as the materials, energy and capital to be invested in the new facilities and the manpower and energy to be used to operate and maintain the facilities.

The major commitments are the materials and funds associated with construction of the facilities and the operation and maintenance costs.

The implementation of the proposed action will utilize resources and materials considered essential to complete the project. Financial, manpower, and material resources will be irreversible and irretrievable commitments for planning, engineering, construction, operation and maintenance of the proposed facilities. Energy will also be irreversibly committed, not only for the construction of the facilities but also for their operation. Commitments such as land are irretrievable as long as the harbor is in use and they are essentially irreversible.

Another long-term commitment will be the revenues collected by the State for the use of the property and facilities at Maalaea Boat Harbor. These will be based on the expenses of the operation and maintenance and the cost to the State for the improvements. They would also be reasonable and fixed with due regard to the primary purposes of providing public recreational boating facilities and promoting the fishing industry. Mooring fees, utilities and lease rentals will comprise all the State's revenues.

Still another irreversible, but not necessarily irretrievable commitment of resource is the loss of habitats for marine organisms due to construction along the project shoreline-marginal wharf area and Harbor Center fill area and causeway. These improvements, however, which includes docks, piers and revetted surfaces may provide an enhanced environmental setting for these displaced organisms.

SECTION 10

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

Compliance with environmental regulations helps to offset the adverse effects of the proposed action. The project complies with the policies set by the Hawaii Statute on Environmental Quality (Chapter 342, Hawaii Revised Statutes).

The Coastal Zone Management Program (see Section 4) has developed objectives and policies for all action affecting the State's coastal zone. The proposed project complies with these objectives and policies in that an existing small boat harbor will be optimized for increased safety and use with a minimal environmental impact upon the coastal environment.

The State Environmental Policy Act, Chapter 344, Hawaii Revised Statutes, has developed policies and guidelines in an effort to enhance the quality of life and conserve the natural resources. Compliance with these policies and guidelines by optimizing the safety of Maalaea Small Boat Harbor while minimizing the environmental impact upon the coastal environment is the intent of the proposed project.

SECTION 11
SUMMARY OF UNRESOLVED ISSUES

Due to the reported lack of detailed information regarding the endangered humpback whale (Megaptera novaeangliae) the effects of improvements on Maalaea Boat Harbor on these animals is as yet an unresolved issue. At the present time the U. S. Corps of Engineers has engaged the National Marine Fisheries Service to undertake further studies regarding the humpback. Further discussion upon the subject will be dependent on the outcome of these studies.

SECTION 12

LIST OF NECESSARY APPROVALS

The following approvals and permits are required for the proposed action. None have been obtained to date but all are required prior to construction.

	Approval/Permit Required	Responsible Agency
1.	Special Management Area Permit	Planning Dept., County of Maui
2.	Construction in Navigable Waters	U. S. Army, Corps of Engineers
3.	Shoreline Setback Variance	Planning Dept. County of Maui
4.	Conservation District Use Application	State Department of Land and Natural Resources
5.	State Coastal Zone Management Certification	State Department of Planning and Economic Development

SECTION 13
ORGANIZATIONS AND PERSONS CONSULTED

The following governmental agencies, organizations and private individuals were consulted in preparing the Environmental Impact Statement.

A. COUNTY OF MAUI
- Department of Planning
- Land Use and Codes

B. STATE OF HAWAII
- Department of Transportation
- Department of Health
- Department of Land and Natural Resources - Forestry and Wildlife Division
- Department of Land and Natural Resources - State Parks Outdoor Recreation and Historic Sites Division
- Department of Planning and Economic Development
- Office of Environmental Quality Control
- University of Hawaii - Environmental Center

C. FEDERAL GOVERNMENT
- Department of the Army - U. S. Army Corps of Engineers
- Department of Transportation - U. S. Coast Guard
- Department of Commerce - National Marine Fisheries Service
- Department of Commerce - National Oceanic and Atmospheric Administration
- Department of the Interior - Fish and Wildlife Service

D. PRIVATE ORGANIZATION
- Sierra Club
- Greenpeace
- Maalaea Boat and Fishing Club
- Hawaii Marine Consultants

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12. Stearns, Harold T. and Mac Donald, Gordon A., Geology and Ground-Water Resources of the Island of Maui, Hawaii, Bulletin 7, Hawaii Division of Hydrography, 1942.

13. United States Army Corps of Engineer, Honolulu District, Maalaea Harbor for Light-Draft Vessels, Maui, Hawaii, General Design Memorandum and Final Environmental Impact Statement, July 1980.

14. United States Department of Agriculture, Soil Conservation Service, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, August 1972.

15. U. S. Geological Survey, Water Resources Division, Water Resources Data for Hawaii and other Pacific Areas, 1979, Volume 1, USGS Water-Data Report HI-79-1, June 1980.

APPENDIX A

FINAL ENVIRONMENTAL IMPACT STATEMENT
U. S. ARMY CORPS OF ENGINEERS
HONOLULU DISTRICT

JULY 1980

*Excerpt from "Maalaea Harbor For Light-Draft Vessels, Maui, Hawaii, General Design Memorandum and Final Environmental Impact Statement" U. S. Army Corps of Engineers, Honolulu District, July 1980.

FINAL ENVIRONMENTAL IMPACT STATEMENT
MAALAEA HARBOR NAVIGATION IMPROVEMENTS
MAUI, HAWAII

The responsible lead agency is the U.S. Army Corps of Engineers, Honolulu Engineering District.

The responsible cooperating agencies are the U.S. Fish and Wildlife Service, Hawaii Region, and National Marine Fisheries Service, Southwest Region.

Abstract

Post-authorization studies for navigational improvements to Maalaea Harbor were conducted by the U.S. Army Corps of Engineers in cooperation with the Harbors Division, Department of Transportation, State of Hawaii. Based on an assessment of public needs and concerns, three alternative plans of improvement were developed for detailed investigation. Plan 1 consists of a 620-foot extension of the south breakwater; a 800-foot-long revetted mole on the seaward side of the south breakwater; a 610-foot-long entrance channel 150-180 feet wide and a 1.7 acre turning basin. Plan 2 is similar to plan 1 except that the 800-foot-long revetted mole is not included. A 200-foot-long wave absorber would be provided at the same location. Plan 3 is similar to Plan 1 except that the 800-foot-long mole is not included and, instead of the breakwater extension, a 650-foot-long detached breakwater is provided 150 feet seaward of the south breakwater. None of the alternative plans has a significant impact on important surfing areas, marine resources, or cultural resources.

Further technical information concerning the statement may be obtained from:

Dr. James E. Maragos
US Army Engineer District, Honolulu
Building 230
Fort Shafter, Hawaii 96858
Telephone (808) 438-2263/64

NOTE: Information, displays, maps, etc., discussed in the main report are incorporated by reference in the EIS.

Rev. 26 Sep 80

ENVIRONMENTAL IMPACT STATEMENT
Maalaea harbor
Maui, Hawaii

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LIST OF PREPARERS

The following people were primarily responsible for preparing this Environmental Impact Statement:

NAME	EXPERTISE	EXPERIENCE	PROFESSIONAL DISCIPLINE
Mr. Dave C. Sox	M.A., Historical and Cultural Geography	2 years Geography; 4 years EIS Studies U.S. Army Engineer District, Honolulu	Social Environmental Specialist
Mr. Robert Moncrief	B.A., Zoology	7 Years Biologist, National Marine Fisheries Service; 4 Years Biologists, U.S. Navy; 2 Years EIS Studies, U.S. Army Engineer District, Honolulu	Ecologist
Dr. James Maragos (EIS Coordinator)	PhD, Marine Ecology	2 Years Post Doctoral Research; 8 Years Environmental Consultant; 4 Years EIS Studies, U.S. Army Engineer District, Honolulu	Supervisory Environmental Biologist
Mr. Gary Wible (Study Manager)	B.S. Civil Engineering	5 Years, Hydraulic Engineer, U.S. Army	Hydraulic Engineer

1. SUMMARY

1.1 MAJOR CONCLUSIONS AND FINDINGS. The alternate plans are discussed in detail in Section D of this report. All three plans meet the primary objective of reducing surge and navigational hazards and increasing berthing capacity in the harbor, and provide economic benefits that exceed the project costs. Plan 1 maximizes economic development due to its greatest net economic benefit. It is therefore designated the National Economic Development (NED) Plan. All of the plans result in a net positive contribution to the quality of the marine environment due to the significant increase in the amount of valuable fish and shellfish habitat provided by the improved breakwater structure. However, all of the plans result in excess dredged material which must be disposed at a land site. This impact and other temporary and long-term environmental disturbances common to the three plans are difficult to quantify on comparable terms with positive contributions. Hence, it is uncertain that any of the alternatives would result in a net positive contribution to the total environment, which is the criteria for designation of an Environmental Quality (EQ) Plan.

1.2 All plans require the discharge of fill material for breakwater and revetment structures. A "Section 404" evaluation (see Appendix G) finds that materials to be used in breakwater construction are suitable for discharge into navigable waters. None of the alternatives involve wetland areas or wildlife refuges or federal sanctuaries, nor will they affect groundwater resources. The proposed project may temporarily affect endangered Humpback whales in the proximity of the harbor during construction of harbor improvements. Increased boating activity resulting from the improved harbor could adversely affect Humpback whales. Coordination with the National Marine Fisheries Service relating to potential impacts on the Humpback whale resulted in the recommendation that underwater blasting only be permitted during the months of May through December. The project does not affect a riverine flood plain; however, the coastal area is subject to tsunami inundation hazards.

1.3 AREAS OF CONTROVERSY. Controversy over conflicting recreational uses of the Maalaea Harbor area arose early in the study during the initial informational meeting held in January 1979. Surfing interests identified the potential impacts of the authorized plan channel alignment on one of the most valued surfing sites on Maui called the Maalaea Pipeline. A second surfing site of lesser importance was also identified on the south side of the existing harbor. During the course of the study, efforts were made to minimize project related impacts on these surfing areas. The alternate harbor plans include a plan submitted by the Maalaea Boat and Fishing Club in May 1979, which is acceptable to both boating and surfing interests. The selected plan presented in this report accommodates to the greatest extent practicable to the interests of both groups while satisfying the needs and desires of the local sponsors.

1.4 The National Marine Fisheries Service and individual cetacean biologists and researchers pointed out potential adverse effects of project related construction activity and increased boating activity on the endangered Humpback whale which winters in Maalaea Bay. Formal consulation with the National Marine Fisheries Service under Section 7 of the Endangered Species Act resulted in the submittal of a Biological Opinion by NMFS. The Biological Opinion and related correspondence is included in Appendix J.

1.5 UNRESOLVED ISSUES. None

1.6 RELATIONSHIP TO ENVIRONMENTAL REQUIREMENTS. A brief outline of the relationship of the alternate plans to environmental laws and regulations affecting this study are presented in Table XF-1.

2. NEED FOR AND OBJECTIVES OF THE ACTION

2.1 STUDY AUTHORITY. Post-authorization studies for navigation improvements to Maalaea Harbor are authorized under Section 101 of the River and Harbor Act of 1968. The purpose of the studies is to reaffirm the basic planning decisions which were made during the pre-authorization studies. The purpose of the project is to improve navigation conditions in Maalaea Harbor and to provide for expanded berthing capacity.

2.2 PUBLIC CONCERNS. Boat owners using Maalaea Harbor have stressed the need to reduce the surge within the basin. The existing entrance channel is exposed to ocean swells from the south and to waves generated by local Kona (southerly) storms, creating a hazard to navigation. The existing entrance channel alignment allows excessive wave energy to enter the harbor basin. Mooring lines have been broken and boats severely damaged. During these periods boat owners are forced to stay with their boats throughout the day and night, some of them electing to take their boats out of the harbor until the surf has subsided. The U.S. Coast Guard is occasionally forced to relocate its vessel at Kahului Harbor during periods of heavy surge, leaving the entire south Maui fishing area without emergency assistance. Individual surfers and surfing organizations have expressed strong objections to the entrance channel alignment as described in the authorized plan. This alignment would seriously alter what is considered to be one of the best surfing sites in the islands. Potential effects of harbor construction activities and increased boating activity on the endangered Humpback whale, which winters in the relatively shallow protected waters bounded by Maui, Molokai, Kauai and Kahoolawe, were also of concern to whale watchers and researchers.

2.3 PLANNING OBJECTIVE. The updated planning objective is to contribute to navigation improvement for commercial and recreational purposes at Maalaea Harbor for the 1985 to 2035 period of analysis. Detailed assessment of problems and needs have resulted in specific goals which, if achieved, would satisfy the planning objective. These specific goals are:

a. to significantly reduce surge within the harbor basin;

b. to significantly reduce navigation hazards in the entrance channel; and

c. to provide opportunity for addition of berthing space and attendant harbor facilities.

Table XF-1
Relationship of Plans to Environmental Requirements

Federal Statutes	
National Environmental Policy Act (NEPA)	In full compliance
Prime Agricultural Lands	Not applicable
National Historic Preservation Act	In full compliance
National Landmarks	Not applicable
Fish and Wildlife Coordination Act of 1958	In full compliance
Endangered Species Act of 1973, as amended	In compliance. Coordination with National Marine Fisheries Service Completed
Migratory Bird Treaty Act of 1918	Not applicable
Marine Mammal Protection Act of 1972	In full compliance
Marine Protecion, Research and Sanctuaries Act	Not applicable
Section 102 - EPA Permit	Not applicable
Section 103 - Dredged Material	Not applicable
Title III - Marine Sanctuaries	Not applicable
Federal Water Project Recreation Act of 1965	Not applicable
Coastal Zone Management Act	In full compliance
Scenic and Wild River Act	Not applicable
Water Resources Planning Act	In full compliance
Clean Water Act	
Section 404 - Dredged or Fill Materials	In full compliance
Section 402 - NPDES Permit	Not required. Exempted under Section 404(r)
Executive Orders, Memoranda, Etc.	
E.O. 11593 - Protection and Enhancement of of the Cultural Environment	In full compliance
E.O. 11990 - Protection of Wetlands	Not applicable
E.O. 11987 - Exotic Organisms	Not applicable
E.O. 11988 - Flood Plain Management	In full compliance
State and Local Laws	
Chapter 343, HRS: State EIS Law, State CZMA	In full compliance

3. ALTERNATIVES.

3.1 PLANS ELIMINATED FROM FURTHER STUDY. The authorized plan as shown in the project document was eliminated from further consideration during post-authorization studies for the following reasons. The extensive dredging required to create a new entrance channel through the shallow limestone reef platform would be unnecessarily destructive to the reef ecosystem. In addition, the proposed channel alignment would have destroyed one of the most valued surfing sites on Maui.

