KAHULUI COMMERCIAL HARBOR

2030 MASTER PLAN AND DRAFT ENVIRONMENTAL IMPACT STATEMENT

DECEMBER
2007

State of Hawai'i, Department of Transportation, Harbors Division

U.S. Department of Transportation Maritime Administration

Kahului Commercial Harbor 2030 Master Plan
Draft Environmental Impact Statement

Job H.C. 90023

District of Wailuku, County of Maui

Tax Map Keys:
3-7-1: parcels 21, 22
3-7-8: parcels 1, 2, 3, 4, 6, 28, 29
3-7-10: parcels 1, 2, 3, 6, 13, 15, 17, 18, 22, 25, 26, 27, 32, 33, 34, 36, 37, 38

Proposing Agency:

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 South Nimitz Highway
Honolulu, Hawai'i 96813

Responsible Official: _____ 12-11-07

BRENNON T. MORIOKA, Ph.D., P.E.
Acting Director of Transportation

Date

Prepared by

Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawai'i 96819

December 2007

This document is prepared pursuant to Chapter 343 of the Hawai'i Revised Statutes; the Hawai'i Administrative Rules Title 11, Chapter 200; and the National Environmental Policy Act of 1969 (42 United States Code §4321, et seq.) as amended, and as implemented by the Council on Environmental Quality regulations (40 Code of Federal Regulations Parts 1500 to 1508).

State of Hawai'i
Department of Transportation

Prepared by:
Harbors Division

for

Kahului Commercial Harbor 2030 Master Plan
Draft Environmental Impact Statement

Maui Island, Hawai'i

This Master Plan and Draft Environmental Impact Statement was prepared under my direction, and the information submitted, to the best of my knowledge, fully addresses the document content requirements set forth in Hawaii Administrative Rules Section 11-200-17.

Responsible Official: _____ 12/11/07
MICHAEL D. FORMBY — Date
Deputy Director Harbors Division

PROJECT SUMMARY SHEET

Project Name: Kahului Commercial Harbor 2030 Master Plan and Draft Environmental Impact Statement

Location: Kahului Commercial Harbor

Judicial District: Wailuku

Tax Map Keys: 3-7-1: parcels 21 and 22; 3-7-8: parcels 1, 2, 3, 4, 6, 28, and 29; and 3-7-10: parcels 1, 2, 3, 6, 13, 15, 17, 18, 22, 25, 26, 27, 32, 33, 34, 36, 37, and 38.

Applicant: Harbors Division, State of Hawai‘i Department of Transportation

Contact: Harbors Division
Department of Transportation
79 S. Nimitz Highway
Honolulu, HI 96813

Note: for NEPA submittal, Maritime Administration is lead Federal agency:

Contact: Maritime Administration
U.S. Department of Transportation
West Building
Southeast Federal Center
1200 New Jersey Avenue, SE
Washington, DC 20590

Consultant: Belt Collins Hawaii Ltd.
2153 N. King St., Suite 200
Honolulu, Hawai‘i 96819
Contact: Mr. John Kirkpatrick

Approving Agency: Office of the Governor, State of Hawai‘i

Land Area: Approximately 448 acres (of which 374 acres are submerged lands within the harbor.)

Recorded Fee Owner: State of Hawai‘i

Existing Use: Public/Commercial Harbor

State Land Use District: Urban and Conservation

County of Maui Zoning: Most of the land area affected is zoned M-1 or M-2 (light or heavy industrial use). The West Breakwater area includes Interim, Residential, and Conservation zoning, while the submerged land within the harbor is zoned Conservation. The Wailuku-Kahului Community Plan identifies the West Breakwater as a park area.

Consulted Parties: Harbors Division has consulted with agencies and stakeholders through the Maui Harbor Users Group meetings and separate interviews. Consulted parties include:

- U.S. Army Corps of Engineers;
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service;
- U.S. Department of the Interior, Fish and Wildlife Service,
- U.S. Environmental Protection Agency;
- U. S. Coast Guard;
- Hawai‘i Department of Land and Natural Resources;
- Hawai‘i Department of Business, Economic Development and Tourism, Office of Planning, Coastal Zone Management Division;
- Hawai‘i Department of Transportation; Hawai‘i Department of Agriculture;
- Maui County Mayor’s Office;
- Maui County Council;
- Maui County Department of Planning;
- Maui County Department of Public Works;
- Maui County Department of Transportation.

Maui Harbor Users Group meeting attendees are listed in Appendix A

General Description of Affected Environment:

The Kahului Commercial Harbor 2030 Master Plan identifies demand for additional harbor berthing space and nearby operational areas. The proposed action involves improvements on the eastern side of the harbor, where piers and commercial operations are now concentrated, and development of piers and operational areas on the West Breakwater. Dredging and breakwater improvements needed for access and loading at the new berths are included.

The subject property is situated in an urbanized, industrial setting including the towns of Kahului and Wailuku. The Hawaii Department of Land and Natural Resources (DLNR) operates a recreational boat launch on the West Breakwater (The DLNR site is not included in the proposed action.) Hoaloha Beach Park, extending from Puʻunēnē Avenue to the west, includes facilities for canoe clubs. The clubs use the harbor waters for practices and regattas.

Summary of Alternatives and Impacts Considered:

The Proposed Action is needed to accommodate recent and expected increases in demand for harbor space in line with Maui's growing population and economy.

Alternatives considered and assessed in this document include A, B and No Action. Alternative A has been chosen by the Applicant as preferred, based on stakeholder input. The two action alternatives include development of the West Breakwater area to create piers and operational space, and changes to the existing pier areas to allow more efficient operations. Alternative A calls for development of the West Breakwater primarily for a cruise ship pier and a ferry slip, with dredging and breakwater development as needed. Improvements on the east side of the harbor would include use of fill at Pier 2, changes at Pier 3 to accommodate fuel barges more effectively, and extension of Pier 1, with breakwater development as needed. Alternative B calls for concentrating passenger operations at Pier 2, with cargo operations at the West Breakwater and the Pier 1 area. Fuel operations would be located on Pier 1 at Berths 1C and 1D. The No Action Alternative would allow actions already covered by earlier Master Plans and environmental documents, including dredging between Piers 1 and 2 and a new dolphin at Berth 1D.

Best management practices limit potential impacts of development, including the use of silt fences and curtains, and other controls over construction noise and dust. Practices to limit the spread of invasive species affect vessel operations and U.S. Coast Guard regulation of vessels.

Impacts of the proposed action include removal of coral during dredging, affecting about 22 percent of the coral substrate within Kahului Commercial Harbor, and changes

in the dredge line, leading to the loss or relocation of recreational activities, such as surfing.

Additional alternatives involving development of a second harbor either adjacent to Kahului Commercial Harbor or elsewhere on Maui were evaluated but eliminated from further consideration for this EIS for reasons of environmental impact, cultural impact and cost.

Proposed Mitigation Measures:

Loss of coral may be mitigated by avoidance of highly productive areas or transplantation of corals to areas outside Kahului Commercial Harbor.

Unresolved Issues: No issues appear to be unresolved.

Compatibility with Land Use Plans and Policies:

The Kahului Commercial Harbor 2030 Master Plan was developed to accommodate economic growth on Maui anticipated by state and county agencies. It responds to economic policies in the Maui General Plan and Wailuku-Kahului Community Plan, while remaining sensitive to the needs of recreational users of the harbor area.

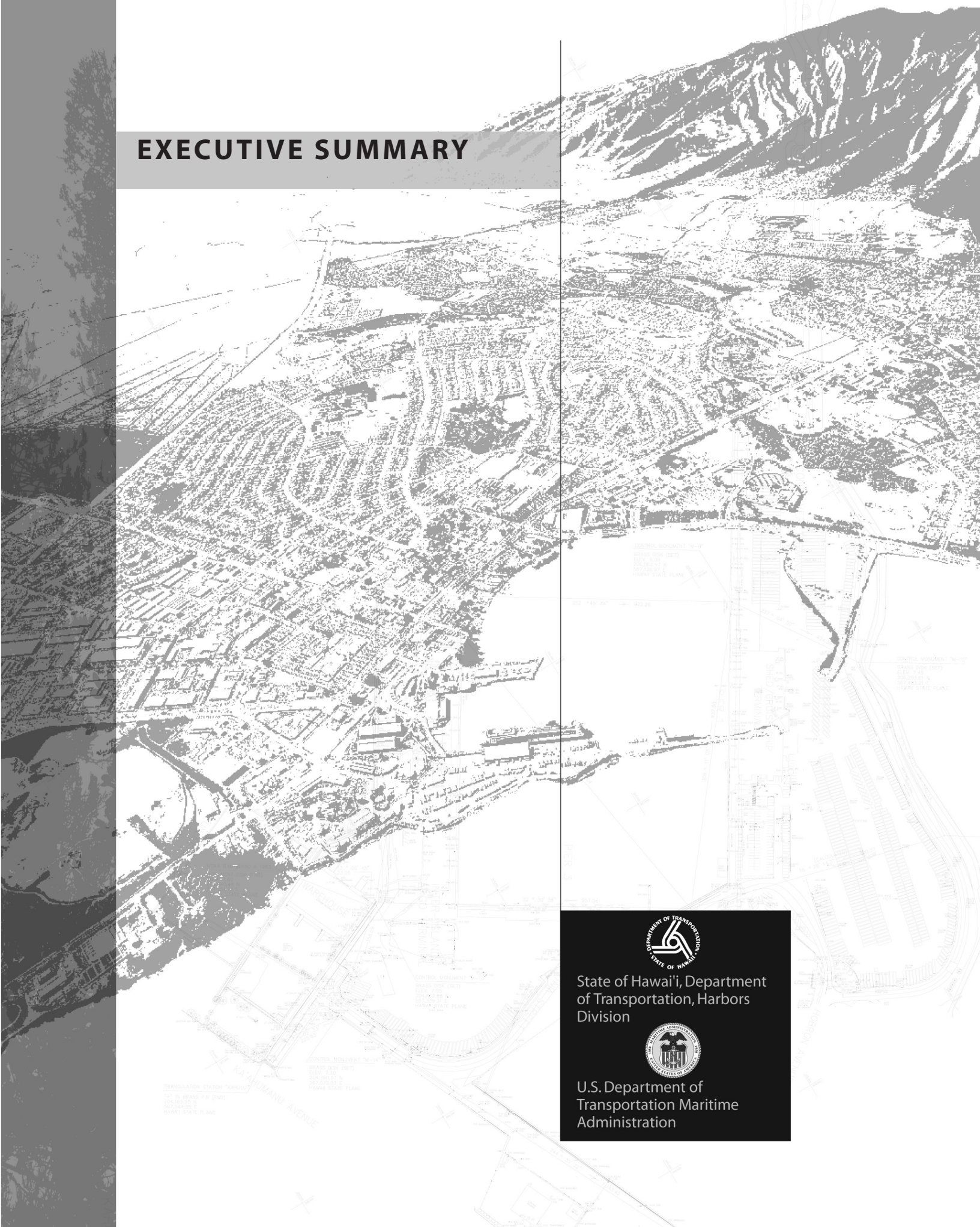
The land use permits listed below are needed because current permits reflect outdated uses or plans. Thestate and county have agreed to dedicate the bulk of the West Breakwater for maritime uses, but have not processed land use changes needed to reflect that agreement.