3.2 One of the alternatives formulated during the preliminary planning phase included an additional 5 acre basin and a more extensive breakwater and mole structure. It was eliminated because of conflicts with surfing sites.

3.3 WITHOUT CONDITION. Without Federal implementation of authorized improvements at Maalaea Harbor, little change from existing physical conditions can be expected. Navigation difficulties during storm conditions and adequate berthing capacity would continue to be problems. Demand for berths would be expected to increase.

3.4 PLANS CONSIDERED IN DETAIL. Detailed treatment of three alternate plans is provided in Section D of the report and Appendix B, Design Analysis.

3.5 COMPARATIVE IMPACTS OF ALTERNATIVES. Comparative impacts of the three plans are presented in Table XF-2. Additional comparison of alternate plans is contained in the Summary of Comparison of Alternative Plans and System of Accounts (Table D-5 of the report).

4. AFFECTED ENVIRONMENT

4.1 ENVIRONMENTAL CONDITIONS. Maalaea Harbor is located on the western end of Maalaea Bay which forms the southern shoreline of the central isthmus of Maui (Figure B-1). The shoreline is steep and rocky to the west of Maalaea Harbor. East of the harbor the shoreline consists of a long almost continuous white sand beach. The beach and nearshore waters, including a number of surfing sites, provide major recreational resources for both residents and visitors. Inland of the shoreline the developed land is agricultural, primarily sugarcane. The area between Maalaea and Kihei includes conservation, urban and agricultural lands. Coastal areas adjacent to and including Maalaea Harbor are classified urban. A condominium apartment complex is located along the eastern boundary of the harbor and a residential community continues to the east along the shoreline.

4.2 Natural vegetation in the Maalaea Harbor area is characterized by kiawe and haole koa trees and dryland grasses and shrubs. However, most of the land on the central Maui plain is being cultivated for sugarcane. Dominant wildlife forms in the area are introduced species such as mongooses, rats, mice, doves and mynah birds. Feral pigs, dogs, and cats are also found in nearby areas. Several species of seabirds can be found along the coastal areas.

4.3 Marine life at Maalaea Bay includes most of the species common to coral reef ecosystems in Hawaii. Endangered Humpback whales winter in Hawaiian waters including Maalaea Bay. Maalaea Bay abounds with commercial

tuna and other big game fishes common to Hawaiian waters. Additional, more detailed informaton on flora and fauna in the Maalaea areas are contained in Appendix C, Recreational and Natural Resources, and Appendix F, U.S. Fish and Wildlife Report.

4.4 Maalaea is a small shoreline community, which because of its protected bay and accessibility has been a fishing village for decades. According to the "Civic Development Plan for Kihei" prepared in 1970, "it is an ideal commercial fishing base," due to its proximity to Honoapiilani Highway, the main vehicular artery that links Lahaina to Wailuku-Kahului and to the Kihei-Kula area. In the early 1970's all that marked the village were a few residence, a small market, a gas pump, the small boat harbor and U.S. Coast Guard Station, Buzz's Restaurant and Cocktail Lounge, and the Hale Kini-Polynesia, a small cottage resort. No population figures are available for the community of Maalaeaa.

By 1973, two additional resort condominiums had been constructed at Maalaea in the strip classified for "Apartment" use. By July 1975, this number had increased to 6 condominiums totalling 307 units and by June 1979, there were 8 condominiums with a total of 445 units. Of the latter, 297 units were classified as transient-resort rental units. During 1980 two more condominiums were built and a third is under construction immediately abutting the small boat harbor.

4.5 Tourism and agriculture form the basis of the economy on Maui island. At the time of project authorization in 1968, revenues from tourism and agriculture were about equal, but at present tourism heavily domintes the economy. The sugar industry, which is the major agricultural producer, shows a 1978 revenue of $67 million out of a total crop and livestock revenue of $92 million. However, tourism boasted a 1978 revenue of $283 million. The 1978 visitor count for Maui totaled 1.4 million persons, which is a 25 percent increase since 1977 and nearly a 600 percent increase since project authorization. At present more than 1000 hotel-condiminium units are under construction to accommodate the increased tourist demands.

4.6 SIGNIFICANT RESOURCES:

4.7 ENDANGERED SPECIES. The endangered Humpback whale, Megaptera novaengliae, is present in Maalaea Bay in the proximity of the Maalaea harbor project area during approximately 6 months of the year from December through May. Maalaea Bay has been identified as one of four major whale breeding, calfing and nursing areas in Hawaii. A proposal to include Maalaea Bay as part of a marine sanctuary under the Marine Protection Research and Sanctuaries Act of 1972 has been submitted to the Office of Coastal Zone Management for consideration. As yet, no formal action has been taken on this proposal. Maalaea Bay, from Hekili Point to Puuolai, is at present designated by Maui County as a Humpback whale sanctuary. Regulations under the Endangered Species Act of 1973, as amended, and Marine Mammal Protection Act of 1972 prohibiting harassment of the Humpback whale are being enforced by National Marine Fisheries Service personnel at Maalaea. The Hawaiian Humpback whale population was recently estimated at approximately 290 whales (ref 5). The north Pacific population of Humpbacks is estimated at 850 whales (ref 6). Ed Shallenberger (1977) estimated the number of Humpback whales in the Maui-Molokai-Lanai-Kahoolawe assembly area (about 700 square miles) at 90-100 whales. Maalaea Bay represents a small but significant portion of this area.

Table XF-2. Comparative Impacts of Alternatives on Significant Resources

Base Condition and Alternatives	Endangered Species Humpback Whale	Surfing Sites	Reef Resources	Plan Economics
Base Condition	Approximately 60-70 humpback whales aggregate during the months of December through May in the offshore area between the islands of Maui, Lanai and Kahoolawe.	Two major surf sites and one or more minor sites are located in the vicinity of Maalaea Harbor.	Approximately 10 acres of coral reef area between the existing breakwater structures and the -12 foot MSL contour. Approximately 5 acres of reef comprise a productive coral reef community. The remaining area including the existing channel is relatively barren.	Not applicable.
Without Condition	No substantive change. Possible slow increase in numbers as Hawaiian humpback population recovers.	No change.	No change.	Not applicable.
Plan 1	Effects are unknown. Formal consultation with National Marine Fisheries Service has resulted in the submittal of a biological opinion recommending that blasting during construction be permitted only during the months of May through December to mitigate possible effects.	No effect on major sites. Minor sites destroyed. New site possibly created adjacent to new channel.	Approximately 2.6 acres of productive reef area destroyed by dredging new entrance channel. Limited recovery expected. Approximately 2.8 acres of relatively unproductive reef area covered by breakwater structure. Breakwater will provide significant increase in available habitat for reef fish and invertebrate organisms.	Average annual Cost: $380,000 Annual Benefit: $744,000. B:C Ratio: 2.0.
Plan 2	Same as Plan 1.	Same as Plan 1.	Area dredged: 2.6 acres; impacts same as Plan 1. Area covered with breakwater: 1.9 acres; impacts same as Plan 1.	Average Annual Cost: $368,000. Annual Benefit: $731,000. B:C Ratio: 2.0.
Plan 3	Same as Plan 1.	Same as Plan 1.	Area dredged: 2.6 acres; impacts same as Plan 1. Area covered with breakwater: 1.8 acres; impacts same as Plan 1.	Average Annual Cost: $430,000. Annual Benefit: $731,000. B:C Ratio: 1.7.

4.8 SURFING SITES. Two surfing sites within the Maalaea Harbor project area have been identified by surfing interests. One site known as "Off the Wall" is located 30-40 yards offshore of the middle of the south breakwater. The other break known popularly as "Maalaea Pipeline" is located east of the harbor entrance and breaks in an easterly direction. This break is considered to be exceptional, attracting surfing enthusiasts from all over the world. Both surfing sites are seasonal, dependent upon the south swell that normally occurs during the summer months.

4.9 REEF RESOURCES. The reef seaward of Maalaea Harbor is comprised of several discrete zones varying in degree of biological diversity and value (see Appendix D of the report). The most diverse, well developed coral reef community begins approximately 100 feet south of the east breakwater head in depths of -6 feet MLLW and extends seaward approximately 200 feet before transitioning into a sand-rubble bottom at -15 feet MLLW. On th west the reef is bounded by the entrance channel. Its extent in the easterly direction continues well beyond the project limits. The greatest variation in bottom relief occurs within this zone. Extensive ledge systems, depressions, raised knobs and large Porites coral heads contribute to the more interesting visual aspects of this area. Live corals are well developed and ubiquitous, comprising approximately 20% of the total bottom cover. Porites lobata and Pocillopora meandrina are the most abundant varieties but at least six other species are common and several others including some large colonies of Pocillopora eydouxi are present in the area. Other common macro-invertebrates include several varieties of sea urchins and sea cucumbers. Fish populations are well developed and diverse. Surgeon fishes (Acanthuridae) are the most abundant family. Large schools of palani (A dussumieri), pualu (A. guttatus), manini (A. triostegus) and others, including parrot fish and goat fish range throughout this zone. In the ledges and depressions more cryptic varieties are prevalent. These include u'u,, aweoweo, butterfly fish, moray eels, spiny puffers, etc. Although crustaceans and gastropods were rarely encountered due to their general diurnal inactivity and preference for concealment, these organisms are most likely well represented in this zone.

4.10 RESOURCES AND VALUES IDENTIFIED IN SECTION 122 OF PUBLIC LAW 91-611. The following resources and environmental values have been fully considered with respect to possible adverse economic social and environmental effects resulting from implementation of the proposed project (Table D-5. Summary Comparison of Alternative Plans and System of Accounts):

a. Air, Noise and Water Pollution. Adverse impacts related to air, noise and water would be temporary impacts during construction of harbor improvements. Minimization of these impacts would be effected by employment of construction methods that do not cause excessive or unnecessary turbidity, dust, hydrocarbon emmission or noise.

b. Man-made or natural resources, esthetic values, community cohesion and availability of public facilities and service: Destruction or disruption of the above resources as a result of project implementation would be minimal and are not considered significant.

c. Employment effects and tax and property value: adverse employment effects and/or tax and property value losses would not result from project implementation.

d. Displacement of people, businesses and farms: no injurious displacement of people businesses and farms would result from project implementation.

5. ENVIRONMENTAL EFFECTS.

5.1 HUMPBACK WHALES. The effects of harbor construction and increased boat traffic on Humpback whales is unknown. However, noise generated by underwater blasting during harbor construction would probably have a disruptive effect on whale activity in the vicinity of the harbor. Potential impact of the project on Humpback whales was evaluated via formal consultation with the National Marine Fisheries Service. A Biological Opinion, issued by NMFS on 25 April 1980, is included in Appendix J. Potential adverse impacts on whales resulting from increased boat traffic due to expanded harbor capacity can be minimized through rigorous enforcement of existing Federal regulations. Potential impacts on the whales are the same for all three alternate plans.

5.2 SURFING SITES. None of the alternate plans would affect the two surfing sites of major importance identified by local interests during the study. Minor sites adjacent to the existing channel would be destroyed. However, a new site will probably be created along the east edge of the proposed channel.

5.3 REEF RESOURCES. Adverse impacts to reef resources in the vicinity of the harbor will result from dredging a new entrance channel alignment for all of the alternate plans is the same, traversing a relatively rich coral reef area. Dredging would eliminate approximately 2.6 acres of reef habitat, destroying corals and other non-mobile reef organisms and displacing fish and mobile organisms to adjacent reef areas. Turbidity during dredging oprations may temporarily stress organisms immediately adjacent to the area being dredged. The new entrance channel will initially be barren, but recolonization of dredged surfaces by benthic organisms is expected to commence once harbor construction is completed.

5.4 New breakwater structures will cover and destroy reef habitat on which they are placed. Non-mobile organisms occurring on the reef area affected will perish. Location of the breakwater is the same for plans 1 and 2. Both are tied into the existing south breakwater. Plan 1 includes a 400-foot-long revetted mole and consequently covers more reef area than the other plans. The new breakwater in plan 3 is detached from the south breakwater and extends further seaward along its western end than plans 1 or 2. In all three plans the breakwater is located in a relatively barren, unproductive reef area (refer to Appendix C). The new breakwaters would cover 2.8, 1.9, and 1.8 acres of reef, respectively, for plans 1 through 3.

5.5 Although initially the breakwater will destroy the reef community on which it is placed, it will utimately provide valuable habitat for a variety of reef organisms in an area largely devoid of ledges, overhangs and other features that provide cover and shelter. Fish and shellfish populations in the harbor area would increase substantially as a result of the presence of the breakwater, based on observations of the effects of breakwater elsewhere in Hawaii. The overall effect would be enhancement of reef fish and shell fish resources in the immediate vicinity of the harbor, and a corresponding increase in recreational and subsistence fishing opportunity.

5.6 RESOURCE AND VALUES IDENTIFIED IN SECTION 122 OF PUBLIC LAW 91-611: Project related impacts on the environmental resources and values identified in Section 122 of P.L. 91-611 have been fully considered. Potential adverse impacts upon these resources resulting from project implementation are not significant.

6. PUBLIC INVOLVEMENT.

6.1 PUBLIC INVOLVEMENT PROGRAM. Early planning coordination involved informal discussions with members of participating government agencies and an initial public meeting at which testimony was received on the Corps proposed harbor improvement plan. A series of workshops were held to determine problems and needs related to potential harbor improvements and obtain input on alternative designs as they evolved during the course of the study. The final public meeting was held on 13 May 1980 at which time the results of the Corps investigations were presented for public review and comment. Additional information concerning the public involvement program is contained in Sections A and C of this report. A Notice of Intent to Prepare Draft Environmental Impact Statement was published in the Federal Register on 23 July 1979.

6.2 REQUIRED COORDINATION. Coordination was initiated with the U.S. Fish and Wildlife Service at the inception of the study to fulfill the requirements of the Fish and Wildlife Coordination Act. A preliminary report was submitted by FWS describing fish and wildlife in the project area, and was utilized as a planning aid during the study. The final FWS 2(b) Report discusses potential project impacts and recommends appropriate mitigation measures. The final report is included as Appendix D. Endangered species coordination with the National Marine Fisheries Service is complete. Formal consultation was initiated by the Corps in January 1980. A Biological Opinion was submitted by NMFS in April 1980, and is included in Appendix K. Coordination with the State Historic Preservation Officer (SHPO) has been completed. A cultural reconnaissance survey was conducted, and a Determination of Effect based on survey findings was fowarded to SHPO for his review and concurrence. A letter of concurrence was received on 29 February 1980.

6.3 STATEMENT RECIPIENTS. A list of agencies, groups and individuals who received copies of the draft EIS and report for review is included in Appendix J.

6.4 PUBLIC VIEWS AND RESPONSES. Strong public interest in the study and possible harbor improvements was demonstrated in the initial public meeting, held 23 January 1979 with over 200 persons in attendance, and subsequent workshops described in Section C of this report. The overall response to the study has been enthusiastic and favorable. Several public views were expressed that had a major influence on the study. An immediate need for harbor improvements to reduce surge and navigational hazards was unequivocally stated. Surfing interests pointed out tnat the channel alignment in the authorized plan would destroy a highly valued surfing area. Boaters also objected to this plan because it appeared to be similar to the pre-1955 harbor configuration which was proven ineffective in preventing waves and surge within the harbor. Concern was expressed regarding the potential effects of construction-related underwater noise and increased boating activity on the endangered Humpback whales that reside in Hawaiian waters including Maalaea Bay during part of the year. Alternate plans were developed based on these views and

further refined with additional input during three public workshops, where attendees fully participated in plan development. Results of this study were presented at the final public meeting, held on 13 May 1980 at Maalaea. General agreement was expressed that the recommended plan is acceptable and should be implemented as quickly as possible. Letter of comment on the Draft EIS and responses to these comments are included in Appendix K of this report.

Table XF-3
INDEX, REFERENCES AND APPENDICES

Subject	Environmental Statement	Main Report & Appendices
Affected Environment	p F-5-F-6, para 4	p 5-9, para 3 app C, D, E, G, H, I
Alternatives	p F-5, para	sec D app A
Areas of Controversy	p F-2, para 1.3 & 1.4	p 10, para 4.6, 4.7 app J
Comparative Impacts of Alternatives	p F-5, para 3.5	sec D app E
Cover Sheet	p i	Not applicable
Environmental Conditions	p F-5, para 4.1	p 5-9, para 3 app C, D, E
Environmental Effects	p F-6, para 5	app C, D, E, J
List of Preparers	p F-1	Not applicable
Major Conclusions and Findings	p F-2, para 1.1	p 35
Need for and Objectives of the Action	para 2	p 9-11
Planning Objectives	p F-3, para 2.3	p 11
Plans Considered in Detail	p F-5, para 3.3	sec D, E app B
Plans Eliminated From Further Study	p F-5, para 3.1	p 13, para 3 p 14, para 6
Public Concerns	p F-3, para 2.2	p 9-11 app E, J
Public Involvement	p F-7, para 6	p 14
Public Involvement Program	p F-7, para 6.1	p 4, 14
Public Views and Responses	p F-8, para 6.4	p 22, 23 app J

Subject	Environmental Statement	Main Report & Appendices
Relationship to Environmental Requirements	p F-3, para 1.5	p 10, para 4.7 p 34, para 6 p 27 para 5
Required Coordination	p F-9, para 6.2	p 3-4, para 5, 6, 7
Significant Resources	p F-5, para 4.2	p 8, para 3.15
Endangered Species	p F-6, para 4.7	p 10, para 4.7 app C, D
Surfing Sites	p F-7, para 4.8	p 10, para 4.6 app C, E
Reef Resources	p F-6, para 4.9	p 8, para 3.17 app C, D
Resources and Values Identified in Section 122 of Public Law 91-6111	p F-7, para 4.10	table D-5
Statement Recipients	p F-8, para 6.3	app J
Study Authority	p F-3, para 2.1	p 1
Table of Contents	p ii	p ii
Unresolved Issues	p F-3, para 1.5	p 34
Without Conditions (No action)	p F-5, para 3.3	p 11

APPENDIX B

SURFING SITES

SURFING SITES
(Excerpts from the COE General Design Memorandum &
Final EIS; Maalaea Harbor for Light-Draft Vessels, July 1980)

(Source: Appendix C, "para. 1.2 - Recreational Resources")

The Maalaea Bay region is considered to have high potential for public recreation. The coastline east of Maalaea comprises an almost continuous white sand beach with immediate public access. The ocean is generally calm with no strong longshore currents, permitting swimming and safe entry into the water. Nearshore waters are seasonally clear for snorkeling and diving, especially off Palalau where a rich, diverse coral reef area is located. Shell collecting within the bay is considered excellent and is a widely practiced recreational activity. Numerous surfing sites exist along the coast. Surf is seasonal, being dependent upon the south swell. One of the most notable of Maui's surf sites, commonly called the "Maalaea Pipeline" is located just east of Maalaea Boat Harbor. Another popular surf site, called "Off-the-Wall" is located off the harbor's south breakwater. Maalaea Harbor provides mooring facilities for commercial and recreational fishing and pleasure craft. Recreational fishing at Maalaea Harbor consists of pole and line fishing from the breakwater. In addition, spear and torch fishing are done near the breakwaters. Within the harbor, Nehu are occasionally caught for bait. Fish and shellfish taken by local fishermen from this area include manini, papio, oama, o'io, mullet, aholehole, weke, lobster, octopus and grapid crabs.

(Source: Appendix F, "para. 4.8 - Surfing Sites")

Two surfing sites within the Maalaea Harbor project area have been identified by surfing interests. One site known as "Off-the-Wall" is located 30-40 yards offshore of the middle of the south breakwater. The other break known popularly as "Maalaea Pipeline" is located east of the harbor entrance and breaks in an easterly direction. This break is considered to be exceptional, attracting surfing enthusiasts from all over the world. Both surfing sites are seasonal, dependent upon the south swell that normally occurs during the summer months.

(Source: Appendix E, "para. g - Social & Cultural Resources")

There are two surfing areas adjacent to Maalaea Harbor and are identified on Figure B-2 in the Main Report. Area No. 1, east of the harbor is the location of the "Maalaea Pipeline" which is considered "a classic and unique wave...it is unique in all the world" according to one local, long-time surfer (Ref. 16 - U. S. Army Engineer District, Honolulu, "Public Meeting, Maalaea Small Boat Harbor. Part III: Transcript of Public Meeting," 23 January 1978). According to the former publisher and editor for Surfer magazine, "it is one of the greatest waves in the world; it is one of the fastest waves and one of the most beautiful tubes. It wasn't created by the harbor" (Ref. 16). The other, less significant surfing area is about 40 yards south of the revetted mole, called "Off-the-Wall."

(Source: General Design Memorandum, "para. 2.8 - Impact Assessment")

Surfing areas of minor importance located adjacent to the existing entrance channel would be destroyed or modified by the placement of the new structures and dredging of the new entrance channel. A new surfing site may develop on the east edge of the new entrance channel. Surfing areas identified by local surfing interests as being of major importance would not be affected by the new structures and channel.

APPENDIX C

SECONDARY IMPACTS

SOCIAL IMPACTS[1/]

b. Health, Safety and Community Well-Being. The most significant beneficial effect of providing improvements to Maalaea Small Boat Harbor should be to improve the health and safety of boaters and indirectly the general community. Boating safety and the health of boat operators should improve under storm conditions because of owners of boats should less often feel the requirements to risk injury to save craft moored within the harbor when surge conditions are at a dangerous level. Improved passage through the harbor entrance channel should enhance boating safety. As one long time boater puts it: "I think we are farmers of the sea; we've been here for years and years, and we've spent a lot of sleepless nights trying to take care of the vessels out here" (Ref. 16). The health and safety problems at Maalaea not only affect the boaters using Maalaea Small Boat Harbor, but also the entire south shore of Maui and even Lanai Island. The reason for this is that the U. S. Coast Guard Cutter Newagen cannot remain moored within the harbor when surge conditions become unweildy. The following quote from one of the boat owners at the Public meeting held 23 February 1979 succinctly presents the issue:

> ....whenever we have the Kona storms and the south swells coming in, the United States Coast Guard has to go to Kahului Harbor, which leaves all the boaters that use the harbor of Maalaea, that use the harbor of Manele Bay in Lanai, that use the harbor of Lahaina, in complete distress if they have problems. You want me to tell you why: Because it would take them approximately three hours to run around from Kahului to Kahoolawe if they had to. Now you tell me, how much is it worth for two, three, four, five lives? Would you expect the ambulance and the rescue team from the Fire Department to go over to Kahului every time there is a Kona storm? No. What we want is to have this entrance channel changed so that there is no surge and so that the United Coast Guard can stay exactly where they are right now at all times. Now, I don't think this is asking too much. The public safety has just got to be corrected, and this is something that is one of our biggest problems--and it happens every single year. Every time the boat leaves the harbor, they don't just leave for the day. They leave until the Kona storm is over, which might mean four or five days a week. Now all it takes is one accident. Somebody calls for distress off of the island of Kahoolawe; they don't make it back, four lives are lost. How much is that worth? I say it's worth the change of the entrance of that harbor. That is all I have to say.

SOURCE: Excerpts from the COE General Design Memorandum & Final EIS; Maalaea Harbor for Light-Draft Vessels, July 1980.

1/ Appendix E, "para. b-e - Social Impacts"

c. Knowledge that a safe anchorage and fully navigable harbor is available should impart to the general community and to those families and relatives of boaters more of a feeling of security and community well-being than at present during storm and high surge conditions. This fact, together with the proposed enlargement of berthing spaces, may also encourage nonboaters to make the initial investment for a boat due to the knowledge of enhanced safety conditions and that losses due to surge-induced damage would be lessened on the average.

d. Recreational Opportunities and Distribution of Real Income. All plans enhance recreational boating opportunities including individually owned boats used solely for personal use and commercially operated dive and fishing charter boats. If the number of charter boats or their frequency of use increases as a result of implementation of any of the alternative, this would represent increased recreational opportunities for tourists and State-residents alike. Surfing opportunities should not be significantly affected. The world famous "Maalaea Pipeline" would not be affected by any of the alternatives.

e. Implementation of any of the improvements should stimulate greater development in Maalaea, contribute to increased work time devoted to commercial and semi-commercial fishing, encourage larger numbers of individuals to enter the fishing industry (full-time or part-time) and indirectly benefit various marine-related industries and retailers on Maui. Moderate growth of Maalaea can be anticipated, but this may place strains on utilities such as water supply, sewage disposal and roadway use and parking. Provision of increased parking facilities as part of Plan 1 may encourage commuters to use this facility instead of parking alongside the highway. Use of the parking area by tourists and tourist-buses utilizing commercial charters would probably also occur. Although there are no hotels at Maalaea, the construction of resort-oriented condominiums within areas zoned for apartment use has brought a marked increase of transients to the Maalaea community. Some advertisements of these condominiums either for short-term rental or for sale, explicitly mention the availability of a marina nearby. Increased expenditures by boaters will contribute to over sixty local businesses selling marine-related products and services. This should have direct and indirect effects on levels of employment in these and other visitor-plants units (hotels, restaurants, and tour companies). Increased growth of Maalaea and increased business revenues should generate larger tax revenues for both the State of Hawaii and County of Maui. These benefits will be offset by irreversible changes to the quiet, rural character of Maalaea, yet most of these trends are already in evidence.

CULTURAL IMPACTS[2/]

An interesting cultural attribute has become associated with Maalaea Small Boat Harbor and its breakwaters. Two areas in front of the jetty at Maalaea Harbor and at Maalaea reef on the Kihei side of the harbor have been described as surfing areas (Facilities Manual, 1975:151-152).

While both areas are used today, it is off the west and east breakwaters where the experienced and expert surfers ride the waves. It is, however, off the east breakwater where "the best, fastest, and most beautiful tubes in the world" exist, according to John Severson, editor of Surfer magazine (Hill, 1979:8). Thus, changes in the entrance to the harbor could alter this surfing site.

A quick review of the works on surfing in the Hawaiian Collection at Hamilton Library did not identify Maalaea as an important surfing site in the first half of the 20th century. Similarly, a review of the articles on surfing in Paradise of the Pacific brought about the same result. Maps showing ancient and modern surfing sites did not include Maalaea (Finney, 1959:48 passim). Residents of maui, when questioned, stated that they remembered surfing at Maalaea every weekend and all summer about 30 years ago. With further questioning it became apparent that the most commonly used surfing area was at the reef on the Kihei side of the harbor.

A review of the most recent list of sites included in or determined eligible for the National Register of Historic Places (44 Federal Register 7416, February 6, 1979 and more recent issues) shows no sites located in the vicinity of Maalaea Harbor, Maui. A similar search of the state Register of Historic Plans showed no sites listed for the project area.

SOURCE: Excerpts from the COE General Design Memorandum & Final EIS; Maalaea Harbor for Light-Draft Vessels, July 1980)

2/ Appendix E, "Cultural Impacts"

APPENDIX D

HUMPBACK WHALES

HUMPBACK WHALES

(Excerpts from the COE General Design Memorandum & Final EIS; Maalaea Harbor for Light-Draft Vessels, July 1980)

(Source: Appendix F, "para. 4.7 - Endangered Species")

The endangered Humpback Whale, Megaptera novaeangliae, is present in Maalaea Bay in the proximity of the Maalaea Harbor project area during approximately 6 months of the year from December through May. Maalaea Bay has been identified as one of four major whale breeding, calving and nursing areas in Hawaii. A proposal to include Maalaea Bay as part of a marine sanctuary under the Marine Protection Research and Sanctuaries Act of 1972 has been submitted to the Office of Coastal Zone Management for consideration. As yet, no formal action has been taken on this proposal. Maalaea Bay, from Hekili Point to Puuolai, is at present designated by Maui County as a Humpback Whale sanctuary. Regulations under the Endangered Species Act of 1973, as amended, and Marine Mammal Protection Act of 1972 prohibiting harassment of the Humpback Whale are being enforced by National Marine Fisheries Service personnel at Maalaea. The Hawaiian Humpback Whale population was recently estimated at approximately 290 whales (Ref. 5 - Shallenberger, E. W. (1977), "Humpback Whales in Hawaii, Population and Distribution"). The North Pacific population of Humpbacks is estimated at 850 whales (Ref. 6 - Rice, D. (1977), "The Humpback Whale in the North Pacific: Distribution, Exploration and Numbers"). Ed Shallenberger (1977) estimated the number of Humpback Whales in the Maui-Molokai-Lanai-Kahoolawe assembly area (about 700 square miles) at 90-100 whales. Maalaea Bay represents a small but significant portion of this area.