Required Permits: Government consultations and permits that may be required under the Proposed Action and alternatives, and identified during development of this document include:

- Section 4(f) evaluation,
- ESA Section 7 consultation,
- CZM consistency determination,
- NHPA Section 106 consultation,
- FWCA consultation,
- CWA Section 404 permit,
- CWA Section 401 WQC,

- Rivers and Harbors Act, Section 10 permit,
- NPDES permit for construction activities, and
- Conservation District Use Permit for construction and operations in the Resource Subzone.

EXECUTIVE SUMMARY



State of Hawai'i, Department of Transportation, Harbors Division

U.S. Department of Transportation Maritime Administration

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The Kahului Commercial Harbor 2030 Master Plan (2030 Master Plan), presented in this document, includes short- and long-term improvements to the State of Hawai‘i Department of Transportation Harbors Division (DOT Harbors) facilities at Kahului Commercial Harbor through the year 2030. The Draft Environmental Impact Statement (EIS) evaluates improvements recommended in the 2030 Master Plan. This document is a joint federal and state EIS, prepared according to the National Environmental Policy Act of 1969, as amended (NEPA), and Chapter 343 of Hawai‘i Revised Statues (HRS 343). Both federal and state funding and state lands will likely be used.

The subject property consists of Tax Map Keys (TMKs) 3-7-1: parcels 21 and 22; 3-7-8: parcels 1, 2, 3, 4, 6, 28, and 29; and 3-7-10: parcels 1, 2, 3, 6, 13, 15, 17, 18, 22, 25, 26, 27, 32, 33, 34, 36, 37, and 38. It is located in Kahului in the district of Wailuku, on the north side of the island of Maui. The 2030 Master Plan project area comprises:

- East Breakwater,
- Pier 1 (with Berths 1A, 1B, 1C),
- Pier 2 (with Berths 2A, 2B, and 2C),
- Pier 3 with associated terminals and storage areas (the east side),
- West Breakwater (and its associated coral stockpile area), and
- Land bounded by Ka‘ahumanu Avenue and the shoreline between Pu‘unēnē Avenue and Hobron Avenue. This land includes two parcels (TMK 3-7-10: parcels 1 and 36) acquired by DOT Harbors in December 2007 from Alexander and Baldwin Properties (A&B Properties). An Environmental Assessment (EA) for the acquisition was prepared in 2006. A third parcel in this area, TMK 3-7-8: parcel 5, is privately owned and not part of the EIS analysis.

Kahului Commercial Harbor is the busiest neighbor island deep-draft commercial harbor and ranks as the third busiest in the state. It is the only commercial harbor on the Island of Maui. The bulk of goods used by Maui’s residents and visitors—

food, clothing, building materials, cars, and fuel—are imported via the commercial harbor.

ES.1.1 Objectives

DOT Harbors has developed plans for Kahului Commercial Harbor in furtherance of its mission "to provide a safe, efficient, accessible, and inter-modal transportation system that ensures the mobility of people and goods, and enhances and/or preserves economic prosperity and the quality of life." Such plans incorporate both long- and short-term objectives and are updated on a regular basis.

The 2030 Master Plan process has included stakeholder input, conveyed in Maui Harbor Users Group (MHUG) workshops and a public scoping meeting. Based in large part on that input, DOT Harbors has identified major objectives for Kahului Commercial Harbor:

- Meet current and anticipated demand for cargo coming into and out of the port;
- Take steps to decrease congestion in the port in the near future;
- Make space for an inter-island ferry and a cruise ship berth; and
- Continue to respect recreational uses in the Kahului Commercial Harbor area.

ES.1.2 Scope of Master Plan and EIS

The Draft EIS evaluates the potential impacts of the proposed action and reasonable alternatives presented in the 2030 Master Plan, including no action, as required by NEPA and Chapter 343.

Related documents cover actions that are part of the context for the Master Plan and EIS. Those documents include the 2025 Kahului Commercial Harbor Master Plan and a forthcoming EIS for large-capacity ferry operations throughout Hawai‘i. Improvements analyzed in those documents are not examined here, although cumulative impacts associated with all anticipated facilities and operations in Kahului Commercial Harbor are studied.

The harbor improvements proposed here include breakwaters and dredging that will be the subject of future modeling and design efforts. The exact size and location of those improvements will be refined, and additional studies will be needed in the course of design, permitting, and construction.

ES.1.3 Existing Harbor Facilities and Operations

Kahului Commercial Harbor is enclosed by two breakwaters. Currently, commercial harbor piers are on the east side of the harbor. They serve cargo ships and barges, as well as passenger ships. Imports and cruise passenger activity have been increasing rapidly. Among exports, sugar, sand, and molasses have been the leading commodities. Table ES-1 identifies existing throughput quantities.

Table ES-1. FY05 Cargo and Passenger Throughput, Kahului Commercial Harbor

Category	Units	Import	Export	Total
Containers	TEU*	71,360	55,240	126,600
Vehicles	tons	96,645	60,314	156,959
Break-Bulk	tons	215,290	72,771	288,061
Dry-Bulk	tons	132,562	573,935	706,497
Liquid-Bulk	tons	855,647	72,381	926,932
Cruise Passengers	each			147,450

* TEU = Twenty-foot equivalent unit.

In general, berthing within the State's commercial harbors is not permanently assigned. Vessels requesting to use the port are assigned space according to the availability of berths and required shoreside facilities.

Pier 1 is the main pier used by large container vessels and cruise ships and can accommodate two large ships simultaneously.

Pier 2 has three berths designated as 2A, 2B, and 2C. Berth 2A, the nearshore berth, is used for inter-island containers, roll-on roll-off (RO/RO) operations less than container load (LCL) cargo, liquid propane, cement, and livestock transport operations. Inter-island ferry vessels utilize Berth 2B, with occasional use by tugboats or other vessels awaiting berths when not occupied by the ferry. Berth 2C is for inter-island ferry operations only since the ramp barge used to access the ferry is moored there.

Pier 3 has only one berth. It is used for unloading fuel, ethanol, containers, RO/RO, and exporting sand, gravel, and scrap metal.

Pier utilization studies of Kahului Commercial Harbor show that the level of usage is high and has been increasing in recent years.

Standard management practices are in place for DOT Harbors' properties. These management practices, which may be based on federal, state, or county laws or

regulations, or on DOT Harbors' policies, place constraints on activities for the purpose of protecting the natural environment, public safety, or other resources.

ES.2 MASTER PLAN

ES.2.1 Future Commercial Harbor Facility Requirements

Future requirements were forecast on the basis of historical trends in cargo and passenger throughput and on state projections of population growth for Maui. Increasing throughput is likely for all cargo and passenger categories except dry bulk. By 2030, demand could justify expanding the commercial harbor to ten berths. Table ES-2 identifies future berth requirements.

Table ES-2. Berth Requirements to Meet Throughput Projections

Cargo/Use Category	Fiscal Year			
	FY05	FY10	FY20	FY30
Containers and Vehicles	1.50	1.68	2.24	2.80
Break-Bulk	0.82	0.77	0.81	0.84
Dry-Bulk	1.25	1.01	1.08	1.14
Liquid-Bulk	1.08	1.26	1.59	1.93
Subtotal: Cargo Berths	4.65	4.72	5.71	6.71
Cargo Berths, Rounded	5	5	6	7
Cruise Passenger	1	1	2	2
Inter-island Ferry	1	1	1	1
Total Berths	7	7	9	10

However, DOT Harbors decided, in light of community input, to dedicate only one berth for cruise ships at Kahului Commercial Harbor.

Storage space is needed as well as berth space. For containers, some 51.4 acres of yard space could be required by 2030 (while 25.2 are currently available). For vehicles, 14.2 acres could be required instead of the 8.8 acres now available. Covered storage space and bulk storage facilities (i.e., tanks and silos) will also be needed. Because of space limitations, DOT Harbors will continue to expect bulk storage to be located outside of the State's Kahului Commercial Harbor lands.

ES.2.2 Alternatives

The final set of alternatives for the 2030 Master Plan and EIS for Kahului Commercial Harbor is based in large part on the discussions and output generated in the MHUG meetings. These alternatives are:

- Alternative A—Develop cruise and inter-island ferry facilities at the West Breakwater Harbor Development; expand Piers 1 and 2 for cargo operations and build new fuel facility at Pier 3 or 4.
- Alternative B—Develop cruise and inter-island ferry facilities at Pier 2; expand cargo facilities at Piers 1 and 3 and at the West Breakwater Harbor Development.
- No Action Alternative.

For both Alternative A and Alternative B, dredging of an expanded turning basin and creation of new breakwater extensions will be needed, allowing vessels to travel to and from the West Breakwater Harbor Development and berth there with limited risk of surge.

As part of the process of developing alternatives for the 2030 Master Plan, MHUG considered two additional options for expanding the commercial port beyond its current footprint as possible long-term solutions to alleviate congestion. Both options were removed from consideration due to substantial financial costs (dredging and construction), land use compatibility issues, and cultural and environmental impacts. Earlier, several second harbor sites were studied and found not to be cost-effective. Harbor development at those sites would likely have complex, potentially grave environmental impacts.