(Source: Appendix D, "Marine Biological Survey")

On March 18, 1979, Service biologists sighted six Humpback Whales (Megaptera novaeangliae) within Maalaea Bay. Three of these endangered marine mammals were sighted within one-half mile of the proposed project site. The National Marine Fisheries Service (NMFS) estimates that 50-70 percent of the North Pacific population of Humpbacks may winter in the relatively shallow, subtropical waters off the main Hawaiian Islands (Ref. 14 - National Marine Fisheries Service, Southwest Region, 1980, Endangered Species Act, Section 7, Consultation - Biological Opinion on Impacts of the Maalaea Harbor Project on Humpback Whales (Megaptera novaeangliae)). Approximately 500-700 whales concentrate in the area for breeding and calving activities between the months of December and May. They are particularly numerous in the waters over Penguin Bank, off the coast of the Island of Hawaii between Upolu and Keahole Points, and in the area bounded by Molokai, Maui, Kahoolawe, and Lanai. In recent years, boating has contributed, either willfully or inadvertently, to harassment of these animals. According to John Naughton of NMFS (personal communication), whales have exhibited avoidance behavior in response to turbid plumes which result from stormwater runoff and upland erosion. Furthermore, whales, particularly the Humpback, are acoustically oriented animals, and any sudden, unfamiliar, erratic, high-intensity noises, such as those caused by blasting, could cause the whales to abandon this area (Ref. 14).

(Source: Appendix D, "Marine Biological Survey")

Blasting and other project activities which propagate high-intensity noise in the marine environment are likely to disturb endangered Humpback Whales during their winter breeding, calving, and nursing activities in the Maalaea area. Prohibition of these project activities during the period between December and May should minimize these impacts, however.

(Source: Appendix D, "Marine Biological Survey")

Although direct, construction-related impacts on wintering Humpback Whales are considered "short-term," the National Marine Fisheries Service states, "Due to the already reduced numbers of Humpback Whales in the North Pacific population and their apparently low recruitment rate, the abandonment of a preferred and probably important habitat area and interruption of calving and nursing activities by a portion of the population for only one season would not be conducive to the conservation of the Species."(Ref. 14)

(Source: General Design Memorandum, "para. 4.7 - Problems and Needs")

Environmental problems regarding compliance with recently enacted legislation are numerous but are not unique with respect to harbor improvement at Maalaea except for the possible conflict with the endangered Humpback Whale, Megaptera novaeangliae. The relatively shallow offshore areas in the Hawaiian islands, including the waters of Maalaea Bay, are an annual breeding, calving and nursing ground for this species. The species is protected by Federal law. Certain aspects of harbor construction as well as increased boating activity resulting from harbor improvement could adversely impact the whales. Blasting during dredging operations would probably be the most damaging aspect of harbor construction with regard to the Humpback Whale. Several whales are usually present in Maalaea Bay during the winter months between December and May. See Appendices C, D, F and J for further discussion and information regarding Humpback Whales.

(Source: General Design Memorandum, "para. 2.10 - Impacts of Construction on Endangered Whales")

Dredging during harbor construction would temporarily stimulate predator feeding as prey organisms are exposed or attracted to the dredging activities. Dredging noise would attract some species while it may disturb others such as the endangered Humpback Whale. Blasting during dredging, if required, would kill and injure some marine organisms, and would probably disturb the Humpback Whale if that species were present.

(Source: General Design Memorandum, "para. 2.18 - Mitigation Requirements")

Mitigation Requirements. In response to recommendations of the National Marine Fisheries Service, construction-related blasting would be prohibited during times when Humpback Whales are expected to be present in Maalaea Bay. Possible adverse effects of increased boat traffic on the whales would be mitigated by implementation of Federal and local laws and regulations which are already established and in effect. Mitigation of temporary turbidity impacts during construction would require the Contractor to employ construction methods which do not cause excessive or

unnecessary turbidity. Damages to coral reef areas and associated ecosystems would be limited by establishing a construction easement beyond which construction activity would be prohibited. Excess dredged material may have to be stabilized against wind erosion if it is disposed in such a manner as to be exposed to the high winds common near Maalaea.

APPENDIX E

COMMENTS AND RESPONSES MADE DURING THE CONSULTATION PROCESS

CAPTAIN RICK GAFFNEY
Hawaii Marine Consultants,
P. O. Box 1855
KAHULUI, MAUI, HAWAII 96732

(808) 575-2340

JAN 23 7 18 AM '81

HARBORS DIVISION

TO Mr. Daniel Tanaka
DOT Harbors Division
869 Punchbowl Street
Honolulu, HI 96813

DATE January 21, 1980

SUBJECT Improvements/Maalaea Harbor
Request to be consulted party on EIS

Dear Mr. Tanaka:

Please place my name on the list of consulted parties in the development of the Environmental Impact Statement for improvements to Haalaea Boat Harbor on Maui.

As a resident of Maui and slip leasee at Maalaea Harbor I would like to be consulted in the prepartaion of this document and in all planning for improvements to the harbor.

☐ PLEASE REPLY ☐ NO REPLY NECESSARY

SIGNED
Captain Rick Gaffney

GEORGE R ARIYOSHI
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

IN REPLY REFER TO

January 23, 1981

HAR-EP 2622

DMT2		STY	
DK	F	YM	
CM			

RECD JAN 23 1981 RMTC

WK		DMA	
CSY		YJK	

Captain Rick Gaffney
Hawaii Marine Consultants, Ltd.
P. O. Box 1855
Kahului, Hawaii 96732

Dear Captain Gaffney:

Maalaea Boat Harbor, Maui
Job H. C. 4086

Thank you for your letter of January 21, 1981, in which you expressed a desire to become a consulted party during the preparation of the Environmental Impact Statement (EIS) for the Maalaea Boat Harbor improvements project.

For your information, we have sent a copy of your letter to our consultants, R. M. Towill Corporation, for their appropriate attention and action. They have been engaged by our division to provide us with an EIS and engineering design services for the subject harbor.

Your active participation during the planning stage of our efforts to provide meaningful improvements for the Maui boaters is appreciated. Please do not hesitate to contact us again should you have any questions or require our assistance.

Very truly yours,

DANIEL Y. TANAKA
Planner

Jan 30 3 05 PM '81
HARBORS DIVISION

FW

The **Sierra Club**

MAUI GROUP, HAWAII CHAPTER
P. O. BOX 416
HAIKU, MAUI, HAWAII 96708

January 29, 1981

Mr. Daniel Tanaka
Department of Transportation
Harbons Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Tanaka:

Please list this organization as a Consulted Party in the preparation of the environmental impact statement for IMPROVEMENTS TO MAALAEA BOAT HARBOR, Maalaea, Maui. Please send a copy of the draft EIS and retain us on your mailing list for additional dissemination of any relevant documents or news releases.

Yours sincerely,

John Bose, II
Maui Group Chairman

February 10, 1981

Reference: 1-13850-1-E

Mr. John Bose, II
Maui Group Chairman
The Sierra Club
P. O. Box 416
Haiku, Maui, Hawaii 96708

Dear Mr. Bose:

SUBJECT: Improvements to Maalaea Boat Harbor, Job HC 4086

Your letter of January 29, 1981 requested listing as a Consulted Party in the preparation of the EIS for subject project. We have been engaged by the State's Harbors Division, Department of Transportation, to provide consultant services on this project and are pleased to respond to your letter.

Enclosed please find a copy of the project's EIS Preparation Notice for your information. Please address any comments on this document to our office.

Your organization has been added to the project mailing list for additional information as it is developed. Your interest in this project is appreciated.

Very truly yours,

R. M. TOWILL CORPORATION

F. L. Vuillemot, P.E.
Project Engineer

FEB 5 3 50 PM '81

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

COMMANDER (dpl)
Fourteenth Coast Guard District
Prince Kalaniomole Federal Bldg.
300 Ala Moana Blvd.
Honolulu, Hawaii 96850

Serial 522
11000
5 FEB 1981

Department of Transportation
Harbors Division
869 Punchbowl Street
Honolulu, Hawaii 96813
Attn: Mr. Daniel Tanaka

Dear Mr. Tanaka:

The Fourteenth Coast Guard District will be greatly interested in reviewing the Environmental Impact Statement (EIS) for Maalaea Boat Harbor when it is completed. At this time, I have a few comments and suggestions that may be of assistance to you in the preparation of the EIS.

The EIS should consider the possibility of, and means of preventing, an increase in sewage pollution in the harbor due to an increase in the boating population. Some of the vessels berthed in the harbor may have Type I or Type II Marine Sanitation Devices (MSD). These devices do discharge treated sewage. Other vessels may have portable toilets or Type III MSD holding tanks. The toilets and holding tanks are probably emptied at sea. As a means of preventing possible sewage pollution in the harbor from these vessels, we recommend that a pump-out facility be installed at the marina.

In addition to sewage pollution, the Coast Guard is also interested in preventing oil pollution. We recommend that the marina have a waste oil facility for boaters who wish to empty their oil themselves. We also recommend that the marina have a small oil spill clean-up capability in case a spill does occur. If the proposed new fuel station for the harbor is involved in the bulk transfer of oil to or from a vessel that has a capacity of 250 or more barrels of oil, it may be regulated by 33 CFR 154 and 33 CFR 156.

The Coast Guard is presently constructing a mooring facility adjacent to the harbor. Any impact on the mooring facility or the berthing arrangement for the Coast Guard Cutter CAPE NEWAGEN will be of interest to us. As we mentioned in our comments on the Army Corps of Engineers study, Maalaea Harbor for Light Draft Vessels, the Plate E-1 proposed berthing layout example will not provide the CAPE NEWAGEN with the necessary space to turn around in order to enter or depart the harbor. The CAPE NEWAGEN is 95 feet in length. She needs at least 200 feet in which to turn around in bad weather conditions. Even after the problem of surge is alleviated, the wind will continue to affect shiphandling. Any berthing layouts should be reviewed by the Coast Guard.

If you have any questions about our comments, please contact LTJG Deborah Fontaine at 546-2862. Specific questions about the CAPE NEWAGEN can be addressed to LTJG KELLEY, Commanding Officer, USCGC CAPE NEWAGEN at 244-5256.

Sincerely,

A.C. TINGLEY
Captain, U.S. Coast Guard
Commander, Fourteenth Coast Guard District
Acting

R. M. TOWILL CORPORATION

PLANNERS • ENGINEERS • SURVEYORS • HYDROGRAPHERS
PHOTOGRAMMETRIC ENGINEERS • AERIAL PHOTOGRAPHERS
CONSTRUCTION MANAGEMENT

HONOLULU
677 ALA MOANA BOULEVARD SUITE 1016
HONOLULU, HAWAII 96813
TELEPHONE (808) 524-8200
CABLE ADDRESS "TOCOR"

BRANCH OFFICE:
1765 SCOTT BOULEVARD SUITE 210
SANTA CLARA, CALIFORNIA 95050
TELEPHONE (408) 985-1810

FCV

March 4, 1991

Ref: 1-13858-1E

Captain A. C. Tingley, USCG
Commander, 14th Coast Guard District, Acting
United States Coast Guard
Department of Transportation
Prince Kalanianaole Federal Building
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Dear Captain Tingley:

SUBJECT: Improvements to Maalaea Boat Harbor, Job H.C. 4086

Your recent letter to the Harbors Division of the State Department of Transportation concerning subject harbor improvements has been received. We have been engaged by the State's Harbor Division to provide consultant services on this project and are pleased to respond to your letter.

We have enclosed herewith a copy of the project's Environmental Impact Statement Preparation Notice. Please address any comments on this document to our office. Your office will be on the mailing list for the review of the project EIS.

We offer the following responses to your specific comments, in the same sequence

a. A sewage pump-out facility is planned for the improved harbor.

b. The suggestions on oil spills and oil pollution are excellent and will be considered in developing the harbor improvement plan.

c. Bulk transfer of oil is not foreseen.

d. The State's berthing plan does provide the required turning space.

We have enclosed the revised Recommended Berthing Plan (February 81) for your review.

We appreciate your constructive comments and look forward to consultations with the U.S. Coast Guard as the plan for improvements is developed further.

Very truly yours,

R. M. TOWILL CORPORATION

for Yoshio Morita, Manager
Engineering Department

FILE COPY

GREENPEACE

Daniel Tanaka
Dept. of Transportation
Harbors Division
869 Punchbowl St.
Honolulu, HI 96813

Dear Mr. Tanaka:

The Dept. of Transportations's EIS preparation notice for Improvements to Maalaea Boat Harbor indicates that the EIS will deal only with effects of the state project within the interior limits of the harbor.

Increased berthing capacity may adversely affect the humpback whales in Maalaea Bay by increasing whale harrassment. This problem was not adequately addressed in the Corps of Engineers' Design Memorandum.

It is essential that this problem be resolved before berthing space is increased. Enclosed you will find a copy of our comments on the Corps Design Memorandum, which should serve to outline a few of the areas which need to be addressed.

Thanks for your time. The staff of Greenpeace will do all that we can to help you address these important issues.

Sincerely,

Kelley Dobbs
Greenpeace Hawaii

GREENPEACE FOUNDATION • 913 HALEKAUWILA, HONOLULU, HAWAII 96814
A NON-PROFIT, TAX-EXEMPT ORGANIZATION • (808) 537-9505 • TLX 633175

August 13, 1981 HAR-EP 779

Mr. Kelley Dobbs
Greenpeace Foundation
913 Halekauwila Street
Honolulu, Hawaii 96814

Dear Mr. Dobbs:

Maalaea Boat Harbor Improvements, Maui
Job H. C. 4086

The Harbors Division is well aware of the sensitive nature of the humpback whale issue as it relates to the subject project. Accordingly, we have been in close contact with the Corps of Engineers to ensure that the marine habitat of these endangered mammals will not be adversely affected by the proposed action.