ES.3 ENVIRONMENTAL IMPACTS EVALUATED

Conditions relevant to the proposed action and alternatives, and therefore included in this EIS, include air quality, physical oceanography, marine biota, terrestrial flora and fauna, sensitive environments, geology, soils, topography (including bathymetry), groundwater and surface water resources, socioeconomic conditions, traffic conditions, public services and infrastructure, the noise environment, cultural and historic resources, visual and aesthetic resources, and recreational resources. The analysis includes detailed accounts of existing conditions, impacts, management measures and mitigation measures.

Table ES-3 lists the impacts of the alternatives studied. Where management or mitigation measures are available, impacts are assessed for the alternatives with those measures in place.

For example, dredging for Alternatives A and B would remove areas of coral from inside the harbor. Impacts on coral could be minimized by (a) using silt curtains in the course of construction activities, (b) timing construction activities during periods in which the coral is not reproducing, and (c) transplanting coral, if feasible, to other sites.

Impacts to traffic can be managed through measures such as restriping at affected intersections, although traffic volumes and congestion are still expected to increase in the coming years.

Impacts to recreation activities are significant in two respects. For both Alternative A and Alternative B, dredging would affect surf sites near the West Breakwater, and development of that area for commercial harbor use would remove a convenient means of access to surf sites. After dredging, shorter surf breaks might still exist. On days with a strong north swell, surfers from the Kahului area would have to travel to other surf sites along the coast. In addition, Alternative B would have a significant impact on canoe regattas since the security zones for passenger vessels at Pier 2 would extend into the area used by paddlers.

The No Action Alternative would be associated with significant negative impacts on socio-economic conditions and traffic.

Table ES-3 summarizes potential impacts by resource area and identifies potential impacts from each alternative.

Table ES-3. Summary of Potential Impacts by Resource Area

Impacts to Resource Areas	Proposed Action (Alternative A)			Alternative B			No Action Alternative		
	Direct	Indirect	SI?*	Direct	Indirect	SI?*	Direct	Indirect	SI?*
Air Quality	Short-term fugitive dust and emissions from construction equipment	Increased emissions from additional vessel calls	No	Short-term fugitive dust and emissions from construction equipment	Increased emissions from additional vessel calls	No	None	Increased emissions from additional vessel calls	No
Physical Oceanography	Potential changes to long-shore currents from breakwater construction	None	No	Potential changes to long-shore currents from breakwater construction	Potential contributions to changes in shoreline erosion patterns	No	None	None	No
Marine Biota	Loss of coral habitat through dredging, filling; temporary increase in sedimentation in area of dredging	Additional habitat for coral growth from breakwaters; potential for sedimentation	Yes/ mitig	Loss of coral habitat through dredging, filling; potential for sedimentation in area of dredging	Additional habitat for coral growth from breakwaters (beneficial)	Yes/ mitig	None	None	No
Terrestrial Flora and Fauna	Minor grubbing or clearing of vegetation on WBW; grubbing/ clearing at dredged material upland disposal site	None	No	Minor grubbing or clearing of vegetation on WBW; grubbing/ clearing at dredged material upland disposal site	None	No	None	None	No
Sensitive Environments	Loss of beach area, increase in winter wave impact	None	No	Loss of beach area, increase in winter wave impact	None	No	None	None	No
Geology, Topography, and Soils	Minor grading on WBW	None	No	Minor grading on WBW	None	No	None	None	No
Groundwater and Surface Water	Temporary turbidity in area of dredging	None	No	Temporary turbidity in area of dredging	None	No	None	None	No

*Note: SI =Significant Impact; Yes/Mitig = significant but can be mitigated to less than significant; WBW = West Breakwater Harbor Development.

Table ES-3. Summary of Potential Impacts by Resource Area *(continued)*

Impacts to Resource Areas	Proposed Action (Alternative A)			Alternative B			No Action Alternative		
	Direct	Indirect	SI?*	Direct	Indirect	SI?*	Direct	Indirect	SI?*
Socio-economics	Less harbor congestion, additional jobs (beneficial)	Accommodate anticipated future harbor demand (beneficial)	No	Less harbor congestion, additional jobs (beneficial)	Accommodate anticipated future harbor demand (beneficial)	No	Increased transportation costs/ time, impacts on emergency response	Slower potential economic growth	Yes
Traffic	Additional 5 to 15 percent contribution to projected 2030 traffic conditions	None	No	Additional 3 to 10 percent contribution to projected 2030 traffic conditions	None	No	Unacceptable LOS in 2030	None	Yes
Public Services and Infrastructure	New infrastructure at WBW	None	No	New infrastructure at WBW	None	No	None	None	No
Noise	Short-term, temporary construction noise	None	No	Short-term, temporary construction noise	None	No	Short-term, temporary construction noise from already programmed projects	None	No
Archaeology	None	None	No	None	None	No	None	None	No
Cultural and Historic Resources	None	None	No	None	None	No	None	None	No
Visual and Aesthetic Resources	None	None	No	None	None	No	None	None	No
Recreational Resources	Shoreline use, surf sites eliminated	None	Yes	Shoreline use, surf sites eliminated, canoe regatta disrupted	None	Yes	None	None	No

*Note: SI =Significant Impact; Yes/Mitig = significant but can be mitigated to less than significant; WBW = West Breakwater Harbor Development.

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CHAPTER 6
ENVIRONMENTAL CONSEQUENCES

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Acronyms and Abbreviations

2025 Master Plan	Kahului Commercial Harbor 2025 Master Plan
2025 Master Plan EA	Final Environmental Assessment and Finding of No Significant Impact 2025 Master Plan Improvements Kahului Commercial Harbor
2030 Master Plan	Kahului Commercial Harbor 2030 Master Plan Draft Environmental Impact Statement
µg/m3	micrograms per cubic meter of air
AAOTF	Alien Aquatic Organism Task Force
A&B Properties	Alexander and Baldwin Properties
AAQS	Ambient Air Quality Standards
ac	acres
ACHP	Advisory Council on Historic Preservation
AEHR	annual erosion hazard rate
AIS	Aquatic Invasive Species
AVC	average visitor census
BMP	Best Management Practices
CAA	Clean Air Act
CBP	U.S. Customs and Border Protection
CCD	constituent census district
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFS	container freight station
CGAPS	Coordinating Group on Alien Pest Species
CLF	civilian labor force
CO	carbon monoxide
CPI	Consumer Price Index
CWA	Clean Water Act of 1977
CWRM	Commission on Water Resource Management
CWS	Central Water System
CY	container yard
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act of 1972
DAR	Division of Aquatic Resources, DLNR

dBA	decibels, A-weighted scale
DBEDT	Department of Business, Economic Development and Tourism, State of Hawai‘i
DHS	U.S. Department of Homeland Security
DLIR	Department of Labor and Industrial Relations, State of Hawai‘i
DLNR	Department of Land and Natural Resources, State of Hawai‘i
DLNR-DAR	Department of Land and Natural Resources Division of Aquatic Resources
DO	dissolved oxygen
DOA	Department of Agriculture, State of Hawai‘i
DOBOR	Division of Boating and Ocean Recreation, DLNR
DOH	Department of Health, State of Hawai‘i
DOT	Department of Transportation, State of Hawai‘i
DOT Harbors	Department of Transportation, Harbors Division, State of Hawai‘i
DWS	Department of Water Supply, County of Maui
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERDC	U.S. Army Engineer Research and Development Center
ESA	Endangered Species Act of 1973
F	Fahrenheit
FADs	fish aggregation devices
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPL	Federal Project Line
FR	Federal Register
ft	feet
FWCA	Fish and Wildlife Coordination Act
FY	fiscal year
H_2S	hydrogen sulfide

HAPC	Habitat Area of Particular Concern
HAR	Hawai‘i Administrative Rules
HC&S	Hawaiian Commercial & Sugar Company
HDOA	Hawai‘i Department of Agriculture
HHUG	Hawaii Harbor Users Group
HRS	Hawai‘i Revised Statutes
HSAS	Homeland Security Advisory System
HSF	Hawaii Superferry
km	kilometer
kph	knots per hour
LCL	less than container load
LEDPA	least environmentally damaging practicable alternative
LO/LO	load-on/load-off
LOA	length overall
LOS	Level of Service
LPG	liquefied petroleum gas (also propane)
MA	mooring allowance
MARAD	U.S. Maritime Administration, U.S. Department of Transportation
MARSEC	Maritime Security
MBWM	Mandatory Ballast Water Management
MCC	Maui Community College
MCHCA	Maui County Hawaiian Canoe Association
MECO	Maui Electric Company, Ltd.
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter of air
mgd	million gallons per day
MHUG	Maui Harbor Users Group
MMPA	Marine Mammal Protection Act
MTBC	Maui Trailer Boat Club
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System
NCL	Norwegian Cruise Line
NED	national economic development
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NISIC	National Invasive Species Information Center
NMFS	National Marine Fisheries Service (National Oceanic and Atmospheric Administration)
NO_2	nitrogen dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	nephelometric turbidity units
NWCA	NorthWest Cruise Ship Association
O_3	ozone
OEQC	Office of Environmental Quality Control
OL/OW	over length/over width
Pb	lead
PL	Public Law
PM-10	particulate matter less than 10 microns in diameter
PM-2.5	particulate matter up to 2.5 microns in diameter
POV	privately owned vehicle
ppb	parts per billion
ppm	parts per million
ppt	parts per thousand
psf	pounds per square foot
PUC	Public Utilities Commission
RO/RO	roll-on/roll-off
RP	resident population
SHPD	State Historic Preservation Division
SI	Significant Impact
SIHP	State Inventory of Historic Places
SMA	Special Management Area
SO_2	sulfur dioxide
sq ft	square feet
State	State of Hawai‘i
TEU	twenty-foot equivalent unit
TMDLs	Total Maximum Daily Loads

TMK	Tax Map Key
UBC	Uniform Building Code
UIC	Underground Injection Control
USACE	U.S. Army Corps of Engineers
USACE ERDC	U.S. Army Corps of Engineers, Engineer Research and Development Center
USC	U.S. Code
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USDOT	U.S. Department of Transportation
WRF	Wastewater Reclamation Facility
WQC	Water Quality Certification

GLOSSARY

back area/back lands. Storage space.

barge ship. A flat-bottomed vessel used to transport heavy goods (e.g., low value bulk cargo such as coal). Most barges are not self-propelled and need to be moved by tugboats towing or by towboats pushing them.

basin. An area of water or enlargement of a channel used for turning vessels around. Also called turning basin.

benefit-to-cost. Weighing the cost to implement, with a marginal economic justification (low return on investment-benefit to cost).

berth. The space allotted to a vessel at anchor or at a pier.

berth-foot-hours. Calculation of (length of ship in feet) multiplied by (time in hours at berth).

berth transfer. Transfer of cargo to and from the vessel and the berth.

break-bulk. General cargo conventionally stevedored and stowed as opposed to bulk, unitized or containerized cargo. Break-bulk is measured in tons. Break-bulk cargo includes: lumber, produce, livestock, and other (primarily less than container load) cargo.

breakwater. An engineered structure for protecting a beach or harbor.

calls. Vessel visits to a port.

cargo. Goods or merchandise conveyed in a vessel, plane or vehicle; freight.

cargo ship. Any sort of ship or vessel that carries cargo, goods, and materials from one port to another. Container ship is a specialized cargo ship.

chassis. A wheeled frame for a container.

commercial harbor. A harbor or off-shore mooring facility which is primarily for the movement of commercial cargo, passenger and fishing vessels entering, leaving or traveling within the state, and facilities and support services for loading, off-loading, and handling of cargo, passengers and vessels (HRS Ch 266-1).