Because of the many serious concerns generated on behalf of the whales, the Corps has engaged the National Marine Fisheries Service (NMFS) to undertake further studies to investigate the project's impact on the whales in Maalaea Bay. Hopefully, the results of the NMFS's effort will provide sufficient data for the Corps to make their final judgement on the viability of the project. We feel any decision to abort or continue with the proposed improvements should be made by the Corps as they are administrators of the initial phase of this project. It is our intent to support the Corps' position on this matter.

We appreciate your comments and apologize for our late response.

Very truly yours,

DAVID K. HIGA
Chief

APPENDIX F

RESPONSES TO COMMENTS

GEORGE R. ARIYOSHI
GOVERNOR

JACK K. SUWA
CHAIRMAN BOARD OF AGRICULTURE

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

RYOKICHI HIGASHIONNA, Ph.D.
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D.

IN REPLY REFER TO

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

June 15, 1982

HAR-EP 4201

MEMORANDUM

To: Office of Environmental Quality Control

Subject: Improvements to the Maalaea Boat Harbor
Maalaea, Maui - THK: 3-6-01:2,34,43,49,50
3-8-14,28,31
Department of Transportation

The Department of Agriculture has reviewed this EIS and has no comments to offer. The copy of the EIS is returned for your further use.

We appreciate the opportunity to comment.

Jack K. Suwa
JACK K. SUWA
Chairman, Board of Agriculture

The Honorable Jack K. Suwa
Chairman, Board of Agriculture
Department of Agriculture
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Suwa

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated November 27, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

mber
Wailuku

Tom Stevens

MAUI PUBLISHING COMPANY LTD.

THE MAUI NEWS · KMVI · PRINTMASTERS
P.O. BOX 550 • WAILUKU, MAUI, HAWAII 96793

Office of Environmental Quality Control
550 Halekawwila Street
Honolulu, Hawaii 96813

Aloha,

I read with interest the recently released "Environmental Impact Statement for Improvements to the Maalaea Boat Harbor" and have taken this opportunity to comment on a couple of items in the statement.

First, as a long-time reader of government statements of various kinds, I would like to say that I found the Maalaea Harbor document clear and understandable and informative. The maps were good, the figures in order as far as I could determine, and the organization excellent.

I was disappointed to discover only passing references to the proposed project's potential impact on the Humpback Whale population, which is known to "calve" and is suspected to breed in Maalaea Bay. I understand that the whale issue is "still under investigation" by the Army Corps of Engineers and other federal agencies, but the importance of the issue would have merited an appendix of its own, in my opinion. As it stands, the statement might give some readers the impression that the whale breeding and calving question is being "skirted" by the state in the interests of timely approval of the construction plans.

(As a former Maalaea resident, I have seen on more than one occasion mother whales nursing their calves within 300 yards of the harbor entrance. This behavior is easily recognized, as the mother rolls over on her back, and the young whale lies on top of her while nursing. The mother uses her long pectoral fins to maintain their position during feeding, which can last as long as 20 minutes, from my observations, made at close range.)

The only factual error I noticed in the environmental impact statement concerned the surfing breaks that might be affected by the proposed harbor construction. The environmental statement (p. 2-2) identified two major breaks (these are circled on one of the maps) (fig. 2 along the harbor breakwaters, but there are actually four. I know this because I have surfed and body-surfed Maalaea for years. The environmenta statement says that the "two" Maalaea surf breaks would not be affected by the construction, but it fails to mention that the other two breaks would be destroyed. The report errs in identifying those two surf breaks (p. F-2) as the only ones along the harbor. The two that would be destroyed - the ones not included in the map - are popularly known as "Seaflite" and "Off the Wall." The Seaflite break, a very popular one, is located just Lahaina-side of the present Seaflite terminal, adjacent to the #2 break in your map, which is popularly known as "Buzz's" because it breaks offshore of Buzz's restaurant at the harbor. The other break - "Off the Wall" - is located at the seaward end of the present east breakwater. It is not the same as the Maalaea Pipeline.

Thank you, Tom Stevens

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES H. CARNAS
JAMES B. McCORMICK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

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

June 15, 1982

HAR-EP 3896

Mr. Tom Stevens
c/o Maui Publishing Company, Ltd.
P. O. Box 550
Wailuku, Maui, Hawaii 96793

Dear Mr. Stevens:

Environmental Impact Statement
for the Proposed Improvements to
the Maalaea Boat Harbor, Maalaea,
Maui, Job No. H.C. 4086

Thank you for your letter dated December 1, 1981 regarding the Maalaea Boat Harbor Project. We offer the following response to your comments.

a. Your comments on the suitability of the EIS document are appreciated.

b. The wide-spread concerns over the possible project impacts upon the whales is now recognized by including additional information from the responsible Federal agencies (U. S. Army Corps of Engineers and U. S. Fish and Wildlife Service) in the Revised EIS. The State views any potential adverse impacts upon the whales as a matter of concern and is following this issue closely with the local Federal agencies.

c. The U. S. Army Corps of Engineers has identified Surfing Area No. 1 as the "Maalaea Pipeline" and Surfing Area No. 2 as "Off-the-Wall." These two sites have been identified as the important surfing sites. As discussed in the Army's Final EIS (see Appendix A of the Revised EIS), the project will not affect these two sites; minor sites adjacent to the channel would be destroyed and a new surfing site would probably be created along the east edge of the channel

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

HANNIBAL TAVARES
Mayor

NOLLE R. SMITH, JR.
Director

COUNTY OF MAUI
DEPARTMENT OF PARKS AND RECREATION
RECREATION DIVISION
200 South High Street
Wailuku, Maui, Hawaii 96793

December 1, 1981

T O: Office of Environmental Quality Control

F R O M: Nolle R. Smith, Jr., Director

SUBJECT: Improvements to the Maalaea Boat Harbor

The Environmental Impact Statement does not indicate the extent of archaeological survey made and therefore, I recommend that this aspect be covered thoroughly before permits are issued to proceed.

Further, any improvements to the Maalaea Harbor should result in a greater passive area and active marine recreational accessibility by the public with no destruction of popular surfing spots.

Project implementation practices should be conducted with consideration for marine life, reef, and whale activity in order to create a minimum of disturbance to the Maalaea shoreline environment.

Thank you for this opportunity to present comments on the proposed project.

RICHARD HIGASHIOKA, PhD
DIRECTOR

DEPUTY DIRECTORS
WAYNE J YAMASAKI
JAMES R CARRAS
JAMES B MCCORMICK
JONATHAN K SHIMADA PhD

IN REPLY REFER TO

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

June 15, 1982

HAR-EP 3894

Mr. Nolle R. Smith, Jr., Director
Recreation Division
Department of Parks and Recreation
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Smith:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 1, 1981 regarding the Maalaea Boat Harbor. We offer the following reponses to your comments.

a. In reference to the extent of archaeological surveys made in the project area, research has been conducted by the Army's Corps of Engineers through available literature and consultation with the State's Department of Land and Natural Resources Historic Office. Those sites mentioned within the Environmental Impact Statement were the only ones the records noted. As the projected improvements will be confined within areas already heavily impacted by previous construction, the chance of discovery of new historical/archaeological sites is very small. However, the construction will be conducted with the usual safeguards to report and protect any new sites discovered. As stated within the Environmental Impact Statement (p 5-3): "The improvement plans will not affect the known historical sites near the existing restaurant."

b. The planned improvements will provide a greater passive area and active marine recreational accessibility, without any adverse impact upon surfing spots.

c. All construction practices will be geared toward the minimum disturbance of the environment of Maalaea Bay and its inhabitants. These practices will be observed at all times.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING
HAWAII HOUSING AUTHORITY
P. O. BOX 17907
HONOLULU, HAWAII 96817

PAUL A. TOM
EXECUTIVE DIRECTOR

WILLIAM A. HALL
ASSISTANT EXEC. DIRECTOR

IN REPLY REFER
0-158.1/3718

TO:

December 1, 1981

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

Gentlemen:

Subject: Improvements to the Maalaea Boat Harbor,
Maalaea, Maui

We have reviewed the Environmental Impact Statement to improve the interior facilities of the Maalaea Boat Harbor on the island of Maui and have no specific comments to offer relative to the proposed action.

Thank you for the opportunity to comment on this matter.

Sincerely,

PAUL A. TOM, Original Signed
PAUL A. TOM
Executive Director

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES H. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3890

Mr. Paul A. Tom
Executive Director
Department of Social Services &
Housing - Hawaii Housing Authority
P. O. Box 17907
Honolulu, Hawaii 96817

Dear Mr. Tom:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 1, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P.O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO:
ES
Room 6307

DEC 8 1981

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

Re: EIS - Improvements to the
Maalaea Boat Harbor,
Maalaea, Maui, Hawaii

Dear Sir:

We have reviewed the subject Environmental Impact Statement (EIS) and offer the following comments.

The Service provided a report, detailing the impacts on fish and wildlife resources, to the U.S. Army Corps of Engineers for their portion of the Maalaea Harbor project under the provisions of Section 2(b) of the Fish and Wildlife Coordination Act. A copy of this report was provided to the Hawaii Department of Land and Natural Resources, and is referenced in the EIS.

We do not believe the interior harbor improvements will have a significant long-term impact on resources for which the U.S. Fish and Wildlife Service is responsible. Construction activities, however, may have a short-term impact on the biota of Maalaea Bay.

In view of the preceding, we would not object to the proposed work provided the following conditions are included in the permit:

1. Extreme care will be taken to insure that no debris, petroleum products, or other deleterious materials be allowed to fall, flow, leach, or otherwise enter the water.

2. Piling, lumber or other material treated with creosote or other preservatives will be completely dry before being used in or near the water.

3. All construction activities within and adjacent to the water will be conducted so as to minimize turbidity and control erosion.

Additionally, we urge that if explosives are used to demolish the existing docks along the rock revetment, the demolition not occur during the season when humpback whales are in the area.

We appreciate this opportunity to comment.

Sincerely yours,

Ernest Kosaka
Project Leader
Office of Environmental Services

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CAIRNS
JAMES B. McCORMICK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3883

Mr. Ernest Kosaka
Project Leader
Office of Environmental Services
Fish and Wildlife Service
U. S. Department of the Interior
P. O. Box 50167
Honolulu, Hawaii 96850

Dear Mr. Kosaka:

Environmental Impact Statement
for the Proposed Improvements to
the Maalaea Boat Harbor, Maalaea,
Maui, Job No. H.C. 4086

Thank you for your letter of December 8, 1981 with comments regarding the Maalaea Boat Harbor Project.

The four conditions which you recommend for the proposed work to proceed are reasonable and desirable. They have been included in the Revised EIS and will be included in the construction permit conditions.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

APZV-EHE-E

Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Gentlemen:

The Environmental Impact Statement for Improvements to the Maalaea Boat Harbor, Maalaea, Maui has been reviewed and we have no comments to offer.

There are no Army installations or activities in the vicinity of the proposed project.

Sincerely,

Original signed by
RAY H. JYO
Deputy Director of Engineering & Housing

ADOLPH A. HIGHT
COL, EN
Director of Engineering and Housing

RYOKICHI HIGASHIONNA PH.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, PH.D

IN REPLY REFER TO

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

June 15, 1982

HAR-EP 3884

Mr. Ray H. Jyo
Deputy Director of Engineering & Housing
Department of the Army - USASCH
Fort Shafter, Hawaii 96858

Dear Mr. Jyo:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 9, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-9904

December 9, 1981

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

JOHN F. CHALMERS, M.D.
DEPUTY DIRECTOR OF HEALTH

HENRY H. THOMPSON, M.A.
DEPUTY DIRECTOR OF HEALTH

MELVIN K. KOIZUMI
DEPUTY DIRECTOR OF HEALTH

ABELINA SUADNO SHAW, M.A., J.D.
DEPUTY DIRECTOR OF HEALTH

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

MEMORANDUM

To: Office of Environmental Quality Control

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Improvements to the Maalaea Boat Harbor, Maalaea, Maui

Thank you for allowing us to review and comment on the subject EIS. On the basis that the project will comply with all applicable Public Health Regulations, please be informed that we do not have any objections to this project.

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

For MELVIN K. KOIZUMI

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

RYOKICHI HIGASHIONNA PhD
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES H. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA PhD

IN REPLY REFER TO

June 15, 1982

HAR-EP 3893

Mr. Melvin K. Koizumi
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Koizumi:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 9, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

HEADQUARTERS
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860

IN REPLY REFER TO
002:vjy
Ser 2373

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

Gentlemen:

Environmental Impact Statement
Improvements to the Maalaea Boat Harbor

The Environmental Impact Statement for the Improvements to the Maalaea Boat Harbor, Maalaea, Maui has been reviewed and the Navy has no comments to offer. As this Command has no further use for the EIS, the EIS is being returned.

Thank you for the opportunity to review the EIS.

Sincerely,

R. L. ELSBERND
Lieutenant Commander, CEC, USN
Deputy Facilities Engineer
By direction of the Commander

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3886

Lt. Commander R. L. Elsbernd
Deputy Facilities Engineer
Naval Base Pearl Harbor
Box 110
Pearl Harbor, Hawaii 96860

Dear Colonel Elsbernd:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 9, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

University of Hawaii at Manoa

Water Resources Research Center
Holmes Hall 283 • 2540 Dole Street
Honolulu, Hawaii 96822

10 December 1981

Office of Environmental Quality Control
550 Halekauwila St., Room 301
Honolulu, HI 96813

Gentlemen:

Subject: EIS for Improvements to the Maalaea, Maui, November 1981

We have reviewed the subject EIS and have no comment to offer. Thank you for the opportunity to comment.

Sincerely,

Edwin T. Murabayashi

Edwin T. Murabayashi
EIS Coordinator

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3895

Mr. Edwin T. Murabayashi
EIS Coordinator
Water Resources Research Center
University of Hawaii
Holmes Hall 283
2540 Dole Street
Honolulu, Hawaii 96822

Dear Mr. Murabayashi:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 10, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
P.O. Box 50166
Honolulu, Hawaii 96850

December 11, 1981

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

Subject: Improvements to the Maalaea Boat Harbor

Thank you for allowing us to review the Environmental Impact Statement for the above subject matter.

We are returning the EIS for your further use.