A harbor under the jurisdiction of the department which has been designated for trade and other commercial activity (HAR 19-41-2).

commodity. An economic good, such as a product of agriculture; an article of commerce, especially when delivered for shipment.

container. A single rigid, non-disposable cargo box. Containers are measured in twenty-foot equivalent units (TEU). Standard U.S. size for a container is 8 feet (width) by 8 feet (height) by 20 feet (length), which is equivalent to 1 TEU.

container ship. A specialized cargo ship fitted for transporting containerized cargo.

devanning. The physical removal of cargo from a vessel, truck, railcar, or airplane.

dolphin (mooring). See *mooring dolphin*.

draft. The depth of a vessel below the waterline, measured to the lowest point of the hull, the bottom of the propeller, or other reference point.

dredging. To dig, gather, or pull out with or as if with a dredge; to deepen (as a waterway) with a dredging machine.

dry-bulk. Dry-bulk cargo includes: sugar, cement, scrap metal, sand/gravel, and coal. Dry-bulk is measured in tons.

dwell time. Amount of time that a container stays in the yard.

East Breakwater. The engineered structure on the east side of Kahului Commercial Harbor that provides shelter from wave action.

export. A commodity conveyed from one country or region to another for purposes of trade; in this case goods going out of Maui.

fiscal year. An accounting period of 12 months. The State's and Hawai'i counties' fiscal year is from July 1 through June 30. The federal fiscal year begins October 1 and ends September 30. A fiscal year will always reflect the date of the calendar year in which it ends. For example, the state's fiscal year for 2007 is from July 2006 to end of June 2007.

frequency of call. The number of times vessels may dock or berth.

gangs. A unit of workers employed to load and unload cargo from ships.

gate transfer. The procedures and duration for cargo entering or leaving the terminal area through the entrance/exit gates.

import. To bring as merchandise into a place or country from another country; in this case, goods coming into Maui.

intermodal. Being or involving transportation by more than one form of carrier during a single journey.

less than container load (LCL). Shipments that do not completely fill a container. These shipments are from multiple shippers who pool their cargo in the same container.

level of service (LOS). A measure by which transportation planners determine the quality of service at intersections, on transportation devices, or transportation infrastructure on a scale of A to F.

liquid-bulk. Liquid-bulk cargo includes: jet fuel, gasoline, diesel, LPG, fuel oil, ethanol, molasses, and chemicals. Liquid-bulk cargo is measured in tons.

lower berth. Lower berth refers to the average number of guest beds on a cruise ship. This is calculated by multiplying the number of guest cabins by two beds per cabin. The actual number of beds will vary per cabin because cabins could have more or fewer than two beds.

mooring dolphin. An isolated cluster of piles used as support of mooring devices such as a bollard.

National Economic Development (NED). The standard for economic evaluation in a federal navigation improvement study is a net positive benefit to national economic development (NED) through improving the efficiency of waterborne transportation services. NED benefits are calculated as reductions in the cost of transporting goods and increases in the value of goods transported by implementation of the development.

NCL America. NCL America is the Hawai‘i-based subsidiary of Norwegian Cruise Lines (NCL). NCL, headquartered in Florida, is a subsidiary of Star Cruises. Star Cruises is based in Hong Kong.

nominal water depth. A rounded average of how deep the water is for a given area.

palletized. To place on, transport, or store by means of pallet.

pier. A platform/structure extending from a shore over water and supported by piles or pillars, used to secure, protect, and provide access to ships or boats.

port. A harbor where ships may take on or discharge cargo.

reefer. Temperature controlled (refrigerated) container or ship.

reefer plug. Electrical point on a cargo vessel or a storage yard into which refrigerated containers are connected to provide power for refrigeration.

remote transfer. The distance from the berth to the storage area

restow. Reloading or relocating cargo.

roll-on/roll-off (RO/RO). Cargo that is rolled or driven on and off the ships. This is in contrast to lo-lo (lift-on/lift-off) vessels which uses a crane to load and unload cargo.

seachest. A small underwater compartment within the shell plating through which sea water is drawn in or discharged; the sea water may be used for cooling the machinery systems.

short tons. A unit of mass equal to 2,000 lb (exactly 907.18474 kg).

terminal. (1) A berth-side area where cargo is loaded to and discharged from vessels. (2) A depot that is usually located inland where containers are brought for devanning.

tetrapod. A bank protection element, precast of concrete, consisting of four legs joined at a central block, each leg making an angle of 109.5 degrees with the other three, like rays from the center of a tetrahedron to the center of each face.

top pick. Vehicle used to lift and set containers.

throughput. The amount of cargo, vehicles, and passengers that is handled/ processed by commercial harbor operations

turning basin. See *basin.*

twenty-foot equivalent unit (TEU). Twenty-foot equivalent unit (TEU) is a common measurement for a cargo container 8 feet high by 8 feet wide by 20 feet long. One 20-foot container equals 1 TEU. One 40-foot container equals 2 TEU. Note that there are containers larger and smaller than the typical size. The TEU measurement does not factor in load weight of the container.

vessel. Any craft that is capable of floating and moving on the water.

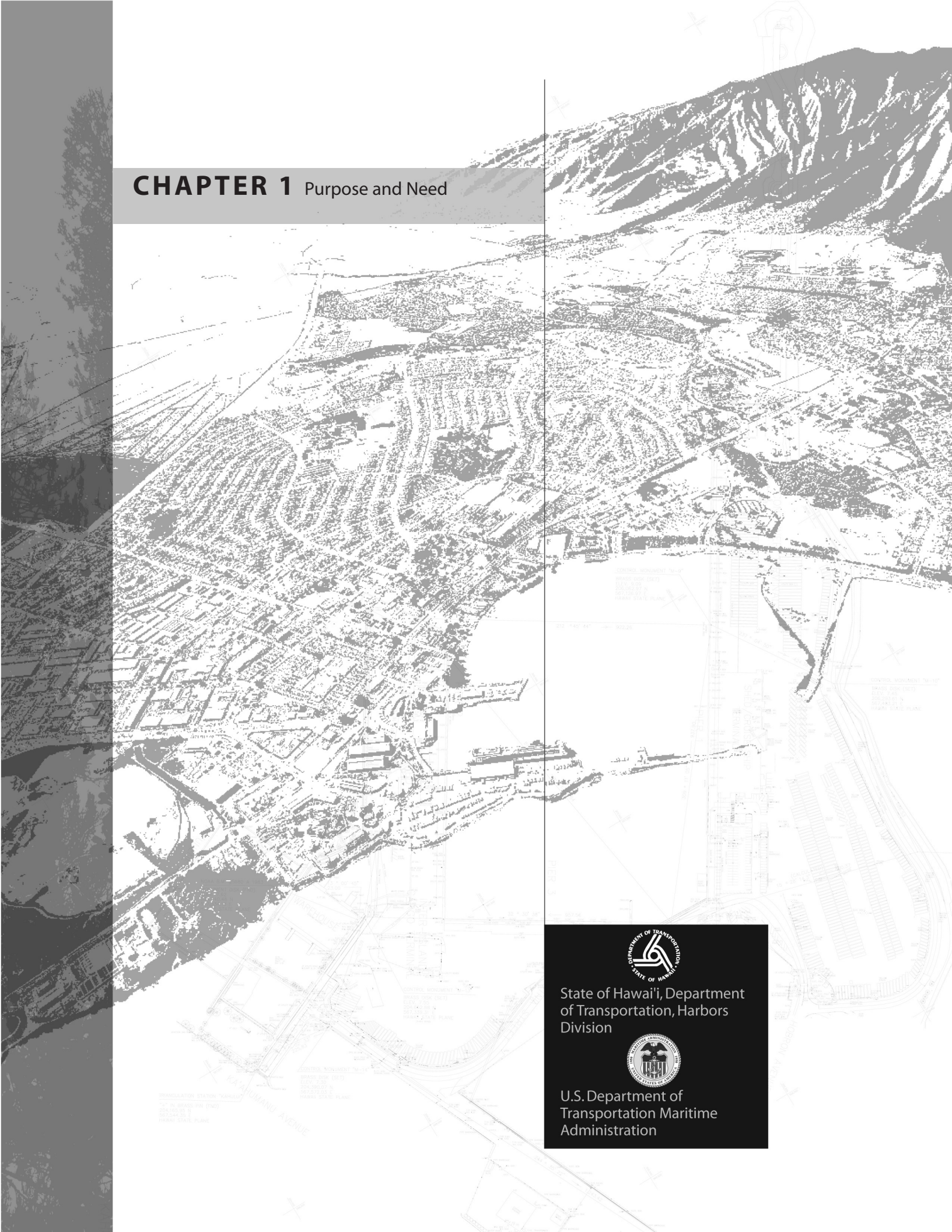
(cargo) yard. The cargo yard is used for unloading or receiving containers.

yard hustler. A small "utility" truck used to transport containers within the cargo terminal.

West Breakwater. The engineered structure on the west side of Kahului Commercial Harbor that provides shelter from wave action. May also be referred to as mole or jetty.

West Breakwater Harbor Development. The coral stockpile area that is owned by DOT Harbors next to the West Breakwater in Kahului Commercial Harbor.

CHAPTER 1 Purpose and Need



State of Hawai'i, Department of Transportation, Harbors Division

U.S. Department of Transportation Maritime Administration

CHAPTER 1
PURPOSE AND NEED

1.1 INTRODUCTION

Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, and the State of Hawai‘i’s Environmental Impact Statement Law (Hawai‘i Revised Statutes [HRS] Chapter 343), this Draft Environmental Impact Statement (EIS) evaluates improvements recommended by the Kahului Commercial Harbor 2030 Master Plan (2030 Master Plan). The 2030 Master Plan, presented in this document, includes short- and long-term improvements through the year 2030. The purpose of this EIS is to disclose environmental, economic, social, cultural, and technical consequences of the 2030 Master Plan improvements and to propose measures for minimizing potential adverse impacts.

This document is a joint federal and state EIS, as both federal and state funding and state lands will likely be used. For the environmental review, the proposing agency is the Hawai‘i Department of Transportation (DOT) Harbors Division (DOT Harbors), and the accepting authority is the Governor of the State of Hawai‘i. The federal accepting authority is the U.S. Department of Transportation (USDOT), Maritime Administration (MARAD).

Document Organization

CHAPTER 1 describes the overall scope and context of the 2030 Master Plan and provides an overview of the harbor, and its facilities and operations. Additionally, Chapter 1 covers the purpose and need for the proposed action, the scope of the EIS, the public involvement process, relevant federal and state laws, consulted parties, and major government permits and approvals.

CHAPTER 2 describes existing commercial harbor facilities, operations, and relevant management measures in place at Kahului Commercial Harbor.

CHAPTER 3 addresses future facility requirements at Kahului Commercial Harbor based on forecasts of cargo and passenger volumes in the year 2030. Methodologies are evaluated to forecast cargo and passenger changes in demand or throughput from

the base year 2005 to the year 2030. The data are used to calculate facility requirements to meet projected throughput.

CHAPTER 4 presents the proposed action and alternatives developed based on the existing and future facility requirements identified in previous chapters.

CHAPTER 5 describes the environment of the project area.

CHAPTER 6 identifies the potential environmental impacts of the alternatives and proposed mitigation measures for significant impacts, if any.

CHAPTER 7 lists the references used for this document.

CHAPTER 8 lists the preparers of this document.

GLOSSARY defines technical and harbor-related terms used in this document. The glossary is located in the front of the report.

APPENDICES for this EIS contain: meeting notes and a list of participants in the Maui Harbor Users Group; comment letters received on the November 2006 Notice of Intent,; study of the Hawai'i cruise ship market; cargo costs; comments received on the March 2007 Preparation Notice and their responses; studies of the Kahului Commercial Harbor marine environment; and potential traffic impacts.

1.2 LOCATION OF THE PROPOSED ACTION

Kahului Commercial Harbor is the busiest neighbor island deep-draft commercial harbor, and ranks as the third busiest in the state. It is also the only commercial harbor on the island of Maui. The bulk of goods used by Maui's residents and visitors—food, clothing, building materials, cars, and fuel—are imported via the commercial harbor. Exported goods—sugar, molasses, pineapple, finished goods, sand, and recycled materials—also move through the commercial harbor. The total weight of cargo has exceeded 3.0 million short tons per year, up from 2.1 million short tons in 1995. In addition, cruise ships are estimated to have brought over 263,000 passengers to Kahului Commercial Harbor in fiscal year 2006 (FY06) (up from 53,000 passengers in 2000).

Development of harbor facilities at Kahului Bay began with construction of the first warehouse in 1863, and the first landing was constructed in 1879. Intensive harbor development commenced in the early part of the twentieth century as the sugar industry grew. By 1910, improvements such as a 1,800-foot breakwater on the east side, a 40-foot tall lighthouse, and a 200-foot pier had been constructed, and the

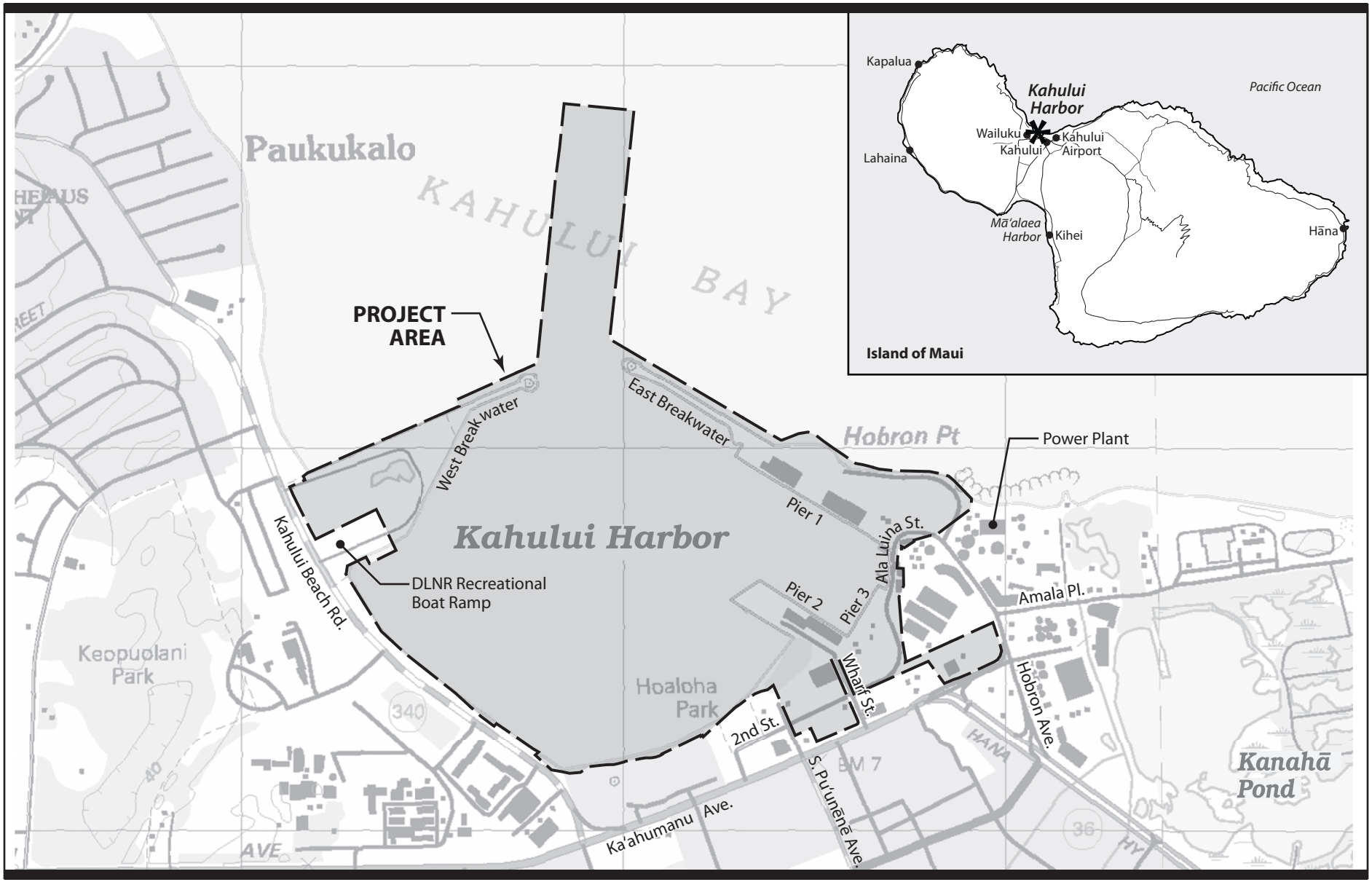
turning basin had been dredged. Construction of the breakwater on the west side of the harbor began in 1917. The harbor basin has been increased in size and depth over the years in response to changes in vessel sizes and increased cargo volumes. Port facilities have also changed over the years to accommodate advances in technology, cargo types, and cargo volumes. Currently, the harbor basin is 2,050 feet wide by 2,400 feet long, with a design depth of 35 feet. The entrance channel is 660 feet wide and 40 feet deep. The harbor is protected by breakwaters on the east and west sides.

The commercial harbor's facilities are located within an urbanized, industrial setting approximately one mile west of Kahului Airport (refer to Figure 1-1). A power plant, petroleum storage facilities, and commercial businesses border the harbor to the east. Kanahā Pond Wildlife Sanctuary, a conservation area, is approximately 0.5 mile east of the harbor. Land south of the harbor along Kaʻahumanu Avenue is primarily commercial, including three shopping centers and two hotels. Recreational areas to the south include canoe *hale* (boathouses) and beaches. An oceanfront roadway runs to the west of the harbor. Civic, commercial, and residential areas are inland of the roadway, west of the West Breakwater.

Physical Setting

The subject property consists of Tax Map Keys (TMKs) 3-7-1: parcels 21 and 22; 3-7-8: parcels 1, 2, 3, 4, 6, 28, and 29; and 3-7-10: parcels 1, 2, 3, 6, 13, 15, 17, 18, 22, 25, 26, 27, 32, 33, 34, 36, 37, and 38. It is located in Kahului in the district of Wailuku, on the north side of the island of Maui. The 2030 Master Plan project area, as shown on Figure 1-1, comprises:

- East Breakwater,
- Pier 1 (with Berths 1A, 1B, 1C),
- Pier 2 (with Berths 2A, 2B, and 2C),
- Pier 3 with associated terminals and storage areas (the east side),
- West Breakwater (and its associated coral stockpile area), and
- Land bounded by Kaʻahumanu Avenue and the shoreline between Puʻunēnē Avenue and Hobron Avenue. This land includes two parcels (TMK 3-7-10: parcels 1 and 36) acquired by DOT Harbors in December 2007 from Alexander and Baldwin Properties (A&B Properties). An Environmental Assessment (EA) for the acquisition was prepared in 2006. A third parcel in this area, TMK 3-7-8: parcel 5, is privately owned and not part of the analysis for this EIS.



BeltCollins

NORTH

0 750 1500

SCALE IN FEET

Source: U.S. Geological Survey. October 2004. Digital Raster Graphic. Project area boundary determined from Tax Map Key (First American Real Estate Solutions. 2006. Realty Atlas, Hawaii. Counties of Maui and Kalawao. Zones 3 thru 6.)

Figure 1-1
PROJECT LOCATION

Kahului Commercial Harbor 2030 Master Plan
Draft Environmental Impact Statement
December 2007

The total area of the subject property is approximately 448 acres, of which 374 acres are the submerged lands of the harbor. This area includes the West Breakwater but excludes the recently acquired parcels—TMK 3-7-10: parcels 1 and 36, which occupy 3.96 acres. The Master Plan calls for redevelopment of these two parcels. Water depths within the harbor are up to 35 feet (in the turning basin).

The east side of the harbor encompasses about 53 acres of improved land. It currently serves as the operational portion of the harbor and includes parcels leased to industrial and commercial users. The West Breakwater and its associated coral stockpile area comprise approximately 21 acres of undeveloped land. The State Department of Land and Natural Resources (DLNR) manages a recreational boat launch on the West Breakwater area. Under Executive Order (EO) 3064, the West Breakwater area was previously under the control of the County of Maui. In September 2006, the Board of Land and Natural Resources approved cancellation of the EO with ownership of approximately 17.3 acres reverting to DOT.[1] The cancellation allows the remaining approximately 3.6 acres to be set aside for the DLNR Division of Boating and Ocean Recreation's (DOBOR) expansion of the existing boat ramp and/or a future haul out facility. This DLNR recreational facility is outside the 2030 Master Plan scope.

1.3 PURPOSE AND OBJECTIVES OF THE 2030 MASTER PLAN

DOT Harbors has developed plans for Kahului Commercial Harbor in furtherance of its mission "to provide a safe, efficient, accessible, and inter-modal transportation system that ensures the mobility of people and goods, and enhances and/or preserves economic prosperity and the quality of life." Such plans incorporate both long- and short-term objectives and are updated on a regular basis.

Previous Master Planning Efforts

Completed in September 2000, the *Kahului Commercial Harbor 2025 Master Plan*[2] (2025 Master Plan) was developed through a planning effort that brought together commercial harbor users, other stakeholders of Kahului Commercial Harbor, and government agencies. That effort had the following objectives:

[1] State of Hawai'i, Department of Land and Natural Resources, Board of Land and Natural Resources. September 22, 2006. *Minutes for the Meeting of the Board of Land and Natural Resources.*

[2] State of Hawai'i, Department of Transportation, Harbors Division. September 2000. *Kahului Commercial Harbor 2025 Master Plan.* Final.

1. Plan the proper development of Kahului Commercial Harbor, thereby facilitating maritime shipments of the essential commodities required by Maui's citizenry.
2. Optimize the utilization of land and water resources committed to marine cargo and passenger operations in an economically responsible manner.
3. Provide terminals, other harbor resources, and access to these facilities in locations within Kahului Bay and other locations in a manner that best relates to and serves Maui in an efficient, safe, and secure manner.
4. Minimize the impact on environmental quality and recreational opportunities contiguous with Maui's port facilities.

2030 Master Planning Efforts

In 2006, three stakeholder meetings were held for the planning of the 2030 Master Plan. Participants organized as the Maui Harbor Users Group (MHUG) were asked to specify and prioritize objectives for the 2030 Master Plan. MHUG participants included commercial and recreational harbor users, public agency staff, and representatives of local economic development organizations. A list of participants is provided in Appendix A..

While all involved sought to accommodate the mix of commercial and recreational uses at Kahului Commercial Harbor, they agreed to give commercial cargo first priority in planning for Kahului Commercial Harbor. They recognized that both immediate problems and long-term demand deserved close attention. Several participants stressed that a 2030 Master Plan must lead to immediate action; it must not be so ambitious that no improvements can be made in the next few years. Participants further agreed that some of their objectives were in conflict with other objectives. Similarly, expansion or intensification of some activities could limit others' use of the harbor. Chapter 4, Section 4.2.3, provides further details of the MHUG's objectives and work products.

Discussion of a second harbor for commercial or recreational use arose in recognition that demand for space is likely to grow for both of these uses. A summary of previous evaluations of the potential for second harbor development is provided in Section 4.6.2.

Based in large part on stakeholder input, DOT Harbors has identified the following primary objectives for the 2030 Master Plan:

1. Provide space and facilities to meet current and anticipated future demand associated with movement of cargo to and from Maui, while encouraging efficient, space-saving operations.

2. Implement in the near future steps to decrease congestion within the harbor.
3. Make space for operations of an inter-island ferry and cruise ships within the harbor. (In response to MHUG concerns, cruise ships would be limited to no more than one dedicated berth at Kahului Commercial Harbor, but use of other berths for cruise ships would be possible, based on availability.)
4. Continue to respect recreational uses in the Kahului Commercial Harbor area.

Secondary objectives include:

1. Where possible, separate cargo and passenger operations for reasons of safety, efficiency, and visitor satisfaction with Maui.
2. Develop facilities that can accommodate multiple uses in the event that vessels and demand change in the years to come.

The objectives of the current planning effort differ from earlier planning objectives in two major ways: (1) explicitly prioritizing cargo over other commercial operations, and (2) insisting on near-term results as well as long-term ends.

1.4 NEED FOR ACTION

Six critical factors have created a need to update the 2025 Master Plan: (1) population and economic growth fueling demand for more imports; (2) berthing shortages in the harbor; (3) inadequate land space for current and future storage areas; (4) growth of passenger operations; (5) larger ships; and (6) emergence of new cargoes requiring changes in handling facilities and equipment. These six factors are summarized below.

POPULATION AND ECONOMIC GROWTH. Maui has seen continuing growth in residents, visitors, and income resulting in more demand from more people for more goods and services. The population is expected to grow at about 1.5 percent annually through 2030, to 155 percent of the population counted in the 2000 Census. With incomes and output continuing to grow, both imports and exports through Kahului Commercial Harbor are likely to increase.

BERTHING SPACE. Demand for berth space at Kahului Commercial Harbor has been rising. Two studies have been conducted to analyze berth occupancy. According to a 2005 Hawaii Harbor Users Group study,[3] Kahului Commercial Harbor operates at an average of 59 percent occupancy (77 percent daytime, 40 percent nighttime). Another

[3] Mercator Transport Group. December 2005. *Hawaii Harbor Users Group Report on Port Facilities and Development Priorities.*

study conducted by DOT Harbors in 2006, using different assumptions, also determined the berth occupancy to be high and increasing.[4] The high berthing occupancy rate creates inefficiencies and scheduling problems, whereby vessels may need to move on and off berths to accommodate others. This situation also affects berthing schedules at other ports in the state. For example, a barge that unloads behind schedule at Kahului Commercial Harbor could affect scheduling at its next call at Kawaihae Commercial Harbor on the island of Hawai'i.[5] Operators may also need to load and unload at times when labor rates are higher (e.g., at night), which could affect prices of the goods to consumers. Demand for landside cargo storage space would also increase as an impact of high occupancy rates. In addition, as discussed below, new larger vessels will require more berth space and possibly landside storage, as larger ships and barges can carry more containers.

STORAGE SPACE. A major factor for cargo handling capacity is having enough land space available to store and process containers, other cargo, and vehicles. Projected increases in cargo volume combined with the upgrading of fleets with larger vessels contribute to the need for more storage space. Additional space is also required for cargo handling equipment, refrigerated container storage, container sorting areas, and vehicle circulation routes in and out of the port.

PASSENGER OPERATIONS. Kahului Commercial Harbor has experienced a steady increase in cruise ship passengers, with a growth rate of 23 percent between 2000 and 2005. Between 2005 and 2030, cruise ship passenger volume at Kahului Commercial Harbor is projected to increase at an annual growth rate ranging from 2.3 to 3.6 percent. The difference between the low and high estimates is attributable to the forecasting assumptions used—for example, considering variations due to industry trends in the worldwide and regional cruise markets, customer demand, as well as expected increases in vessel size. Chapter 3 provides further details regarding cruise ship passenger projections.

In December 2007, the Hawaii Superferry (HSF) began regular inter-island operations between Honolulu and Kahului Harbors. HSF plans to introduce another vessel for service between Honolulu and Kahului Harbors in 2009.

An increase in the number of cruise and ferry passengers visiting Kahului Commercial Harbor would create additional demands on the infrastructure of the port. These could include the need for new piers to handle increase in cruise ship berthing, additional buildings for passenger comfort, new staging and parking areas, utility upgrades, and demands resulting from decreased available cargo storage space (e.g., creating fenced-off areas for passenger safety and port security).

[4] State of Hawai'i, Department of Transportation, Harbors Division, Maui District. 2006. Unpublished study conducted by the Maui District office to determine the berthing occupancy rate at Kahului Commercial Harbor.

[5] Other sources for delays may include inclement weather and ship maintenance enroute to a port.

LARGER CARGO AND CRUISE SHIPS. Economies of scale and advances in shipbuilding technology have directed a trend in the building of larger container and passenger ships. The largest container ship currently in service, the *Emma Mærsk,* is approximately 1,300 feet long, can be operated by a minimal crew of 13, and holds up to 11,000 TEU.[6] For comparison, one of Matson Navigation's newer ships, the *MV Maunawili,* has a capacity of 2,600 TEU. A larger container ship can create such additional demands on a port as:

TEU, or twenty-foot equivalent unit, *is a common measurement for a cargo container 8 feet high by 8 feet wide by 20 feet long. One 20-foot container equals 1 TEU. One 40-foot container equals 2 TEU.*

- Longer berthing time (more containers to load and/or unload);
- Need for more landside storage space to accommodate additional cargo and, potentially, more cargo handling equipment;
- Need to upgrade/purchase/install cargo handling equipment to process more cargo;
- Need to upgrade pier structures to accommodate the greater load of a berthed larger vessel, more containers, cargo, and handling equipment;
- More labor to handle additional cargo; and
- Need to dredge the harbor to accommodate vessels with deeper drafts and/or larger turning basin requirements.

The modern cruise vessel has grown along with its industry. With larger ships, cruise ship ports-of-call may change to meet the challenges presented by the next generation of vessels. Port enhancements could include pier extensions, new piers, additional landside facilities for passenger comfort (covered waiting areas, parking, shuttles, infrastructure upgrades), and dredging. Currently, the *Pride of Hawaii*[7] is the largest cruise ship that regularly calls at Kahului Commercial Harbor. It has a length overall (LOA) of 965 feet, vessel draft of 27 feet, and passenger capacity (lower berths) of 2,466.

Lower berth *refers to the average number of guest beds on a cruise ship. This is calculated by multiplying the number of guest cabins by two beds per cabin.*

The actual number of beds may vary per cabin because it is possible that cabins could have more or fewer than two beds.

NEW CARGOES. State law requires the use of biofuels and a steady increase over time in the use of such fuels. This has encouraged companies to invest in this emerging industry. As alternative fuels cannot

[6] The *Emma Mærsk's* typical cargo capacity is between 13,500 and 14,500 TEU. The difference is due to the way the Mærsk Company calculates capacity by using the number of 20-foot containers with a weight of 14 tons. The standard TEU measurement is independent of the weight of the container.

[7] The *Pride of Hawaii* is scheduled to leave the Hawai'i service in 2008.

share transmission pipelines with petroleum products, importation of biofuel feedstock or new fuels, or export of biofuels, would require additional infrastructure.

1.5 SCOPE OF MASTER PLAN AND EIS

The EIS evaluates the potential impacts of the Proposed Action and reasonable alternatives presented in the 2030 Master Plan, including no action, as required by NEPA and Chapter 343. As part of the analysis for the 2030 Master Plan, estimates were made of additional land areas needed to support future commercial harbor activity. In this document, the two former A&B parcels (TMK 3-7-10: parcels 1 and 36) are also included in the analysis. These parcels were acquired by DOT Harbors in December 2007. An EA evaluating impacts of the property acquisition was completed in 2006. Future land acquisitions, whether near the existing harbor or off-site, will need to be identified, negotiated, and subjected to a separate environmental review.

Related documents cover actions that are part of the context for the Master Plan and EIS. First, improvements proposed in the 2025 Master Plan and evaluated in the November 2005 *Final Environmental Assessment and Finding of No Significant Impact 2025 Master Plan Improvements Kahului Commercial Harbor* (2025 Master Plan EA)[8] are excluded from the analysis. The following projects were identified as existing, planned, or incorporated into the aforementioned EA:

- Sewer line and comfort station improvements.
- Pier 1D extension.
- Pier 1 water line.
- Pier 3 expansion and Pier 4 construction, including dredging.
- Puʻunēnē Cargo Yard and access bridge.

These projects are considered part of the existing conditions for the purpose of the EIS evaluation and are included in the No Action alternative (refer to Chapter 4). In August 2007, a revised traffic analysis[9] for the 2025 Master Plan EA was started. It is expected to be completed in 2008.

Next, HSF began regular operations in December 2007 under conditions specified by the Hawaiʻi State Legislature and the Governor. Act 2, passed in Special Session of the Hawaiʻi Legislature and signed by Governor Lingle on November 4, 2007, mandates

[8] State of Hawaiʻi, Department of Transportation, Harbors Division. November 2005. *Final Environmental Assessment and Finding of No Significant Impact 2025, Master Plan Improvements, Kahului Commercial Harbor.* Job H.C. 3334.

[9] In July 2007, Judge Joel August of the Third Circuit Court ruled that the 2025 Master Plan EA was acceptable except that the traffic analysis portion was found deficient. The traffic analysis is being expanded in a supplemental EA.

the preparation of an EIS "regarding commercial harbor improvements undertaken to accommodate a large capacity ferry vessel company and its operations." That EIS will evaluate impacts of the barge located at the end of Pier 2 and other facilities and arrangements that have been put in place for HSF operations. It will further deal with impacts of HSF operations, both on Maui and elsewhere.

In light of these circumstances, facilities, operations and impacts associated with a single "large passenger vessel" are germane to this EIS only as part of the current and future context in which impacts are assessed. The current operations of *Alakai*, the first HSF ship, are considered existing conditions for the purposes of the analysis in this document; its impacts are being evaluated under separate study.

1.6 PUBLIC INVOLVEMENT PROCESS

Both NEPA and HRS 343 require that potential impacts and issues be disclosed to affected agencies and the public. The implementing rules specify public notification and review periods during EIS preparation. Public involvement starts with scoping and continues though mandated review and comment periods for the EIS document.

The objectives of the scoping phase established in federal regulations are as follows:

- Identify the actions and alternatives and refine the list of alternatives to be focused on in the EIS.
- Determine the scope of issues to be addressed.
- Identify significant issues related to the proposed action.
- Invite participation by the public.
- Eliminate from detailed study matters not significant or covered by prior reviews.
- Indicate related environmental assessments being prepared that are not part of the EIS.
- Define the EIS schedule and project decisions.

In addition, Chapter 343 requires:

- Identification of agencies, citizen groups, and individuals consulted during the EIS process.

- Public notification published in a periodic bulletin (the State Office of Environmental Quality Control [OEQC] publishes T*he Environmental Notice* twice a month).

The following activities were carried out to meet the above objectives:

- MARAD published a public scoping meeting announcement and Notice of Intent (NOI) to prepare an EIS. The announcement was published in the *Federal Register*, Volume 71, No. 3 (71 FR 3) on November 2, 2006.[10] (Appendix B). Publication in the *Federal Register* initiated the 30-day public comment period required by Council on Environmental Quality (CEQ) regulations.
- DOT Harbors and MARAD held a public scoping meeting on January 10, 2007, at Kahului Elementary School. The purpose of the meeting was to receive comments on issues and concerns in order to provide focus to the EIS.
- DOT Harbors published an EIS preparation notice (EISPN) in OEQC's March 8, 2007, edition of *The Environmental Notice*. Copies of the EISPN were sent to 170 potentially interested parties. This initiated the 30-day public comment period required by Chapter 343.

A complete list of the comments received at the November scoping meeting is included in Appendix B and the comment letters received during the EISPN comment period are provided in Appendix F. Table 1-1 summarizes potential impacts disclosed in this EIS.

[10] 71 FR 3. November 3, 2006. Maritime Administration Intent to Prepare and Environmental Impact Statement (EIS). pp 64756–64757.

1.7 SUMMARY OF POTENTIAL IMPACTS AND MITIGATION

Table 1-1 summarizes potential impacts disclosed in this EIS.

Table 1-1. Summary of Impacts by Resource Area

Impacts to Resource Areas	Proposed Action (Alternative A)			Alternative B			No Action Alternative		
	Direct	Indirect	SI?*	Direct	Indirect	SI?	Direct	Indirect	SI?
Air Quality	Short-term fugitive dust and emissions from construction equipment	Increased emissions from additional vessel calls	No	Short-term fugitive dust and emissions from construction equipment	Increased emissions from additional vessel calls	No	None	Increased emissions from additional vessel calls	No
Physical Oceanography	Potential changes to long shore currents from breakwater construction	None	No	Potential changes to long shore currents from breakwater construction	Potential contributions to changes in shoreline erosion patterns	No	None	None	No
Marine Biota	Loss of coral habitat through dredging, filling; temporary increase in sedimentation in area of dredging	Additional habitat for coral growth from breakwaters; potential for sedimentation	Yes/ mitig	Loss of coral habitat through dredging, filling; potential for sedimentation in area of dredging	Additional habitat for coral growth from breakwaters (beneficial)	Yes/ mitig	None	None	No
Terrestrial Flora and Fauna	Minor grubbing or clearing of vegetation on WBW; grubbing/ clearing at dredged material upland disposal site	None	No	Minor grubbing or clearing of vegetation on WBW; grubbing/ clearing at dredged material upland disposal site	None	No	None	None	No
Sensitive Environments	Loss of beach area, increase in winter wave impact	None	No	Loss of beach area, increase in winter wave impact	None	No	None	None	No
Geology, Topography, and Soils	Minor grading on WBW	None	No	Minor grading on WBW	None	No	None	None	No
Groundwater and Surface Water	Temporary turbidity in area of dredging	None	No	Temporary turbidity in area of dredging	None	No	None	None	No

Impacts to Resource Areas	Proposed Action (Alternative A)			Alternative B			No Action Alternative		
	Direct	Indirect	SI?*	Direct	Indirect	SI?	Direct	Indirect	SI?
Socio-economics	Ease harbor congestion, additional jobs (beneficial)	Accommodate anticipated future harbor demand (beneficial)	No	Ease harbor congestion, additional jobs (beneficial)	Accommodate anticipated future harbor demand (beneficial)	No	Increased transportation costs/ time, impacts on emergency response	Slower potential economic growth	Yes
Traffic	Additional 5 to 15 percent contribution to projected 2030 traffic conditions	None	No	Additional 3 to 10 percent contribution to projected 2030 traffic conditions	None	No	Unacceptable LOS in 2030	None	Yes
Public Services and Infrastructure	New infrastructure at WBW	None	No	New infrastructure at WBW	None	No	None	None	No
Noise	Short-term, temporary construction noise	None	No	Short-term, temporary construction noise	None	No	Short-term, temporary construction noise from already programmed projects	None	No
Archaeology	None	None	No	None	None	No	None	None	No
Cultural and Historic Resources	None	None	No	None	None	No	None	None	No
Visual and Aesthetic Resources	None	None	No	None	None	No	None	None	No
Recreational Resources	Shoreline use, surf sites eliminated	None	Yes	Shoreline use, surf sites eliminated, canoe regatta disrupted	None	Yes	None	None	No

Notes: SI? =Significant Impact; Yes/Mitig = significant but can be mitigated to less than significant; WBW = West Breakwater Harbor Development

1.8 LAWS, EXECUTIVE ORDERS, GOVERNMENT PERMITS AND APPROVALS

This EIS satisfies the requirements of NEPA, HRS Chapter 343, and the Department of Transportation Act of 1966 (Section 4[f]) and their implementing regulations. In addition, several additional federal and state laws, EOs, permits and consultations identified during the scoping/preconsultation process and development of this document that must be considered during this EIS are identified in this section. This is not intended to be an exhaustive listing of permits and approvals.

1.8.1 National Environmental Policy Act

This EIS was prepared in compliance with NEPA (42 United States Code [USC] §4321, et seq.) as implemented by the CEQ regulations (40 Code of Federal Regulations [CFR] Parts 1500–1508). This EIS discloses the potential impacts of the Proposed Action and reasonable alternatives and identifies possible mitigation measures for impacts determined to be significant.

1.8.2 Hawai‘i Revised Statutes Chapter 343

HRS Chapter 343, Hawai‘i’s environmental impact statement law, was patterned after NEPA, and requires the preparation of environmental assessments or environmental impact statements for projects using state land or funds.

1.8.3 U.S. Department of Transportation Act (Section 4[f])

The USDOT Act of 1966 (49 USC §303, referred to as Section 4[f]), is applicable because of the possible use of MARAD funding. Section 4(f) requires evaluation of federal transportation projects that use public parks or recreation areas or historic sites. It provides for USDOT policy on lands, wildlife and waterfowl refuges, and historic sites. USDOT must consider avoidance, minimization, and mitigation or enhancement measures for impacts of a transportation project on these resources.

1.8.4 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, as amended (16 USC §470), recognizes the nation’s historic heritage and establishes a national policy for the preservation of historic properties as well as the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of federal undertakings on historic properties, and affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such

undertakings. The Section 106 process, as defined in 36 CFR §800, provides for the identification and evaluation of historic properties for determining the effects of undertakings on such properties, and for developing ways to resolve adverse effects in consultation with consulting parties.

1.8.5 HRS Chapter 6E, Historic Preservation

HRS Chapter 6E-8 states that "[b]efore any agency or officer of the state or its political subdivisions commences any project which may affect historic property, aviation artifact, or a burial site, the agency or officer shall advise the department [Department of Land and Natural Resources, State Historic Preservation Division] and allow the department an opportunity for review of the effect of the proposed project on historic properties, aviation artifacts, or burial sites … especially those listed on the Hawaii register of historic places. The proposed project shall not be commenced, or in the event it has already begun, continued, until the department shall have given its written concurrence." The State Historic Preservation Division is provided an opportunity to review and comment on the Draft EIS for this Master Plan.

1.8.6 Coastal Zone Management Act

The purpose of the Coastal Zone Management Act (CZMA) of 1972 (16 USC §1451 et seq.) is to encourage coastal states to manage and conserve coastal areas as a unique, irreplaceable resource. To the maximum extent practicable, federal actions affecting land/water use or coastal zone natural resources must be consistent with the enforceable policies of an approved state coastal zone management program. The CZMA requires a consistency determination from the Department of Business, Economic Development and Tourism (DBEDT) for actions within the coastal zone, as defined by HRS §205A-1. Coastal zone management (CZM) consistency determinations are not required for actions on federal property that would not have reasonably foreseeable direct or indirect effects on any use of or resource in the coastal zone.

1.8.7 Endangered Species Act

The Federal Endangered Species Act (ESA) of 1973 (16 USC §1531 et seq.) establishes a process for identifying and listing threatened and endangered species. It requires federal agencies to carry out programs for the conservation of federally listed endangered and threatened plants and wildlife and designated critical habitats for such species, and prohibits actions by federal agencies that would likely jeopardize the continued existence of those species or result in the destruction or adverse modification of designated critical habitat. Section 7 of the ESA requires consultations with federal wildlife management agencies on actions that may affect listed species or

designated critical habitat. Section 9 of the ESA prohibits the "taking" (through harm or harassment) of endangered species without an agency-issued permit.

1.8.8 Clean Water Act

The Clean Water Act (CWA) of 1977, as amended (33 USC §1251 et seq.), is the major federal legislation concerning improvement of the nation's water resources. The CWA amended the Federal Water Pollution Control Act and requires federal agency consistency with state nonpoint source pollution abatement plans. Amended in 1987, the CWA strengthens enforcement mechanisms and regulations for stormwater runoff, providing for the development of industrial and municipal wastewater treatment standard, and a permitting system to control wastewater discharges to surface waters.

CWA SECTION 402. Discharges of point sources of pollutants into surface waters of the U.S. are controlled under the National Pollutant Discharge Elimination System (NPDES) program, pursuant to section 402 of the CWA. Pursuant to the CWA and amendments, states may be authorized to administer permit programs. The Hawai'i Department of Health (DOH), Clean Water Branch, under Hawai'i Administrative Rules (HAR) 11-55, administers the NPDES program in Hawai'i. Requirements for NPDES permit coverage are triggered for construction activities of one acre or greater, and industrial activities which fall under applicable North American Industrial Classification System (NAICS) codes.

CWA SECTION 401 AND 404. CWA Section 404 defines requirements for discharges in navigable waters of the U.S. and sets limits on the discharge of dredged or fill material into navigable waters. Permit approval is through the U.S. Army Corps of Engineers (USACE). Dredging activities trigger the need for a Section 404 permit. For projects which require a Section 404 permit, a Section 401 Water Quality Certification (WQC) is also required. The WQC application is submitted to the Hawai'i DOH. If USACE determines that a Clean Water Act Section 404 Individual Permit is required for dredging or pier or breakwater construction, only the Least Environmentally Damaging Practicable Alternative (LEDPA) would be permitted pursuant to the 404(b)(1) Guidelines (40 CFR Part 230).

1.8.9 Clean Air Act

The Clean Air Act (CAA) and amendments (42 USC §7401 et seq.) comprise the comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. Pursuant to the CAA and amendments, state-operated permit programs serve to control emissions. In Hawai'i, the state operating permit

program is implemented by the DOH, and emissions of regulated air pollutants within the state may be subject to permitting as required under HAR 11-60.1.

1.8.10 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 (16 USC §31), as amended, prohibits (with exceptions) the taking (i.e., harassment, hunting, capture or killing, or attempting to harass, hunt, capture or kill) of marine mammals in waters of the U.S. The implementing regulations at 50 CFR 216 identify definitions, prohibitions, exceptions, permit restrictions, and conditions associated with the MMPA.

1.8.11 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 USC §1801 et al.), as amended (Public Law 94-265), provides for the protection and management of fisheries. Specifically, the Act requires that fishery management plans identify as essential fish habitat (EFH) those areas that are necessary to fish for their basic life functions. EFH is defined as "...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity."

The Magnuson-Stevens Act requires the National oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and regional fishery management councils to minimize, to the extent practicable, adverse effects to EFH caused by fishing activities. The Act also requires federal agencies to consult with NMFS about actions that could damage EFH. EFH can consist of both the water column and the underlying surface (e.g., seafloor) of a particular area. Areas designated as EFH contain habitat essential to the long-term survival and health of the nation's fisheries.

1.8.12 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA), as amended (16 USC §661 et seq.), provides the U.S Fish and Wildlife Service (USFWS) the authority to evaluate impacts to fish and wildlife resources from development projects and requires federal agencies implementing development projects to consult with the USFWS and appropriate resource management agencies regarding impacts and development of mitigation measures.

1.8.13 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918, as amended (16 USC §703 et seq.), establishes protections for migratory birds and prohibitions including those related to activities which "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export…" unless permitted by regulations.

1.8.14 Rivers and Harbors Act, Section 10

The Rivers and Harbors Act of 1899, Section 10, requires a USACE permit for activities which obstruct or alter navigable waters of the U.S. or modify the course, location, condition, or capacity of a port, harbor, refuge, or enclosure within the limits of a breakwater or of the channel of navigable waters.

1.8.15 Compliance with Executive Orders

1.8.15.1 EO 12898, Environmental Justice in Minority Populations and Low Income Populations

EO 12898 (11 February 1994) requires federal agencies to identify and address the potential for disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations. Section 6.9 of this EIS describes how the alternatives address environmental justice.

1.8.15.2 EO 13045, Protection of Children from Environmental Health Risks and Safety Risks

EO 13045 (21 April 1997) requires federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children. As part of the socio-economic evaluation of the alternatives, Section 6.9 of this EIS describes potential health and safety risks.

1.8.15.3 EO 13089 Protection of Coral Reefs

EO 13089 (11 June 1998) requires federal agencies whose actions may affect U.S. coral reefs to identify the actions, protect and enhance the conditions of such ecosystems, and ensure to the extent permitted by law that actions authorized, funded, or carried out would not degrade the conditions of such ecosystems. Section 6.4

identifies coral reef impacts from the alternatives and discusses potential mitigation measures to be considered in protection of coral reefs to comply with this EO.

1.8.15.4 EO 13112 Invasive Species

EO 13112 (10 January 2001) requires federal agencies whose actions may affect the status of invasive species to identify those actions and not authorize, fund, or carry out actions that the agency believes would cause or promote the introduction or spread of invasive species. Sections 2.3 and 6.4 identify management measures in place to prevent or minimize the impacts from the alternatives on invasive species.

1.8.15.5 EO 11988 Floodplain Management

EO 11988 (24 May 1977) establishes a multi-step review process that seeks to avoid, to the maximum extent possible, long- and short-term adverse impacts associated with the occupancy and modifications of structures located in floodplains, wherever there is a practicable alternative. Each agency is required to evaluate the potential effects of any actions it may take in a floodplain to ensure that its planning and budget requests reflect consideration of flood hazards and floodplain management. The EO requires federal agencies to:

- Determine whether the proposed action will occur in a floodplain;
- Consider alternatives to avoid adverse effects and incompatible development in the floodplains if an agency has determined to or proposes to conduct, support, or allow an action to be located in a floodplain;
- Design or modify its action to minimize potential harm and prepare and circulate a notice containing an explanation of why the action is proposed to be located in the floodplain if the head of the agency finds that the only practicable alternative requires siting in a floodplain; and
- Provide opportunities for early public review of any plans or proposals for actions in floodplains.

Section 6.6 describes measures for complying with development standards for construction in the flood plain.

1.8.16 List of Required Environmental Permits and Consultations

Government consultations and permits that may be required under the Proposed Action and alternatives and identified during development of this document include:

- Section 4(f) evaluation (USDOT),
- ESA Section 7 consultation (USFWS, NMFS),
- CZM consistency determination (DBEDT),
- NHPA Section 106 consultation (SHPD),
- FWCA consultation (USFWS),
- CWA Section 404 permit (USACE, HDOH),
- CWA Section 401 WQC (HDOH, USEPA),
- Rivers and Harbors Act, Section 10 permit (USACE), and
- NPDES permit for construction activities (HDOH).

Section 6.16 of this EIS presents the evaluation of impacts under USDOT Act Section 4(f). Correspondence provided in Appendix F identifies the steps being undertaken as part of an ESA Section 7 consultation. CZM consistency determination will be required when specific federal funding sources are identified., and NHPA Section 106 consultation will be conducted prior to finalizing the EIS. Permits will be obtained prior to specific applicable project activities. According to the Hawai'i CZM program, CZM federal consistency review is to be conducted after specific funding sources have been identified.[11]

[11] Personal communication. Mr. John Nakagawa, Hawai'i CZM Program and Belt Collins Hawaii. September 27, 2007.