Sincerely,

Benjamin L. Jones
District Chief

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES H. CARRAS
JAMES B. McCORMICK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3885

Mr. Benjamin L. Jones
District Chief
Geological Survey - Water Resources Div.
U. S. Department of the Interior
P. O. Box 50166
Honolulu, Hawaii 96850

Dear Mr. Jones:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 11, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

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

REPLY TO ATTN OF: DEEV (Mr Yamada, 449-1831)

SUBJECT: Environmental Impact Statement for the Improvements to the Maalaea Boat Harbor

TO: Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, HI 96813

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

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

Kenneth W. Cowan

KENNETH W. COWAN, Colonel, USAF
Director of Civil Engineering

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

RYOKICHI HIGASHIONNA, PH.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMICK
JONATHAN K. SHIMADA, PH.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3887

Colonel Kenneth W. Cowan
Director of Civil Engineering
Headquarters 15th Air Base Wing (PACAF)
Department of the Air Force
Hickam Air Force Base, Hawaii 96853

Dear Colonel Cowan:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 11, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

Ronald
Lester
Design

Advertising Graphic Design Illustration Phone (808) 244-5633 84 Central Avenue Wailuku, Maui, Hawaii 96793

DATE; DEC 14, 1981

TO: OFFICE OF ENVIRONMENTAL CONTROL

SUBJECT; MAALAEA HARBOR EXPANSION

DEAR SIRS;

I FEEL THAT THE PROPOSED HARBOR EXPANSION ISNT IN THE BEST INTEREST FOR THE PEOPLE OF MAUI FOR SEVERAL REASONS. I'M SURE YOU ARE AWARE OF ALL THE REASONS, SO I WONT LIST THEM ALL, BUT A FEW; 1. TO COSTLY 2. DAMAGE TO OUR ENVIROMENT 3. HAZARD TO WHALES. 4. LOSS OF SURFING AREAS.

I ALSO FEEL A 2 STORY BUILDING ON A ISLAND WOULD BE A TERRIBLE EYE-SORE.

SOMETIMES WHEN A DIFFICULT DICUSSION IS TO BE MADE, IT'S BEST TO DO NOTHING, THAN TO GO AHEAD, AND LATER WISH YOU HADDONT. AND CAUSE IRRENERSABLE DAMAGE TO OUR BEAUTIFUL STATE.

PLEASE LISTEN TO THE RESIDENTS OF MAUI INSTEAD OF THE POWERFUL SPECIAL INTEREST GROUPS.

WARMEST ALOHA

Paul Lester

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

RYOKICHI HIGASHIONNA PH.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, PH.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3897

Mr. Ronald Lester
c/o Ronald Lester Design
84 Central Avenue
Wailuku, Maui, Hawaii 96793

Dear Mr. Lester:

Environmental Impact Statement
for the Proposed Improvements to
the Maalaea Boat Harbor, Maalaea,
Maui, Job No. H.C. 4086

Thank you for your letter dated December 14, 1981 regarding the Maalaea Boat Harbor Project.

The interest and concerns you have expressed toward the proposed harbor expansion are sincerely appreciated. The Federal and State projects have been developed over several years of planning and consideration of the environmental impacts. The project has a favorable cost-benefit ratio. Environmental concerns have been expressed and considered in the planning process. The potential hazards to whales are recognized and will be mitigated. The best surfing sites will be preserved. Every effort will be made to ensure that the two-story building is an attractive waterfront structure.

It is believed that the project benefits considerably outweigh the potential adverse impacts. The principal organization which has expressed general approval of the project is the Maalaea Boating and Fishing Club composed almost solely of Maui residents.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816

VALENTINE A. SHEFFMANN
MAJOR GENERAL
ADJUTANT GENERAL

DANIEL K. C. AU
COLONEL
DEPUTY ADJUTANT GENERAL

HIENG

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

Gentlemen:

Improvements to the Maalaea

Thank you for providing us the opportunity to review your proposed project, "Improvements to the Maalaea" Environmental Impact Statement.

We have completed our review and have no comments to offer at this time.

Yours truly,

Jerry M. Matsuda

JERRY M. HATSUDA
Captain, HANG
Contr & Engr Officer

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3891

Mr. Jerry M. Matsuda
Contracting and Engineering Officer
Dept. of Defense - Office of the
Adjutant General
3949 Diamond Head Road
Honolulu, Hawaii 96816

Dear Mr. Matsuda:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 14, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

(P)2019.1

Office of Environmental
Quality Control
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

Gentlemen:

Subject: Environmental Impact Statement
for the Improvements to the
Maalaea Boat Harbor

Thank you for this opportunity to review and comment on the subject project.

The project will not have any adverse environmental effect on any existing or planned facilities serviced by our department.

Very truly yours,

RIKIO NISHIOKA
State Public Works Engineer

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMICK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3892

Mr. Rikio Nishioka
State Public Works Engineer
Department of Accounting and
General Services
State of Hawaii
1151 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Nishioka:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 15, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

PODED-PV

17 December 1981

Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, HI 96813

Dear Sir:

Thank you for the opportunity to review the Environmental Impact Statement (EIS) for Improvements to the Maalaea Boat Harbor, Maalaea, Maui, sent to us on 23 November 1981. Based on our review, we provide the following comments:

a. The proposed harbor improvements will require a Department of the Army (DA) permit under Section 10 of the River and Harbor Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

b. According to the Flood Insurance Study for the Island of Maui, prepared by the Federal Insurance Administration, the proposed harbor improdvements site is subject to tsunami flood hazards where the approximate 100-year tsunami elevation is 11 feet above Mean Sea Level. The 100-year event has a one percent chance of being equalled or exceeded in any given year. We recommend that proposed structures in tsunami-prone areas be elevated to or above the base flood level to reduce the risk of flood damage; public utilities and facilities should be flood-proofed to minimize or eliminate the infiltration of flood-waters into the systems. Inclosure 1 is the Flood Insurance Rate Map prepared as part of the flood study. The map identifies the flood-prone areas in the Maalaea Bay area.

c. Page 2-3. The last sentence in paragraph 1 is incorrect. The cost of "State project" features are not included in Benefit-Cost Analysis. The Corps consider these features as self-liquidating. We suggest that the sentence be changed to read "The berthing layout indicated on Figure 3 was included to demonstrate a possible harbor configuration."

d. Page 3-7, paragraph 6. This statement, although quoted correctly from the historical report by P. Joerger and M. Kaschko, is not correct. The surf site in question is natural, not a result of construction of the harbor break-waters. In the Corps Final Report and EIS, a footnote to this effect was provided in the historical report.

e. Page 3-10, paragraph 2. Acanthuridae triostegus should be changed to Acanthurus...."

f. Page 3-11, paragraph 2. We question the validity of the statement that "...the greatest number of (humpback) whales occur in areas far from areas of dense human population or usage." This is certainly not the case in the offshore areas of Kaanapali, Lahaina, or Maalaea. We suggest the statement be deleted.

Sincerely,

KISUK CHEUNG
Chief, Engineering Division

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

RYOKICHI HIGASHIONNA, PH.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES H. CARRAS
JAMES B. McCORMACK
JONATHAN R. SHIMADA, PH.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3888

Mr. Kisuk Cheung
Chief, Engineering Division
Department of the Army - COE
Building 230
Fort Shafter, Hawaii 96858

Dear Mr. Cheung:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 17, 1981 regarding the Maalaea Boat Harbor Environmental Impact Statement. The following is offered in response to your comments on the subject Environmental Impact Statement.

a. The Harbors Division will coordinate closely with the Department of the Army and applicable documents will be filed at the appropriate time. The document, in question, Construction in Navigable Water, has been included in Section 12 - List of Necessary Approvals of this EIS.

b. The recommendations on structure elevations and the flood-proofing of public utilities and facilities will be design considerations in the next phase of development.

c. The recommended sentence change has been incorporated in the Revised EIS.

d. The recommended correction has been made in the Revised EIS.

e. The recommended correction has been made in the Revised EIS.

f. The statement in question is a quote from a recent study by Louis M. Herman, et al., University of Hawaii, entitled, The 1976/77 Migration of Humpback Whales into Hawaiian Waters: Composite Description, dated April 1980. Enclosed is an excerpt from this study which should clarify this statement. For clarity, this statement will also be included in the Revised Environmental Impact Statement.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

EXCERPT
FROM
THE 1976/77 MIGRATION OF HUMPBACK WHALES
INTO HAWAIIAN WATERS: COMPOSITE DESCRIPTION

Louis M. Herman, et al
University of Hawaii
April 1980

USAGE PATTERN

From Figures 7 to 9, a striking usage pattern emerges, of importance in assessing habitat preferences of whales. By and large, whales tend to be found in relatively greatest numbers in subregions that are most remote from areas of dense human population or human use. Thus, Niihau is preferred to Kauai. Oahu is little used, with the exception of the rural coastline of the north shore. The south coast, encompassing the Honolulu and Pearl Harbor areas, is little used. Penguin Bank has many whales, as does the remote southwest coast of Molokai. Fewer whales are seen near Kaunakakai. The uninhabited northeast coast of Lanai is highly preferred as is mid-Auau Channel and the rural area of the Kihei coast. Along the heavily populated southeast coast of west Maui, there is relatively lesser usage. On Hawaii, the areas along Upolu Point are nearly uninhabited by humans, while the lesser used central western coast (Kona coast) is heavily populated. This is not to say that human population is the only factor determining habitat preference. Deep water areas, such as Pailolo channel between Molokai and Maui, are little used except probably for ingress or egress. Also, there are some subregions with little human habitation that are little used by the whales, e.g., west Lanai. The windward areas of some of the islands are not used much, but this may reflect the limited extent of shallow water available. The high usage of the northeast coast of Hawaii shows that prevailing wind conditions may not be a major factor in determining usage. Also, Penguin Bank is regularly exposed to strong, gusty trades, but is highly preferred. North Kahoolawe is little used and has no human habitation, but is regularly bombed by low-flying military aircraft. The simplest generalization is that the whales tend to avoid areas of dense human habitation or use, selecting instead from among the remaining subregions of lesser habitation. In such selection, multiple criteria are undoubtedly used.

United States Department of Agriculture

Soil Conservation Service

P. O. Box 50004
Honolulu, Hawaii
96850

December 17, 1981

Mr. Roy Takemoto, Chairman
Office of Environmental Quality Control
550 Halekauwila St., Room 301
Honolulu, HI 96813

Dear Mr. Takemoto:

Subject: EIS for Improvements to the Maalaea Boat Harbor
Maalaea, Maui

We have reviewed the subject environmental impact statement and have no comments to offer.

Thank you for the opportunity to review this EIS.

Sincerely,

JACK P. KANALZ
State Conservationist

The Soil Conservation Service is an agency of the Department of Agriculture

SCS-AS-1
10-78

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3889

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

Dear Mr. Kanalz:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 17, 1981 regarding the Maalaea Boat Harbor Project.

We appreciate the time you spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna
Director of Transportation

GEORGE R. ARIYOSHI
GOVERNOR

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

George Yuen
Director
TELEPHONE NO.
548-6915

December 22, 1981

M E M O R A N D U M

TO: Ryokichi Higashionna, Director
Department of Transportation

FROM: Director for Office of Environmental Quality Control

SUBJECT: Environmental Impact Statement for Improvements to the Maalaea Harbor, Maalaea, Maui

We have reviewed the subject statement and offer the following comments for your consideration:

GENERAL COMMENTS ON THE EIS

The EIS in its present form has significant deficiencies that need substantial revisions before any recommendation of acceptance can be made. In other words, the EIS requires more than the preparation of a document. According to EIS Regulation 1:40, it involves,

> the entire process of research, discussion, preparation of a Statement and review. An EIS is meaningless without the conscientious application of the EIS process, as a whole, and should not be merely a self-serving recitation of benefits and a rationalization of the proposed action.

EIS Regulation 1:42 further states,

> The Environmental Impact Statement shall contain a public explanation of the environmental consequences of the proposed action. The contents shall fully declare the environmental implications of the proposed action and shall discuss all relevant and feasible consequences of the action. In order that the public can be fully informed and that the agency can make a sound decision based upon the full range of responsible opinion on environmental effects, this Statement must include responsible opposing views, if any, and significant environmental issues raised by the proposal.

Please note that such opposing views are not found in this EIS but found in the final EIS prepared by the U.S. Army Engineers. Consequently, we recommend that a pre-final be submitted to this Office for review and comment prior to filing a revised EIS with the Environmental Quality Commission.

CONSULTATION PROCESS

Although your agency filed a preparation notice and initiated a consultation process, we question whether any comments were actively sought by directly contacting those parties who made substantial comments in the final federal EIS on Maalaea Harbor. We bring to your attention EIS Regulation 1:41 which states, " ... agencies and applicants shall endeavor to develop a fully acceptable EIS prior to the time the EIS is filed with the Commission, through a full and complete consultation process, and shall not rely solely upon the review process to expose environmental concerns." As a result, valuable comments on surfing sites, secondary impacts, and humpback whales are not part of the EIS which could make the EIS a more adequate document.

AREAS THAT NEED DISCUSSION

The EIS should include discussion on water demand, sewage demand, energy demand, and traffic counts. It should also discuss the impact of water turbidity, blasting, increased boat traffic and the hydrofoil on the endangered species, the humpback whale.

Another area where the EIS lacks discussion is the relationship of the proposed project of the State Environmental Policy Act, Chapter 344, Hawaii Revised Statutes. Secondary impacts generated by the proposed project also lack discussion. This discussion should include cultural and social impacts as well as urban growth around the project site and the effect on land use planning.

The EIS needs further elaboration of the harbor's effect on the surfing sites. Because the surf has been described as "one of the best surfing sites in the state," discussion of the harbor's effect is warranted. More importantly, if there should be an effect on the surfing site, the Hawaii Coastal Zone Management law, section 205A-2(b)(1)(B)(ii) requires "replacement of coastal resources having significant recreational value, including but not limited to surfing sites."

The EIS should include discussion on the sewage pumpout station, its capacity, and where the sewage from the station is treated or disposed.

Lastly, the discussion on the humpback whale is not adequate. However, we will comment on the whales in a separate section.

WAITING LIST

The EIS states on page 2-3 that there are approximately 170 individuals on the waiting list for berths at Haalaea Harbor while Table 1 on page 2-6 indicates that there are 121 boats on the waiting list for berths. This discrepancy should be clarified. Furthermore, the waiting list should identify the number of residents and nonresidents on the list. If the list shows a large portion of nonresidents, then the EIS should discuss the relationship of nonresidents and the need for the project.

CORRECTION

Page 3-1 states, "The project is located on the Island of Maui, the Friendly Isle." The statement should read, "The project is located on the Island of Maui, the Valley Isle."

HUMPBACK WHALE

The discussion of the humpback whale needs to be expanded. The EIS should note that the humpback whale has been designated the State Mammal. It should also note that the offshore waters up to the 100 fathoms throughout the state are being proposed as a marine sanctuary for the humpback whales. The proposed project would directly affect the sanctuary. Discussion thus should include the effects of the expanded harbor on the proposed sanctuary and what mitigation measures will be implemented to reduce such effects.

The EIS should recognize that the National Park Service issued regulations on May 15, 1980 (Federal Register) to provide protection of the humpback whale at Glacier Bay National Monument, Alaska. In the formal response to the consulation process required under the Endangered Species Act of 1973, the National Marine Fisheries Service concluded that " ... uncontrolled increase of vessel traffic, particularly erratically travelling charter/pleasure craft, probably has altered the behavior of the humpback whales in Glacier Bay" and "that continued increase in the amount of vessel traffic ... is likely to jeopardize that continued existence of the whale." The regulations further recommended that the vessel traffic be limited and that vessel routing be flexible enough to accommodate the whales.

Therefore, it is important to recognize that many of these whales being protected at Glacier Bay, Alaska are the same whales migrating to Hawaii. Accordingly, it seems incongrous to protect these whales in Alaska by regulating and reducing vessel traffic there, while promoting an increase of vessel traffic in Hawaii. Consequently an expanded discussion is needed to fully and adequately consider the impacts of this project on the humpback whales. The discussion should not be limited to vessel traffic counts or effects on turbidity, but should include what effects will the harbor have on the mating, calving, and nursing of the whales and what mitigation measures will be proposed and enforced for such protection. Reference to Appendix A for further information on the whales is not adequate.

We recommend whenever possible, construction be limited to seasons where whales are not migrating throughout Hawaii. Blasting should be limited also.

ALTERNATIVES

The EIS fails to consider alternatives of sites. Although a discussion is given on various designs and schematics of the harbor, there is a foregone conclusion that the proposed action, expanding the harbor, is the only alternative. No mention of the alternative "no action" has been discussed nor other areas such as Lahaina, Kihei, or Wailuku. EIS Regulations 1:42 states

> A rigorous exploration and objective evaluation of the environmental impacts of all reasonable alternatives actions, particularly those that might enhance environmental quality or avoid or reduce some or all of the adverse environmental benefits, costs, and risks shall be included in agency review process in order not to prematurely foreclose option which might enhance environmental quality or have less detrimental effects... The analysis shall be sufficiently detailed to allow the comparative evaluation of the environmental benefits, costs, risks of the proposed action and each reasonable alternative.

This has not been done.

CIGUATERA

During the dredging and construction of Waianae boat harbor, the phenomena of ciguatera toxin poisoned the fish. Although

the correlation of dredging and harbor construction and ciguatera have not been formally established, experiments are being conducted on this topic. The EIS should discuss the likelihood of ciguatera toxin and what mitigation measures could be implemented to avoid or reduce such impacts. A discussion is warranted.

If you should have any question regarding this document, please do not hesitate to contact us.

George Yuen

Attachments - Addendum
List of Commentors

Addendum

WATER QUALITY

The EIS should include discussion on the impact of the shoreside facilities and boat repair activities on the water quality of the harbor. Consideration is not given to pollutants generated from boat activities such as paints containing heavy meatls, fuels from engines, sewage and litter or from shoreside facilities. A discussion is warranted on these matters.

COMMENTORS

FEDERAL

U.S. Fish and Wildlife Service	December 8, 1981
*Department of the Army	December 9, 1981
U.S. Geological Survey	December 11, 1981
*Naval Base Pearl Harbor	December 9, 1981
*Department of the Air Force	December 11, 1981
*U.S. Army Engineers	December 17, 1981
*Soil Conservation Service	December 17, 1981

STATE

*Department of Agriculture	November 27, 1981
*Hawaii Housing Authority	December 1, 1981
*Department of Defense	December 14, 1981
*Department of Accounting and General Services	December 15, 1981
*Department of Health	December 9, 1981

COUNTY OF MAUI

*Department of Parks and Recreation	December 1, 1981

UNIVERSITY OF HAWAII

*Water Resources Research Center	December 10, 1981

PRIVATE

Tom Stevens	December 1, 1981
Ron Lester	December 14, 1981

*denotes comments previously forwarded by commentor to DOT

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES H. CARRAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 3899

The Honorable Charles Clark, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street
Room 301
Honolulu, Hawaii 96813

Dear Mr. Clark:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 22, 1981 regarding the Maalaea Boat Harbor Project. The following is offered in response to your comments on the subject Environmental Impact Statement.

General Comments - The Revised EIS now includes the following paragraph in its correct location in Section 2, Project Description, as well as in Section 1, Summary, where it was located in the initial EIS.

> "It was initially planned to produce a single EIS for the Federal and State projects because of their interrelationship. However, it was not possible to produce the joint EIS because of scheduling priorities. The Final EIS for the Federal Project has been reproduced and included herein as Appendix A for its information on the impacts related to the Federal project. This EIS is primarily concerned with the impacts of the State project upon the environment."

It is believed that the above paragraph places this State EIS in its correct perspective, i.e., as a document complementary to the Federal Final EIS which is included as Appendix A in the Revised EIS. The "significant deficiencies" comment essentially relates to those areas where the Federal agencies have a primary interest. Supplementary Federal information has now been included in the Revised EIS as

Appendices B, C and D to amplify the discussion on surfing sites, secondary impacts and humpback whales, respectively. The Federal investigations into these areas are believed to be quite thorough. State investigations into the same areas would be redundant and inappropriate.

Consultation Process - Supplementary information from the Federal EIS process has now been included in Appendices B, C, and D on surfing sites, secondary impacts and humpback whales. These earlier comments and responses are believed to be essentially complete as handled in the Federal EIS process. It would have been non-productive to directly solicit similar comments from the same sources and to answer with similar responses.

Areas That Need Discussion - The revised EIS now includes the requested discussion on water, sewage and energy demands and traffic in Section 2, Project Description. Additional humpback whale information relative to water turbidity, blasting, increased boat traffic and the hydrofoil is now included in Appendix D.

The discussion of the relationship of the proposed project to the State Environmental Policy Act, Chapter 344, Hawaii Revised Statutes is now included in Section 10 of the Revised EIS. The secondary impact portion of Section 5 has been expanded to include additional discussion of cultural and social impacts as well as urban growth around the project site through supplementary information from the Federal EIS process which has now been included in Appendix C of this EIS. There will be no effect on land use planning. As indicated in Section 4, the project is in compliance with current land use plans of the County and State.

Further elaboration of the project's impact on surfing sites is now provided in Appendix B which includes the desired information on the significant surfing sites.

The sewerage plan for the harbor has been revised to provide a more centralized system with treatment and disposal by injection wells at a location near the base of the south breakwater. Additional information is now included under Section 2; Project Description, to describe the sewage pumpout station, its capacity and where the sewage is treated and disposed.

Waiting List - The approximate number of 170 individuals stated on page 2-3 was an earlier estimate, now appear to be excessive. In the Revised EIS it has been changed to 121. The waiting list figure of 121 shown on Table 1, page 2-6 is from a later, detailed list. The

waiting list does not identify residents and non-residents. The project berths must be open to all on an equal basis. Berthing spaces in State-owned harbors are made available on a first-come, first served basis by the State Harbors Division without discriminating against persons with regard to their address, except that non-residents pay a higher waiting list fee.

Correction - The correction noted has been incorporated in the Revised EIS.

Humpback Whale - Detailed information on the Federal investigation of the humpback whale is now included in Appendix D. The State will rely upon the Federal investigation which is continuing.

Alternatives - The harbor modification project at Haalaea Small Boat Harbor was included in a survey study for the coasts of the Hawaiian Islands which was authorized under Section 110 of the River and Harbor Act of 17 May 1950. The report, "Survey of the Coasts of the Hawaiian Islands" was completed 30 June 1967. The project at Haalaea Harbor was included as one of three harbor projects recommended for authorization. The Haalaea project, included in House Document Number 353, 90th Congress, dated 8 July 1968, was authorized for construction by Section 101 of the River and Harbor Act, 13 August 1968 (Public Law 90-483). The project remained in an unfunded status until November 1978, when advanced engineering and design studies were funded and initiated by the COE. The State Department of Transportation, Harbors Division, concurrently initiated plans to improve the internal berthing configuration of the harbor. Lahaina Boat Harbor, another project authorized by Congress, but under another authorization, had proceeded to the planning phase by the State but was deleted because of strong opposition from historic and environmental interests. This has placed increased importance upon the improvements to nearby Haalaea Harbor. The Revised EIS now includes a discussion of the "No Action" and other alternatives.

Ciguatera - The possibility of fish contamination with the toxin Ciguatera does exist during the dredging and breakwater construction period. This is from information obtained from Dr. Albert H. Banner, former program head of the Ciguatera (Marine Toxins) Program at the University of Hawaii. Additional information provided indicates that the bloom of this benthic dinoflagellate will occur whenever proper nutrient conditions exist, whether it be a natural occurrence in nature or caused by construction activities.

The State Department of Health (Communicable Disease Division) has no formal ciguatera regulations, but recommends the following precautions which will be observed during construction:

1. Warn work crews during the construction period of the possible dangers.
2. Avoid Kahala and Ulua caught in these waters.
3. Circulation of State Department of Health publication, "What You Should Know About Ciguatera."

Water Quality - The maintenance of water quality of the harbor in regard to pollutants generated from boat repair activities and shoreside facilities such as paints, fuels from engines, sewage and litter will be handled by State Department of Transportation, Harbors Division, and the U. S. Coast Guard through routine policing activity.

This will minimize any adverse impacts. The use of heavy metal paints should not be a problem for very few heavy metal base paints are still in use. The majority are epoxy or co-polymer base paints.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

STATE OF HAWAII
DEPARTMENT OF PLANNING AND
ECONOMIC DEVELOPMENT
P. O. Box 2359
Honolulu, Hawaii 96804

December 23, 1981

Ref. No. 4039

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

Attention: Mr. Melvin Koizumi

Dear Sir:

Subject: Nualaea Harbor Improvements Environmental Impact Statement

We have reviewed the subject environmental impact statement (EIS) and offer the following comments with respect to the relevant objectives and policies of the Hawaii Coastal Zone Management (CZM) Program.

Economic Uses: Insure that coastal dependent development such as harbors and ports...are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area.

The proposed project is expected to result in expanded recreational and commercial use of the harbor by boaters, fishermen, surfers and private businesses. Given the limited amount of adjacent State-owned land, conflicting demands for support facility space are likely to occur. A parking area for the non-boating public, washdown facilities for surfers, and bus loading areas for commercial tourist-oriented or marine transportation vessels can be viewed as necessary amenities of different user groups. The EIS, therefore should identify any potentially conflicting recreational and commercial uses and describe how they have been or will be addressed in the project's planning phase. This will assist in assuring that possible adverse social impacts are minimized.

Coastal Hazards: Insure that developments comply with requirements of the Federal Flood Insurance Program

As indicated on page 3-2, the proposed project is located within a designated tsunami flood zone. With respect to the harbor support facilities, we note that no mention is made of any design considerations which will assure full compliance with the County-implemented requirements of the Federal Flood Insurance Program.

Thank you for the opportunity to comment on the subject EIS. Should any questions arise concerning our response, please feel free to contact us at any time.

Sincerely,

Hideto Kono

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMICK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

June 15, 1982

HAR-EP 3900

The Honorable Hideto Kono, Director
Department of Planning and
Economic Development
State of Hawaii
Kamamalu Building
250 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kono:

Environmental Impact Statement
for the Proposed Improvements to
the Maalaea Boat Harbor, Maalaea,
Maui, Job No. H.C. 4086

Thank you for your letter dated December 23, 1981 regarding the Maalaea Boat Harbor Project. We offer the following responses to your comments.

a. Economic Issues

The Environmental Impact Statement process and the several public meetings associated with the project have identified the interest of the various recreational and user groups. Their existing uses of the harbor have evolved through the years under the supervision of the Harbors Division and are essentially not in conflict. This situation should remain unchanged with the development of the harbor improvement.

b. Coastal Hazards

Full compliance with the County-implemented requirements of the Federal Flood Insurance Program is assured during the subsequent design phase which includes close State and County coordination and compliance with design standards. This has now been explained in Section 2, page 2-8, Project Description, of the Revised Environmental Impact Statement.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

GEORGE R. ARIYOSHI
Governor of Hawaii

SUSUMU ONO, Chairman
Board of Land & Natural Resources
EDGAR A. HAMASU
Deputy to the Chairman

DIVISIONS:
Aquaculture Development Program
Aquatic Resources
Conservation and Resources Enforcement
Conveyances
Forestry and Wildlife
Land Management
State Parks
Water and Land Development

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

December 23, 1981

Office of Environmental
Quality Control
Room 301
550 Halekauwila St.
Honolulu, HI 96813

Gentlemen:

We have reviewed the November 1981 EIS for improvements to Maalaea Boat Harbor. We support the general intent and purpose of the proposed project, which is to increase the safety and berthing capacity of the existing harbor.

We note that "the harbor is...extensively used by commercial fishermen" (p. 3-15) and that there now exists a waiting list of 170 individuals desiring berths at Maalaea (p. 2-3).

We concur with the applicant's assessment that the project would "contribute significantly to...increased fishing and recreational activities" (p. 8-1). Moreover, we note that "Maalaea is one of the few harbors with the potential for additional mooring capacity" (p. 3-16).

We believe disturbance of marine environments from harbor development may be minimized by expansion of existing harbors rather than by construction of additional harbors in new locations.

There are several aspects of the proposal in which we have additional concerns:

1. Destruction of aquatic organisms

We note that surveys within the existing harbor (p. 3-10) have identified "abundant" quantities of Japanese oysters (Crassostrea gigas), pipipi (Nerita picea), makaawa (Morula granulata), akolea (Littorina pintado), and manini (Acanthurus triostegus) all of which are edible and, with the exception of the Japanese oysters, are recreational/subsistence resources. Additionally, the "abundant" grey-foot opihi (Cellana exarata) are prized by recreational and commercial fishers; and the "abundant" nehu (Stolephorus purpureus), vital to the aku fisher, are harvested for bait from Maalaea Boat Harbor. It should be further noted that Maalaea Boat Harbor supports a short, but intense seasonal, recreational fishery for hahalalu. These resources are virtually ignored in Section 6, PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED, and Section 9, IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES. It appears that the project shoreline/"marginal wharf" area and "Harbor Center" fill area and causeway would result in a loss of habitats for oysters, makaawa, manini, and nehu; these structures, together with the proposed docks and piers, may on the other hand provide an enhanced substrate for benthic organisms.

We also note that "some blasting may be used to aid in harbor depth excavation...(which) could possibly have an adverse impact" (p. 54) on the humpback whales which winter and calve in Maalaea Bay. We are concerned that these endangered and valued animals not be subjected to such disturbance; we therefore strongly urge that the mitigating measures mentioned (keeping blasting to a minimum and confining all blasting to seasons in which humpback whales absent themselves from Hawaiian waters; ibid.) be employed.

We suggest that the potential for adverse impacts from construction on marine resources could be minimized by adherence to the following precautions:

1. Construction and fabrication (e.g., of dock assemblies and armor units) should take place in so far as is possible on fast land;

2. Construction practices and special mitigative measures should be employed, especially during dredging, to prevent persistent turbidity and excessive sediment transport into areas of significant living coral coverage;

3. Lumber and other construction materials treated with creosote or other preservative substances should not be permitted to contact the water until after at least one week of drying;

4. Construction materials, petroleum products, human wastes, debris, and landscaping substances (herbicides, fertilizers, pesticides) should not be permitted to fall, flow, or leach into the ocean.

2. Water circulation

Whether or not any of the above organisms would return to, and persist in, the remodeled harbor would depend not only on substrate suitability but also on the subsequent water quality. Inasmuch as the proposed configuration of the entrance channel is intended to reduce surge, it would also inevitably diminish exchange of water between the harbor and the open ocean. We are particularly concerned that the proposed "Harbor Center" may result in stagnant areas inhospitable to marine life (and aesthetically unappealing). We note that (water circulation will be maintained under the causeway by use of culverts" (p. 2-9); as represented in Figure 5, there would be two culverts, each between five and six feet in diameter.

We suggest the applicant insure that conditions unfavorable to marine life do not develop. The "back bay" waters--between the Harbor Center causeway and Old Maalaea Road--and "east bay" waters--between the causeway and south breakwater--should be exchanged with open ocean waters at least once in every 24-36 hours. If necessary, the proposed design might be modified to include replacement of the proposed causeway culverts with a section of roadway elevated on pilings, increasing the number or size of the culverts, installation of passage of water circulation at the eastern end of the south breakwater, or some combination of these.

3. Pollution

The quality and quantity of aquatic resources in the rebuilt harbor would be affected also by potentially harmful substances introduced to the waters. We concur with the applicant that "pollution by sewage disposal and oil spills is a matter of some concern" (p. 5-7). We fully support the applicant's proposals of additional comfort stations, a pumpout station to receive sewage from vessel holding tanks, and on-site, "interim" sewage treatment plants to serve the stations. We would further strongly urge that the applicant not allow residential use ("live-aboard") at Maalaea Boat Harbor. However we are less certain of the suitability of the proposed disposal "primarily by injection wells" (p. 2-16) at unspecified locations. If the proposed wells would be situated such that nutrients seep excessively into the harbor, eutrophication may result in degredation of the water quality, especially if water circulation is inadequate.

We note moreover that "litter, debris and oil from small spills will probably increase" as a result of the proposed project (p. 5-6). We find no proposals to mitigate the potential problems of litter, debris, and oil spills, simply the observation that "dumping of oil within the harbor is also prohibited by law" (p. 5-7).

Inasmuch as the responsibility for enforcing harbor laws and rules lies with the applicant, the applicant should indicate what additional enforcement measures would be taken to mitigate the above potential impacts.

4. Parking

Proposed are at least 388 additional aprking stalls (104 stalls, including bus spaces, on the fill area adjacent to the south mole; 73 on the south breakwater; an indefinite number of possible trailer stalls adjacent to the existing access roadway; 65 stalls fronting the new wharf; 50 stalls on the "Harbor Center: fill area; and 96 stalls on the expanded east mole; pp. 2-5 to 2-10). This is likely to increase the amount of traffic-related pollutants (exhaust residues, leaked lubricants and fluids, rubber particles abraded from tires, and such) and debris (e.g., empty cans and bottles, discarded food wrappers, cigatette butts, etc.).

Sincerely,

SUSUMU ONO, Chairman
Board of Land and Natural Resources

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII

HITOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
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JAMES H. CAMPAS
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO

June 15, 1982

HAR-EP 4202

The Honorable Susumu Ono
Chairman
Board of Land and Natural Resources
Department of Land and Natural
Resources
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Ono:

Environmental Impact Statement for
the Proposed Improvements to the
Maalaea Boat Harbor, Maalaea, Maui,
Job No. H.C. 4086

Thank you for your letter dated December 23, 1981 regarding the Maalaea Boat Harbor Improvements. We have prepared the following responses to your comments, in the same numbered sequence.

1. Destruction of Aquatic Organisms

We appreciate your observations relating to the recreational/subsistence and commercial resources of the harbor. Your comments referring to the grey-foot opihi, nehu and halalu have now been addressed in the sections you mentioned. The precautions you have listed in respect to minimizing adverse impacts resulting from construction activities and materials are well taken and are now incorporated into Section 5 of the Revised Environmental Impact Statement.

2. Water Circulation

We share your concern about water circulation in the harbor. Design considerations along the lines you suggested will be evaluated in detail during the design phase. It should be noted that the diurnal tidal cycles will aid significantly in the desired flushing action.

3. Pollution

The planned layout of sewerage facilities has been revised and is now included in Section 2 of the Revised Environmental Impact Statement. The revised layout will include a new collection system from the existing and planned comfort stations to a new interim treatment plant location on State land near the root of the South Breakwater. The three existing cesspools will be abandoned and filled. The net result will be a much improved water quality environment within the harbor.

The probable increase of litter, debris and oil is believed to be inevitable with the growth of the harbor population. The State response to this potential for degradation will be an increase in the continuing efforts to inspect, maintain and enforce existing regulations which ensure a clean environment.

4. Parking

The likely increase of traffic-related pollutants and debris is anticipated and believed to be manageable. There are a number of State harbors with much larger traffic that have been kept clean and attractive through vigilant supervision and maintenance.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

February 5, 1982

Environmental Quality Control
550 Halekauwila St.
Rm. #301
Honolulu, Hawaii 96813

To Whom It May Concern:

Re: MAALAEA HARBOR IMPROVEMENTS

Enclosed is a letter which we sent to the Department of Transportation's Planning Department concerning improvements to Maalaea Harbor. These suggestions were directed to R. H. Towill Corporation as input in the study they were conducting at the time. Bud Viulmont of R.M. Towill Corp. came to Maui only once, at the start of the planning, consequently all suggestions had to be made by mail.

After reviewing the EIS, dated November 1981, we must reemphasize that the enclosed recommendations are essential in the design and construction of this project. The report in all other ways parallels the Draft-design memorandum No. I, published by the U.S. Army Corps of Engineers is in order and endorsed by the Maalaea boaters.

I would like to remind all concerned that you will be recieving in February, the final report of the Maui Boating Task Force which was appointed by Gov. Ariyoshi. These recommendations and suggestions should clarify the needs and desires of out boating community.

We appreciate this opportunity once again to comment on Maalaea Harbors needs. If there are any further questions, feel free to contact this Association.

Very Truly Yours,
Conrad Ventura

Conrad Ventura, President MCFA
Maui Boating Task Force Member
3181 Nahenahe Place
Kihei, Hawaii 96753

3181 Nahenahe Place
Kihei, Hawaii 96753
November 17, 1980

Planning Branch
Harbors Div., DOT
79 S. Nimitz Hwy.
Honolulu, Hawaii 96813

Dear Sir,

After attending the hearing held at Maalaea concerning the improvements to the interior of the Harbor we have come to the conclusion that all 3 concepts, as proposed, would create much congestion and hazardous conditions to navigation and the craft themselves.

We realize that these concepts (or plans) were drawn with a cost benefit ratio in mind and are aware of the demands that currently exist.

It is our opinion, as stated at the public hearing with Bud Viulmont from RM Towill Corp., that changes must be made with considerations given to the dominating tradewinds which are often 25 to 30 mph, and the fact that a great deal of the vessels are single screw deep draft fishing boats. As a result these suggestions were made:

1) the proposed area for a fuel station be relocated to the NW end of the harbor near the storm drain.
2) the south break water have the existing moorings redone and additional of the same type installed.
3) Where practical, construct berthing at 45 degree angles to make navigation in and out easier and safer.
4) Apply suggested layout as shown on illustration, to the areas of the proposed fuel station, on concept 1. As an alternative to increase the cost benefit ratio apply concept 3 to this area, with modifications.
5) Pave the area located at the North end of the harbor currently used for parking. (West of the proposed CG building.)

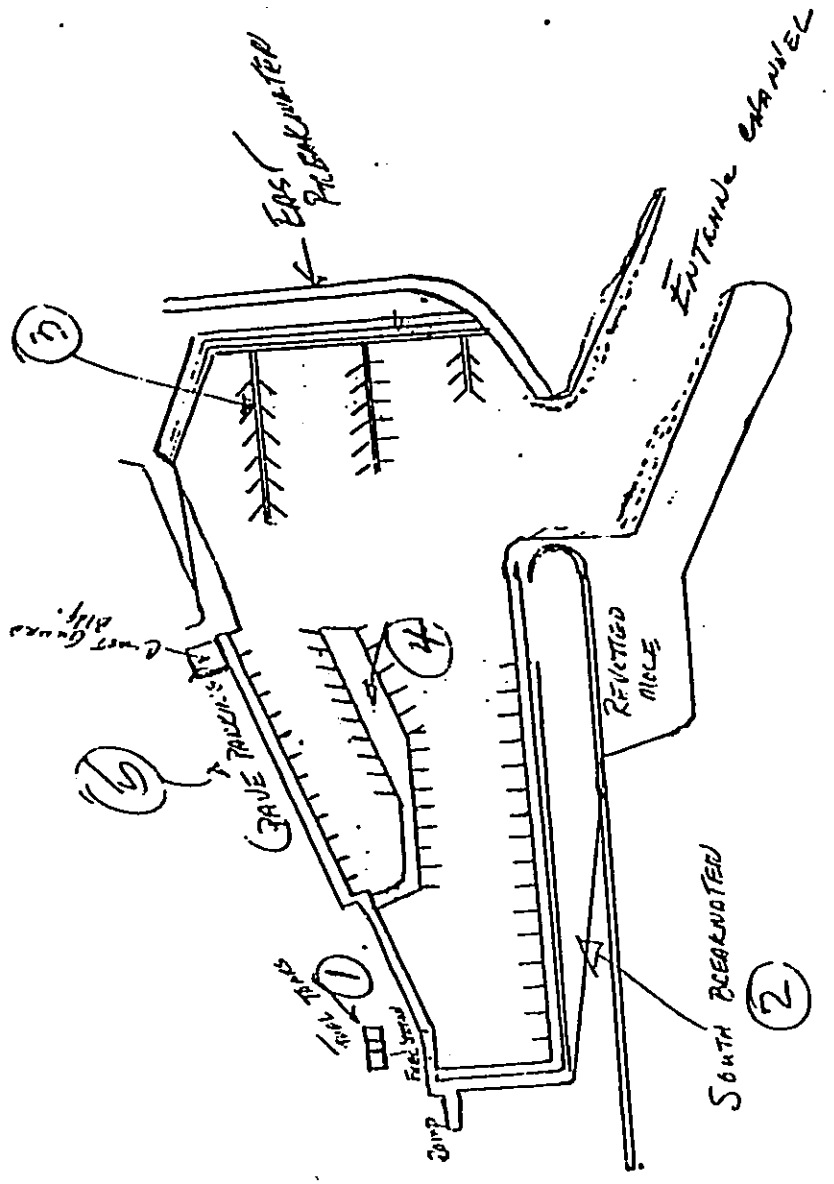
These few suggestions we feel are essential to making Maalaea Harbor safer and more practical.

We look forward to working closely with you in planning the needed changes to our harbor. If there are any further questions, please feel free to contact this Association.

Very truly yours,

Conrad Ventura, President
Maui Cooperative Fishing Assoc.

encl.



STATE OF HAWAII
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869 PUNCHBOWL STREET
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IN REPLY REFER TO

June 15, 1982

HAR-EP 3898

Mr. Conrad Ventura, President
Maui Cooperative Fishing Association
3181 Nahenahe Place
Kihei, Maui 96753

Dear Mr. Ventura:

We are in receipt of your letter of February 5, 1982 which forwarded comments on the Environmental Impact Statement for the planned improvements to the Maalaea Boat Harbor. We offer herewith our response to your comments in that letter and in the November 17, 1980 letter enclosed therewith.

Comments in February 5, 1982 Letter

The R. M. Towill engineer planners visited the harbor site on two separate occasions, one being to participate in the public workshop meeting on November 12, 1980, to which you refer in your letter.

The recommendations indicated in your enclosed letter were a valued input to the final harbor plan as presented in the EIS. The recommendations were based upon the three original concepts. The final berthing plan strongly reflects these recommendations.

Comments on the November 17, 1980 Letter

The final plan does not include the congestion and hazardous conditions found in the three original concepts. Cost/benefit ratios were of course significant in the evaluation of the final plan. Consideration was given, per your suggestion, to the dominating trade winds and the difficulties of maneuvering with large single screw vessels. We offer the following responses to your specific suggestions:

a. The location of a fuel station in the northwest end of the harbor would create a dangerous situation by funneling traffic to the most remote part of the harbor. This siting would also create congestion due to its close proximity to the launching ramp.

b. This suggestion on the existing moorings has been incorporated into the final plan.

c. This suggestion has been incorporated into the final plan.

d. A modification of this suggestion has been incorporated into the final plan.

e. Paving of the area located at the north end of the harbor has been incorporated into the final plan.

We appreciate the time you have spent in reviewing our document.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation