DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

MAINTENANCE DREDGING
TAMPA HARBOR
HILLSBOROUGH COUNTY, FLORIDA

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) of the proposed action. This Finding incorporates by reference all discussions and conclusions contained in the Environmental Assessment attached hereto. Based on information analyzed in the EA, reflecting pertinent information obtained from other agencies and special interest groups having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. Reasons for this conclusion are in summary:

a. There will be no significant adverse impacts to endangered or threatened species. The U.S. Fish and Wildlife Service issued a Biological Opinion to protect nesting sea turtles along the shoreline. Measures to be implemented include a monitoring and relocation program during the nesting season. Since the first placement event sea turtle nesting has increased along the shoreline. They stated also that dredging would not affect manatees. The National Marine Fisheries Service issued a Gulf Regional Biological Opinion for the use of hopper dredges and its impact on sea turtles. Measures used to mitigate impacts include a discretionary dredging window, observers, inflow screens and a deflector draghead.

b. The Jacksonville District has determined that maintenance dredging will have no effect on significant historic properties at Egmont Key. The placement of material along the western shoreline would retard erosion and protect the historic McIntosh Battery from degradation. The Florida State Historic Preservation Officer concurred with this determination.

c. State water quality standards will be met.

d. The proposed project has been determined to be consistent with the Florida Coastal Zone Management Program.

e. Measures to eliminate, reduce, or avoid potential impacts to fish and wildlife resources will be implemented during project construction.

f. The proposed project has been evaluated pursuant to the Migratory Bird Treaty Act. The Migratory Bird Protection Policy will be implemented for this project and for future projects. The Policy has been coordinated with the U.S. Fish and Wildlife

Service and the State of Florida.

g. Benefits to the public will be maintenance of the navigation channel, continued local economic stimulus, and shoreline protection for historical properties.

In consideration of the information summarized, I find that the proposed action will not significantly affect the human environment and does not require an Environmental Impact Statement.

7 FEB 05
Date

Robert M. Carpenter
Colonel, U.S. Army
District Engineer

November 2004

Environmental Assessment

Tampa Harbor Maintenance Dredging and Beneficial Use of Dredged Material Egmont Key Shoreline Placement Hillsborough County, Florida

U.S. Army Corps
of Engineers
Jacksonville District

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1.0 PURPOSE OF AND NEED FOR ACTION.

1.1. INTRODUCTION.

The Jacksonville District proposes maintenance dredging of the Tampa Harbor Navigation Project (i.e., Main Shipping Channel and Upper Channels, Hillsborough River, Big Bend, Port Sutton and Alafia River). **Figure 1** outlines the location and the limits of the Tampa Harbor Project. Material disposal options under consideration include an approved Ocean Dredged Material Disposal Site (ODMDS), Dredged Material Management Areas (CMDA), and a Dredged Material Placement Area (BPA). **Figures 2, 3, and 4** show the location of the disposal sites under consideration. Sand and sediments have accumulated within Tampa Harbor and the adjoining channels reducing the navigable capacity. In order to meet the commercial and public navigation needs as authorized by Congress, maintenance dredging is required to maintain the federally authorized standards.

1.2. AUTHORITY.

Rivers and Harbors Act of December 31, 1970, House Document 401, 91st Congress, 2nd Session.

1.2.1 SPONSOR:

Tampa Port Authority
Post Office Box 2192
Tampa, Florida 33601

1.3. DECISION TO BE MADE.

The decision to be made includes determining the extent dredging is necessary to maintain the authorized project. This is, in addition to, providing a material disposal site that is economically and environmentally feasible and capable of receiving the dredged volumes.

1.4. RELEVANT ISSUES:

The relevant issues include:

a. Water quality
b. Manatees.
c. Sea grasses.
d. Sea turtles.
e. Mangrove wetlands.
f. Historic Properties.
g. Aesthetics.
h. Recreation.
i. Navigation.
j. Economics.
k. Noise.
l. Safety
m. Migratory Birds

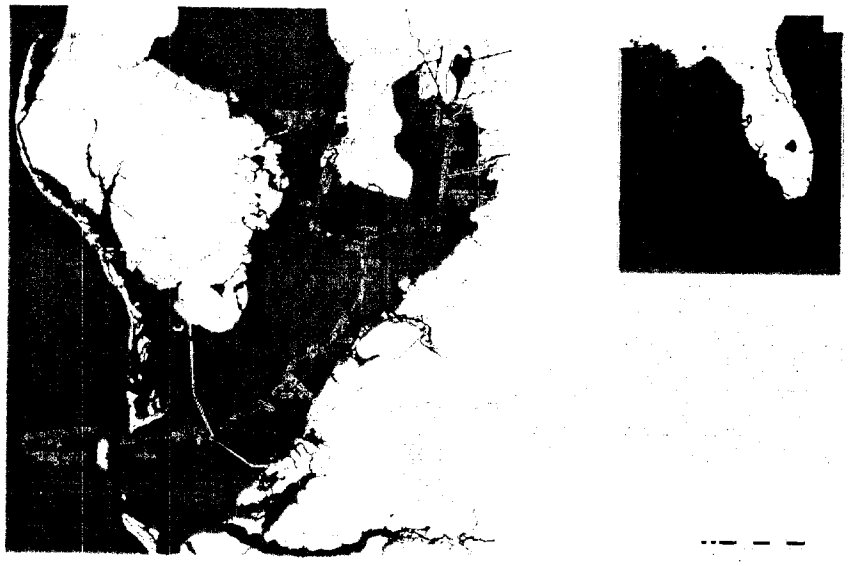

Figure 1. Tampa Harbor Navigation Project

1.5. PERMIT REQUIREMENTS.

In accordance with the conditions of the Memorandum of Agreement between the Jacksonville District and the State of Florida, the Corps would be required to obtain certification of compliance with State water quality standards unless exempted. This certification would be required for turbidity associated with dredging and the return waters from the dredged material disposal site. However should the preferred dredged material disposal site be offshore, approval would be required also from the Environmental Protection Agency.

The disposal options/alternatives under consideration include the following:

a. EPA approved (1995) Ocean Dredged Material Disposal Site, 7.6 miles southwest of the entrance marker for the Tampa Harbor Federal Channel.

b. Shoreline placement along the westerly side of Egmont Key to protect a historic gun battery site.

c. Upland placement at Construction and Maintenance Disposal Areas 2-D and 3-D located in Hillsborough Bay and Disposal Areas C and A near Cargil Terminal on the Alafia River.

1.6 METHODOLOGY.

An interdisciplinary team used a systematic approach to analyze the affected area, to evaluate the environmental effects, and to write the environmental assessment. This included literature research, field investigations, and coordination with resources agencies and private groups having expertise in particular areas.

2 ALTERNATIVES INCLUDING THE PROPOSED ACTION.

2.1 INTRODUCTION.

The alternatives section is the heart of this Environmental Assessment. This section describes in detail the no-action alternative, the proposed action, and other reasonable alternatives that were studied in detail. Then based on the information and analysis presented in the sections on the Affected Environment and the Probable Impacts, this section presents the beneficial and adverse environmental effects of all alternatives in comparative form, providing a clear basis for choice among the options for the decisionmaker and the public. The key to this section is the alternative comparison chart, **Figure 2.1**, page 9. This section has five parts:

a. A description of the process used to formulate alternatives.

b. A description of alternatives that were considered but were eliminated from detailed consideration.

c. A description of each alternative.

d. A comparison of the alternatives.

e. The identification of the preferred alternative.

2.2 HISTORY OF ALTERNATIVE FORMULATION.

From the 1880's to the present, dredging has maintained the various navigation channels in Tampa Bay. Past use of the dredged material was fill material for wetlands. These low-lying areas were converted to fastlands or uplands to promote residential and commercial development, and to aid the construction of highways through these areas. When not used as developmental fill, the dredged material was usually sidecast adjacent to the navigation channel, creating islands in some instances. Some of the islands are still visible today as part of the landscape next to the channels. As the need for this material or its desirability declined, suitable disposal sites were required to hold the dredged material and prevent reentry into the channel. To meet this need, the Environmental Protection Agency (EPA) designed a disposal site in the Gulf of Mexico, offshore from Tampa Bay. This placement area, referred to as an ocean dredged material disposal site (ODMDS), started receiving material in 1981. Today, the site is not longer in use, having reached disposal capacity.

During the preparation of the Final Environmental Impact Statement for designation of a new ODMDS (EPA, 1995), an economic evaluation appendix was prepared to determine the feasibility of disposal alternatives for individual reaches of the Tampa project. This feasibility report determined that it would be economically viable to dispose of dredged material from this area of Tampa Bay only in the ODMDS. Since the ODMDS was not available for use at that time, a search was conducted to find suitable and adjacent uplands within the project's vicinty. Disposal opportunities considered suitable for further evaluation were: 1) a Department of Environmental Protection (DEP) area project, and 2) material placement along the western shoreline of Egmont Key.

Public input received regarding placement of material from the maintenance of St. Petersburg Harbor supported placement along the shoreline of Egmont Key. During that time, the Egmont Key Alliance heavily lobbied the Corps regarding protective and beneficial use of the proposed dredge material. The group sought use of the material to protect the lone and historic gun battery found along the western shoreline. Several historic gun batteries had deteriorated and fallen into the Gulf when unearthed by erosive forces. It was widely assessed that the one remaining battery would meet the same fate, if intervention was not imminent. The proposed use of the dredged material received wide acceptance from the State DEP, in addition to, funds to construct two geo-tube groins to help retard erosion along the shoreline. To date, the structure and material continue to protect the lone and historic gun battery.

The Egmont Key Alliance also requested that future material from maintenance of Tampa Harbor be used to provide continuous protection for the existing battery. This Environmental Assessment would also evaluate the Alliance's disposal recommendation.

2.3 ELIMINATED ALTERNATIVES.

a. Gulf Disposal. While Gulf Disposal now appears too costly for economic justification, future economic analysis may provide new benefits that would make it feasible. The current site designated by the Environmental Protection Agency (EPA) is approximately 18 to 22 miles southwest of Egmont Key. Disposal would be subject to Corps of Engineers permits and EPA concurrence.

b. Airport Upland and Near Shore. This is a questionable alternative since environmental mitigation costs may be required and difficult to justify. This alternative considers pumping the excavated material to diked areas on the Albert Whitted Municipal Airport property and a water site adjacent to the airport.

c. Airport Upland and Near Shore with Gulf Disposal. The combination of the aforementioned two alternatives would have the same concerns as the two separate disposal alternatives. Silty material would go to the Gulf disposal site and sand would be placed mostly in the bay and adjacent upland area of the airport.

d. Tampa Bay Deep Water Disposal. Material disposal within in a deep water area off Tampa Bay along the 20-foot southern entrance channel to St. Petersburg Harbor.

2.4 DESCRIPTION OF ALTERNATIVES.

2.4.1 No Action.

The "no action" alternative would prohibit the needed maintenance from lack of a suitable disposal option. This alternative would severely restrict the Corps mandate to provide free and unobstructed navigation of the Federally authorized projects in this area.

2.4.2 Dredging and Ocean Disposal.

This disposal alternative is needed for material retrieved during routine maintenance dredging of Tampa Harbor. The project areas would include the entrance channel and turning basin. The material placement would be in accordance with the Site Material and Management Plan for the Tampa Ocean Dredged Material Disposal Site (ODMDS) (EPA, 1995). The standard manatee precautions would also be implemented during dredging (Appendix II). This includes observers and equipment shutdown should manatees come within 50 feet of the operation. If a hopper dredge is used, special precautions would be implemented to protect sea turtles. This includes dredging within a December through March window, observers to monitor dredge outputs for incidental take of turtles, and the use of the sea turtle deflector draghead. The EPA designated site is shown in **Figure 2** below.

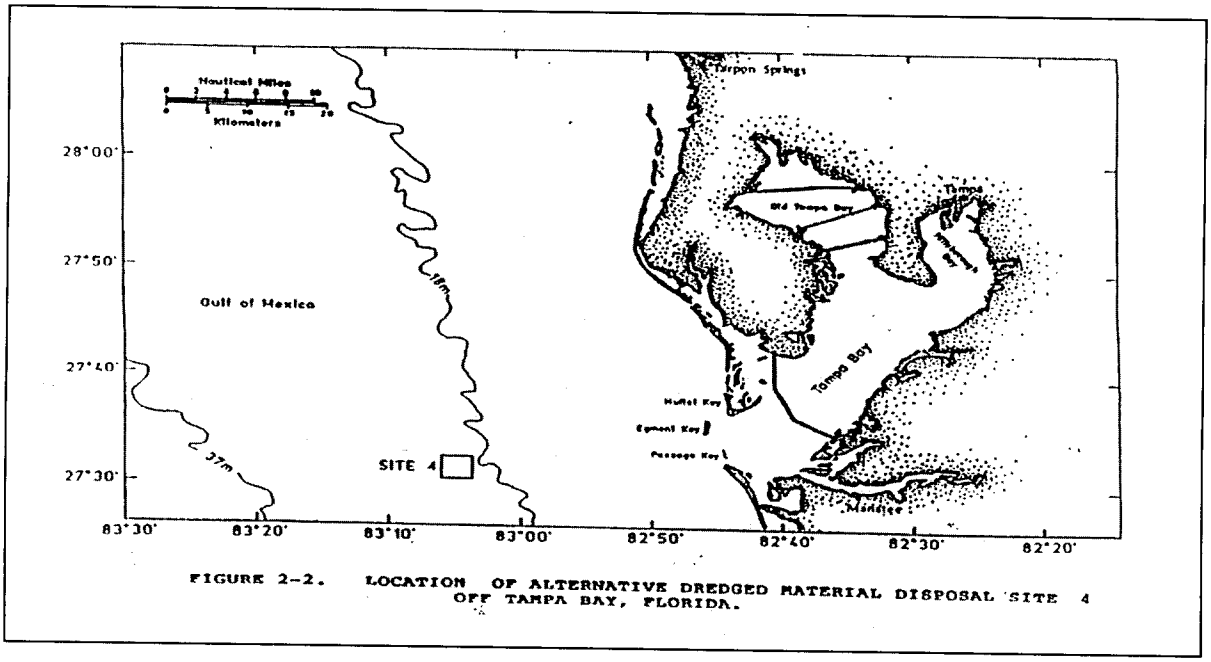

Figure 2. Ocean Material Dredged Disposal Site (ODMS)

2.4.3 Dredging and Egmont Key Beach Placement.

The work would include routine maintenance dredging of Tampa Harbor entrance channel and turning basin. Approximately 300,000 cubic yards of material would be placed along the western shoreline of the island (**Figure 3**).

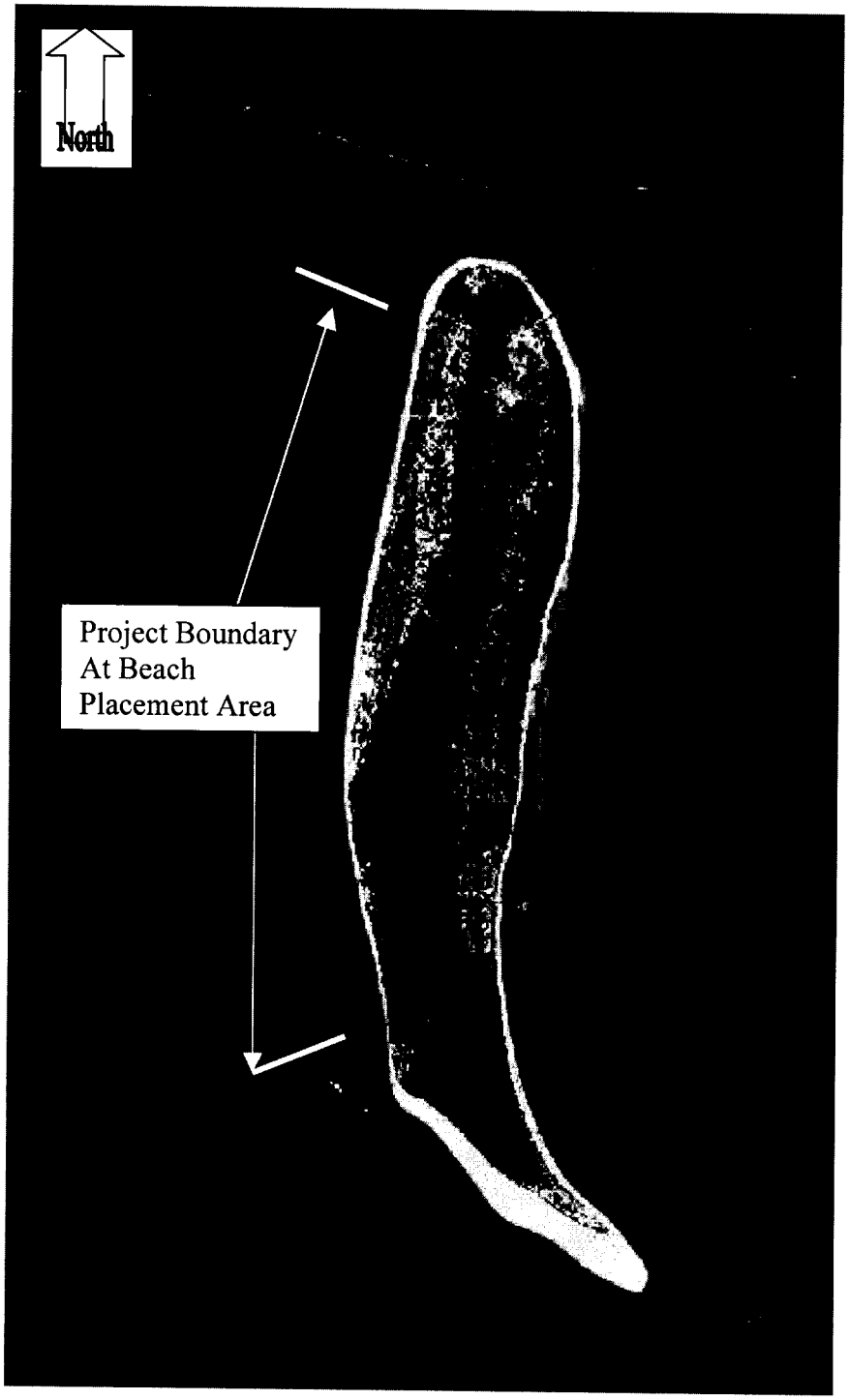

Figure 3. Beach Placement Area at Egmont Key

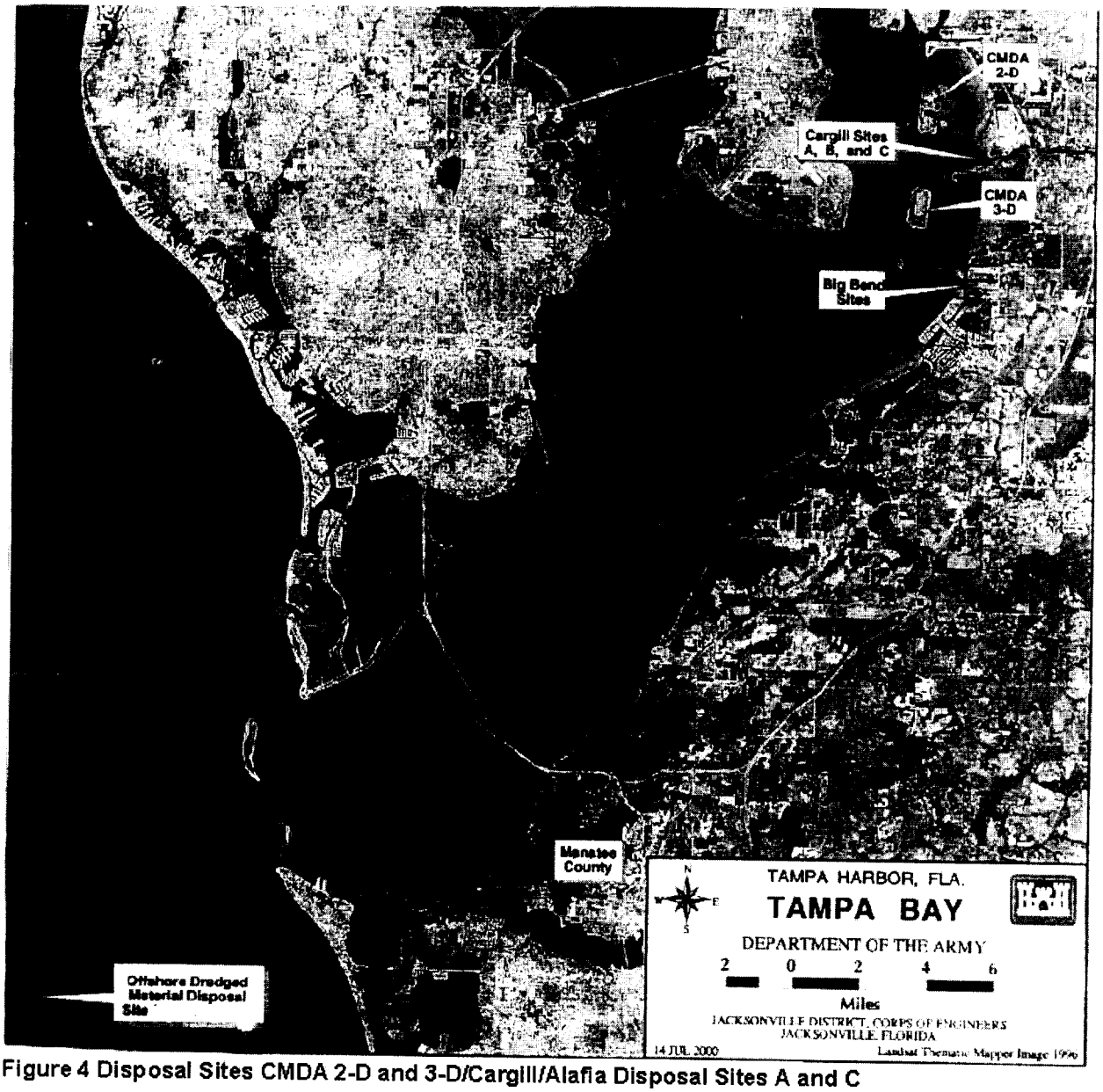

Figure 4 Disposal Sites CMDA 2-D and 3-D/Cargill/Alafia Disposal Sites A and C

2.4.4 Construction and Maintenance Disposal Area (CMDA).

2.4.4.1 Disposal Island CMDA 2-D.
CMDA 2-D is a 650-acre manmade island created from the disposal of past dredging activities. Located about 2.5 miles north of Hillsborough Bay, CMDA 2-D primary designation is for material disposal associated with maintenance dredging of Cut C of the Tampa Harbor Project, specifically the Hillsborough Bay and the Alafia River. CMDA 2-D is divided into two parcels, identified as Section A and B. Section A contains 349 acres and Section B 181 acres. The disposal capacity anticipated for this site is 16 to 18 million cubic yards.

2.4.4.2 Disposal Island CMDA 3-D.
CMDA 3-D is a 500-acre nearshore manmade island created also from past disposal activities. The site has two disposal cells, identified as Section A and B. The site is designated for the disposal of material associated with the maintenance of Cut C of the federal project near Hillsborough Bay and the Alafia River.

2.4.5 Cargil/Alafia River Disposal Sites A and C.

2.4.5.1 Cargil/Alafia River Site "A"
Site A is an upland disposal area located about 1 mile south of the Alafia River. This site presently contains 36 acres and is capable of receiving about 500,000 cubic yards of dredged material. This site is specifically designated for the Alafia River and Big Bend portions of the Tampa Harbor Project in Hillsborough Bay. Currently the area is full to capacity and is not available.

2.4.5.2 Cargil/Alafia River Site "C"
This site is located on the north side of the Alafia River and contains about10 acres. Site C is capable of receiving 600,000 cubic yards of dredge material.

2.5 ALTERNATIVE COMPARISON.

Table 2.1. Alternatives Comparison.

	NO ACTION ALTERNATIVE	DREDGING AND EGMONT KEY BEACH PLACEMENT	DREDGING AND OCEAN DISPOSAL	CONSTRUCTION AND MAINTENANCE DISPOSAL AREAS 2-D AND 3-D	CARGIL/ALAFIA RIVER DISPOSAL AREAS A and C
Water Quality	Frequent short-term increases in turbidity from the propeller wash of the ships using the harbor.	Medium short-term increases in turbidity from the dredging operation. Minor short-term water quality impacts from the return water from the beach placement area into the surf zone.	Medium short-term increases in turbidity from the dredging operation.	Medium short-term increases in turbidity from the dredging operation. Minor short-term water quality impacts from return water.	Medium short-term increases in turbidity from the dredging operation. Minor short-term water quality impacts from return water.
Safety	Medium adverse impact on vessels entering harbor area from reduced channel depths	Medium long-term benefit to navigation No potential for impact from munitions at the former Ft Dade Site	Medium long-term benefit to navigation	No effect.	No effect.
Noise	No impact.	There would be no increase of noise over background because the dredging site is within an industrial area with an airport nearby. There would be an increase in noise levels at the discharge site which is a recreational area.	There would be no increase of noise over background because the dredging site is within an industrial area with an airport nearby.	There would be no increase of noise over background because the dredging site is within an industrial area with an airport nearby. There would be an increase in noise levels at the discharge site.	There would be no increase of noise over background because the dredging site is within an industrial area with an airport nearby. There would be an increase in noise levels at the discharge site.
Seagrasses	No impact.	No impact.	No impacts.	No impacts.	
Sea turtles	No impact.	Minor short-term adverse impact on sea turtles in the harbor should a hopper dredge be used. This impact would be mitigated by the implementation of special conditions such as the	Minor short-term adverse impact on sea turtles in the harbor should a hopper dredge be used. This impact would be mitigated by the implementation of special conditions such as the	Minor short-term adverse impact on sea turtles in the harbor should a hopper dredge be used. This impact would be mitigated by the implementation of special conditions such as the	Minor short-term adverse impact on sea turtles in the harbor should a hopper dredge be used. This impact would be mitigated by the implementation of special conditions such as the

	NO ACTION ALTERNATIVE	DREDGING AND EGMONT KEY BEACH PLACEMENT	DREDGING AND OCEAN DISPOSAL	CONSTRUCTION AND MAINTENANCE DISPOSAL AREAS 2-D AND 3-D	CARGIL/ALAFIA RIVER DISPOSAL AREAS A and C
		use of the deflector draghead, inflow screens and monitoring of the operation. Minor short-term adverse impact on sea turtle nesting from beach placement. Medium benefit to sea turtle nesting by supplementing sand budget creating additional nesting areas	use of the deflector draghead, inflow screens and monitoring of the operation.	use of the deflector draghead, inflow screens and monitoring of the operation. Minor short-term adverse impact on sea turtle nesting from beach placement. Medium benefit to sea turtle nesting by supplementing sand budget creating additional nesting areas	use of the deflector draghead, inflow screens and monitoring of the operation. Minor short-term adverse impact on sea turtle nesting from beach placement. Medium benefit to sea turtle nesting by supplementing sand budget creating additional nesting areas
Mangrove wetlands	No impact.	No impact.	No impact.	No impact	No impact.
Migratory Birds	No Impact	No direct adverse impacts during construction Long-term benefit to colonial bird nesting on the southern end of the island as sand budget increased for nesting area.	No impact	Impact during nesting season 1 April – 31 August. Impact mitigated by avoidance. If nesting season can not be avoided, Migratory Bird Protection Plan implemented which includes monitoring and nest avoidance.	Impact during nesting season 1 April – 31 August. Impact mitigated by avoidance. If nesting season can not be avoided, Migratory Bird Protection Plan implemented which includes monitoring and nest avoidance.
Historic Properties	No effect.	Major short-term benefit to stabilize the historic coastal batteries along Egmont Key	No effect.	No effect.	No effect.
Aesthetics	No impact.	Major short-term impact from the presence and operation of equipment at the dredging and disposal site. Minor short-term turbidity	Major short-term impact from the presence and operation of equipment at the dredging Minor short-term turbidity plume in the Port and at	Major short-term impact from the presence and operation of equipment at the dredging and disposal site. Minor short-term turbidity	Major short-term impact from the presence and operation of equipment at the dredging and disposal site. Minor short-term turbidity

	NO ACTION ALTERNATIVE	DREDGING AND EGMONT KEY BEACH PLACEMENT	DREDGING AND OCEAN DISPOSAL	CONSTRUCTION AND MAINTENANCE DISPOSAL AREAS 2-D AND 3-D	CARGIL/ALAFIA RIVER DISPOSAL AREAS A and C
		plume in the Port and in the surf zone at the beach.	the ODMDS.	plume.	plume..
Recreation	Minor long-term reduced recreational potential.	Medium long-term impact from the increased recreational opportunities of the Port. Minor adverse impact on recreation along west shoreline of Egmont Key during placement activities. Medium bent along the beach from creating additional beach habitat.	Medium long-term impact from the increased recreational opportunities from the Port.	Minor short-term impact to recreational opportunities involving bird watching.	Minor short-term impact to recreational opportunities involving bird watching.
Navigation	Medium long-term adverse impact on the navigable capacity of the harbor.	Major long-term impact on the navigable capacity of the harbor.	Major long-term impact on the navigable capacity of the harbor.	Moderate short-term adverse impact from dredging equipment obstruction to regular navigation speeds. Moderate long-term benefits from increased vessel capabilities using the port and from safer navigability of the channels.	Moderate short-term adverse impact from dredging equipment obstruction to regular navigation speeds. Moderate long-term benefits from increased vessel capabilities using the port and from safer navigability of the channels.
Economics	Medium long-term adverse impact on the port and local economy from the reduced navigable capacity of the harbor.	Major long-term benefit to the Port from the increased usage by more vessels. Minor long-term economic stimulus to the local economy. Minor short-term stimulus to the local economy from the sale of goods and	Major long-term benefit to the Port from the increased usage by more vessels. Minor long-term economic stimulus to the local economy. Minor short-term stimulus to the local economy from the sale of goods and	Minor short-term stimulus from sale of goods and service during construction. Moderate long-term benefit to the local economy from the increased port capabilities.	Minor short-term stimulus from sale of goods and service during construction. Moderate long-term benefit to the local economy from the increased port capabilities.

	NO ACTION ALTERNATIVE	DREDGING AND EGMONT KEY BEACH PLACEMENT	DREDGING AND OCEAN DISPOSAL	CONSTRUCTION AND MAINTENANCE DISPOSAL AREAS 2-D AND 3-D	CARGIL/ALAFIA RIVER DISPOSAL AREAS A and C
		service in support of the dredging.	service in support of the dredging.		

2.6 PREFERRED ALTERNATIVE.

The preferred alternative is to dredge the harbor and beneficially place the material in the Egmont Key Beach Placement Area if it is economically and engineeringly feasible and environmentally sound as this provides benefits to protect the shoreline of Egmont Key and extends the life of the upland disposal areas. Otherwise the traditional placement areas are suitable.

3 AFFECTED ENVIRONMENT.

3.1 INTRODUCTION.

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be affected by the alternatives if they were implemented. This section, in conjunction with the description of the "no-action" alternative forms the base line conditions for determining the environmental impacts of the proposed action and reasonable alternatives. The environmental issues that are relevant to the decision to be made are the following:

a. Water quality.

b. Manatees.

c. Sea grasses.

d. Sea turtles.

e. Mangrove wetlands.

f. Historic Properties.

g. Aesthetics.

h. Recreation.

i. Navigation.

j. Economics.

k. Noise.

l. Safety.

m. Migratory Birds

3.2 GENERAL DESCRIPTION.

Tampa Bay is the largest estuary on the west coast of Florida (USFWS,1984). As man developed the bay, the natural resources have also been impacted. The Bay has been excavated for navigation purposes; islands and fastland have been created from the dredged material; ports and residential development have encroached on the aquatic environment; and numerous effluents have been discharged into the bay.

3.2.1 Aquatic Resources.

The Bay supports a wide variety of aquatic life including the American oyster which is harvested from the lower Tampa Bay, three species of clams, blue crab, and numerous species of fish: the red drum, spotted seatrout, snook, sheephead, southern flounder, Florida pompano, striped mullet, Gulf menhaden, and the black drum (USFWS, 1984). Many offshore fish spend their juvenile stages in the Bay estuary. These include the red and gag groupers, jewfish, scamp, and the red and mangrove snappers.

3.2.2 Water Quality.

Tampa Bay receives storm runoff from agricultural and residential areas of Pinellas, Hillsboro and Manatee Counties as well as discharges from sewage treatment plants and other facilities. As a result bay waters are high in nitrogen and phosphorous and turbidity has reduced light penetration to 8 feet or less in many areas. The water quality tends to improve as the entrance to the bay is approached. West of the Skyway bridge water quality improves markedly as the bay meets the Gulf of Mexico.

3.3 RELEVANT FACTORS.

3.3.1 Physical.

a. Water quality. Water quality in the project area ranges from poor at the east end to fairly good at the west end. Nitrogen and phosphorous levels are high within the bay but levels of both nutrients fall sharply west of Egmont Key. Turbidity is high through out the project area due to the volume of ship traffic using the Tampa Harbor main channel (2,800 ships and barges a year) and the reduced clearance between the ships and bottom sediments due to shoaling.

b. Historic Properties. Prehistoric and historic sites have been identified in the Tampa Bay vicinity. Several prehistoric sites are located within a mile of Harbor Isles Lake, including the National Register Weeden Island Site. Tampa Bay has a maritime tradition dating back to a Spanish expedition in 1528 (Espey Huston, 1988). A number of wrecks have been documented for the Tampa Bay vicinity during the historic period. Historic property surveys have not been conducted for the St. Petersburg upland disposal site.

c. Noise. Disposal sites CMDA 2-D and 3-D and Cargill Sites A and C are located in Hillsborough Bay in close proximity to an industrial area and airport. These features add to the background noise of the area, in addition to, the calls received from shore and wading birds, in addition to, migratory birds that nest on the disposal sites. Egmont Key located in Tampa Harbor closer to the Gulf and does not receive the same intensity of sounds. It is a recreational site remote from noise sources.

d. Safety. The channel was designed for a specific depth and width. Over the course of time shoaling occurs reducing the navigable capacity of that channel. As this occurs, vessels using this channel must avoid the shallow-water areas. If these areas aren't adequately maintained, the use of the channel becomes a safety hazard for which the Coast Guard can shut its use. In addition, the Egmont Key State Recreation Area is also a former Department of Defense Site, Fort Dade. This site has former gun batteries along the western shore of the island. As part of the liquidation of former DOD sites, an evaluation of the property for the potential of hazardous toxic and radioactive wastes and munitions was conducted. It was determined that no potential exists (Appendix VI).

3.3.2 Biological.

a. Manatees. The West Indian manatee, Trichechus manatus, is known to inhabit the Bay. They are especially known to congregate around the areas of seagrasses and warm water outfalls associated with manufacturing and power generation.

b. Seagrasses. Seagrass beds are important as they offer habitat to several fish species (red drum, spotted sea trout, spot, silver perch, sheepshead, and snook), invertebrates, algae, dolphin, and the manatee. Historically, Tampa Bay has lost much of its seagrass as a result of dredge and fill activities, and degraded water quality associated with urbanization and industry discharge. Since 1950, losses equal approximately 15 thousand acres. A recent increase has been documented, and is attributed to improved bay water quality (TNEP 1996). No seagrasses are located in the shallow-water areas along the west side of Egmont Key.

c. Sea turtles. The following sea turtles are likely to be found near or in the Bay (USFWS, 1987):

green sea turtle ..... *Chelonia mydas*
hawksbill sea turtle ..... *Eretmochelys imbricata*
Kemp's Ridley sea turtle ..... *Lepidochelys kempii*
leatherback sea turtle ..... *Dermochelys doriacea*
loggerhead sea turtle ..... *Caretta caretta*

The beaches on Egmont Key are used for nesting. The western shoreline has not had much nesting success due to the wind and wave action eroding the shoreline. The following chart includes sea turtle nesting monitoring for the western shore of Egmont Key before and after dredged material placement (placement occurred in 2001):

Florida Fish and Wildlife Conservation Commission
Florida Marine Research Institute
Statewide Nesting Beach Survey Program
Sea Turtle Nesting Data for Egmont Key (2000 - 2003)

Year	Length (km)	Start Date	End Date	Loggerhead				Green Turtle				Leatherback			
				# of Nests	# of False Crawls	First Nest Date	Last Nest Date	# of Nests	# of False Crawls	First Nest Date	Last Nest Date	# of Nests	# of False Crawls	First Nest Date	Last Nest Date
2000	5.1	5/11/00	8/31/00	30	102	5/11/00	8/8/00	0	0			0	0		
2001	5.1	5/18/01	9/24/01	15	106	5/19/01	7/28/01	0	0			0	0		
2002	5.1	5/10/02	9/15/02	29	43	5/10/02	8/3/02	0	0			0	0		
2003	5.1	5/14/03	9/30/03	45	59	5/14/03	8/6/03	0	0			0	0		

d. Mangrove wetlands. Some fringe mangroves can be found on the east side of 2-D. With the identified exception, vegetation at the dredge material management areas is primarily upland species. There are no wetland areas that would be impacted at either 2-D, 3-D, or Cargill Sites A or C.

e. Migratory Birds. A total of 83 species of birds are associated with marine habitats in Tampa Bay (Dunstan and Lewis 1974). Of significance to this project, adjacent spoil islands 2D, 3D, and the Alafia Banks provide nesting habitat for 22 species of birds, including 10 state-designated "species of special concern", and 2 federally endangered species (see table 2). According to the National Audubon Society and the Florida Game and Fresh Water Fish Commission (GFC), these dredged material created islands serve as important breeding areas. The Alafia Banks are one of the nation's outstanding and most diverse bird colonies, as well as being ranked as Florida's number one colony. It appears the spoil islands provide desirable nesting habitat for many species due to substrate and vegetative conditions, and absence of humans. With appropriate management, these areas will continue to serve as breeding grounds for a myriad of species.

f. The following avian species were observed in the project area: brown pelicans (*Pelecanus occidentalis*), laughing gulls (*Larus atricilla*), ring-billed gulls (*Larus delawarensis*), cormorants (*Phalacrocorax auritus*), roseate spoonbills (*Ajaia ajaja*), reddish egrets (*Egretta rufescens*), tricolored egrets (*Egretta tricolor*), snowy egrets (*Egretta thula*), great egrets (*Casmerodius albus*), little blue herons (*Egretta caerula*), great blue herons (*Ardea herodias*), willets (*Catoptrphurus semipalmatus*), black-necked stilts (*Himantopus mexicanus*), ruddy turnstones (*Ironware interpret*), white ibis (*Eudocimus albus*), glossy ibis (*Plegadis falcinellus*), caspian terns (*Sterna caspia*), sandwich terns (*Sterna sandricensis*), black skimmer (*Rynchops niger*), american oystercatchers (*Haematopus palliatus*), and yellow-crowned night herons (*Nycticorax violaceus*).

Table 2- Breeding Pairs of Alafia Bank and Tampa Port Authority Spoil Islands 2D and 3D for 1996_ (National Audubon Society 10-96).

Species	Alafia Bank	Island 2D	Island 3D
Brown Pelican#*		600	
Double-crested Cormorant		200	
Great Blue Heron		80	
Great Egret		80	
Snowy Egret*		200	
Little Blue Heron*		90	
Tricolored Heron*		230	
Reddish Egret*		45	
Cattle Egret		700	
Black-crowned Night Heron		50+	
Yellow-crowned Night Heron		50+	
White Ibis*		8100	
Glossy Ibis		525	
Roseate Spoonbill*		100	
Clapper Rail		+	+
American Oystercatcher*	18	34	11
Willet	6+	10+	5+
Laughing Gull	500	3400	
Caspian Tern			93
Royal Tern			180
Sandwich Tern			135
Black Skimmer*			320
Total Pairs	11,074	544+	4,144

3.3.2 Social.

a. Aesthetics. Egmont Key State Recreation Area is a relatively remote island having limited access. This small barrier island overlooks the entrance to Tampa Bay and the Gulf of Mexico.

The general area at CMDA 2-D/3-D and Cargill is that of an industrial area located along the waterfront with recreational boating and fishing occurring in the local communities. The Cargill Fertilizer Plant is located on the north side of the mouth of the Alafia River. The peninsular to the east of the plant has active dredged material management areas Cargill A and C. The aesthetics of the area is within a commercial navigation area.

b. Recreation. Recreational activities associated with the Port are linked to the cruise ships. Egmont Key is owned by the Department of Interior but is leased to the State of Florida and has been designated Egmont Key State Recreation Area. The facility

has numerous former military batteries which attracts history buffs. The beach serves many weekend beach goers.

Recreational activities associated with dredged management areas CMDA 2-D/3-D and Cargill sites A and C are related to Ornithology or bird watching. Site 2-D provides nesting habit for 22 species of birds, including 10 State designated species of special concerns, and two federally endangered species. Overall, 83 species of birds are associated with the above disposal sites and marine habitat in Tampa Bay. A 1996 study by the National Audubon Society found that 544 nesting species occupy 2-D and about 4,144 occur on 3-D. The Cargil sites also provide nesting opportunities for a wide variety of shore, wading, and migratory birds.

3.3.3 Economics

a. Navigation. The navigation channel allows transportation of international and domestic cargo to and from Tampa Harbor. This provides long-term economic stimulus to the economy of Tampa metropolitan area and the generation of revenues from the sale of goods and services to the public.

b. Economics. The activities that originally justified this project in Tampa Harbor were a tonnage moved of 268,206 in 1898. This is the first available information in the District Office records for Tampa Harbor. The first breakdown of cargo available for Tampa Harbor is in 1913. Principle items received were coal, sand, shell, cement, brick, Havana Tobacco and miscellaneous merchandise. Major items shipped were phosphate, lumber and miscellaneous freight. The total tonnage for 1913 was 2,222,873 tons. This represented increase of 825 percent in just 15 years from 1880. This phenomenal increase had been attributed to channel deepening in the harbor. Since the deepening of the entrance no maintenance dredging has been conducted and sedimentation forcing vessels to light load in the upper channel. This required that the vessels either add additional freight at another port or load from a lighter (a barge) further down the harbor. The data used to justify the Federal project in Tampa was taken from 1971. Tampa Harbor was the 8th largest port in the United States, handling 36,000,000 tons of commerce almost equally divided between inbound and outbound. The major commodities requiring deeper channels are phosphates, petroleum products, and sulfur. Phosphate products were the major beneficiaries of deepening the channels. There were three major phosphate terminals at Tampa where vessels could not be fully loaded because of restrictive channel depths. In that year, there were some 230 outbound vessels of which about 160 could have taken on more cargo if not restricted by draft. Looking at economic information for Tampa Harbor over the last five years, tonnage and growth rates appear to have stayed reasonably steady. The numbers have varied but while being down one year they recovered in the next. In 1994 Tampa handled about 49 million tons of cargo and commercial passenger transport increased about 50 percent.

4 ENVIRONMENTAL CONSEQUENCES.

4.1 INTRODUCTION.

This section describes the probable consequences of implementing each alternative on selected environmental resources. These resources are directly linked to the relevant issues listed in Section 1.4 that have driven and focus the environmental analysis. The following includes anticipated changes to the existing environment including direct and indirect impacts, irreversible and irretrievable commitment of resources, unavoidable effects and cumulative impacts.

4.1.1 Cumulative Impacts.

Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7).

4.1.2 Irreversible and Irretrievable Commitment of Resources.

a. Irreversible. An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource.

b. Irretrievable. An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. An example of an irretrievable loss might be where a type of vegetation is lost due to road construction.

4.2 NO ACTION ALTERNATIVE.

4.2.1 Physical.

a. Water Quality. There would be sporadic, major increases in water quality due to the mooring of ships caused by the propeller wash disturbing the bottom sediments.

b. Historic Properties. The no action alternative would have no effect on significant historic properties.

d. Noise. There would be no impact from this alternative.

e. Safety. There would be a long-term adverse impact on recreational and commercial navigation from a reduction in the navigable capacity of the channel.

4.2.2 Biological

a. Manatees. There would be no impacts on manatees from the no action alternative.

b. Sea grasses. There would be no impact on seagrasses.

c. Sea turtles. There would be no impact on sea turtles.

f. Mangrove wetlands. There would be no impact on mangroves.

g. Migratory Birds. There would be no impacts on migratory birds.

4.2.3 Social

a. Aesthetics. There would be no impact.

c. Recreation. There would be a low level of recreational opportunities from the few cruise ships and charter boats using the facility.

4.2.4 Economic

a. Navigation. There would be reduced navigation to the port due to the shoaling in the channel.

b. Economics. There would be a negative economic stimulus due to the reduced navigability of the channel and harbor.

4.2.5 Cumulative effects.

The only cumulative effect would be the continued reduced navigable capacity of the channel and harbor if it is not maintained.

4.2.6 Unavoidable effects.

If the harbor is not maintained, there would be reduced navigable capacity of the channel and loss of revenues from the reduced commercial use of the port. There would be increased turbidity levels from ships properly wash in the reduced depths.

4.2.7 Irreversible and Irretrievable Resource Commitments.

There would be no commitments made for the No Action alternative.

4.3 DREDGING AND OCEAN DISPOSAL

4.3.1 Physical.

a. Water Quality. Dredging operations would produce temporary changes in water quality. Turbidity levels in the areas of dredging would be elevated above normal. Visible plumes at the water surface are expected in the immediate vicinity of the dredging operation. Elevated turbidity levels are expected to dissipate rapidly, returning to background levels in a short period of time. The disposal area has been designed and sized to allow for settling of sediments prior to being discharged into the Bay. Temporary minor elevations in turbidity levels will be experienced from the return water from the disposal site.

Recent concern raised by local conservation interests, for which there is some tentative scientific agreement, suggests that bay sediments may be high in various forms of nitrogen. Resuspension of these nutrients in the water column as a result of disturbing sediments is being postulated as a cause of excessive plankton growth that shades out seagrasses. Maintenance dredging will result in a temporary increase in turbidity in the immediate project area. However, no long term adverse impact on water quality will result from this project. Increased depth and clearance in

the shipping channel as a result of shoal removal will reduce turbidity due to a reduction in sediments being resuspended and retained in the water column by prop wash of passing ships.

b. Historic Properties. No adverse impact. Placement of dredged sand on Egmont Key would benefit the long-term protection of a historic gun battery located on the western side of the island.

c. Noise. There would be relatively no impact from dredging within the harbor due to the background levels within the harbor area. There would also be no impact at the ODMDS because of the lack of human habitation at the site.

d. Safety. There would be a long-term benefit on safety by maintaining the approved channel depths for use by commercial and recreational vessels.

4.3.2 Biological.

Dredging would result in the loss of benthic organisms at the sites designated for maintenance. These communities will reestablish themselves upon completion of the work. Temporary disruption of normal activity of marine life in the vicinities of the dredging and disposal areas return water is likely. Commercial fisheries existing at or near the disposal areas should not experience adverse effects. Most animal life will relocate to surrounding areas during disposal operations. As a result of dredging impacts, seagrasses could experience inhibited growth due to increased nutrient levels which causes algae blooms, increased turbidity and reduced photosynthesis. The benthic fauna would be smothered by the placement of dredged material at the ODMDS site. Fish would avoid the turbidity plumes to the extent possible. Some species of fish would be attracted to the suspension of benthic organisms in the water column contained in the material. The disposal mounds would be avoided by the dumping operations, thereby, avoiding impacts to the calcareous algae, sponges, ascidians and tube coral that have colonized the area.

a. Manatees. Since manatees are not likely to be found in the vicinity of Cuts A and B of the Harbor, they are not likely to be affected. To insure the manatee's protection, the standard State and federal manatee protection conditions would be implemented during construction (Appendix II).

b. Seagrasses. There are no seagrasses in the vicinity of the dredging or disposal area. Therefore, there would be no impact on this resource.

c. Sea turtles. Sea turtles are known to inhabit the areas around the mouth of the Bay as they migrate to nesting and forage areas. If a hopper dredge is used for the work, there could be an impact on sea turtles in the area. In order to minimize this impact special conditions would be implemented during dredging to avoid taking sea turtles. These conditions include the use of the new prototype draghead with the turtle excluder device, predredge trawling to determine turtle population numbers and monitoring of the equipment to insure proper design and use.

d. Migratory Birds. There would be no impact.

4.3.3 Social.

a. Aesthetics. Air pollution, water turbidity, and noise pollution increases can be expected during project construction. Temporary construction impacts will not adversely affect the existing aesthetics found in the Tampa Harbor area. Aesthetic resources of Tampa Harbor could be minimally impacted with the deposit of the project's dredged material in the ODMDS.

d. Recreation. No recreational activities would be affected by the dredging or disposal operations. The increased navigable capacity of this harbor would provide for major recreational benefits derived from cruise ships using the port.

4.3.4 Economic

a. Navigation. The proposed work will result in some temporary disruption of normal vessel traffic in the channel. The completion of work will have a favorable impact on the port with resulting beneficial effects to the local and regional economies.

b. Economics. There would be a minor short-term stimulus to the local economy from the sale of goods and services in support of the dredging. There would be a long-term minor but beneficial impact on the regional economy from the increased safe passage of all types of commercial vessels into this port area.

4.3.5 Cumulative effects.

There would be no cumulative effects from the maintenance dredging and disposal operations.

4.3.6 Unavoidable effects.

There would be turbidity generated at both the dredging and disposal sites. The excavation of the material would eliminate benthic organisms within the dredging cut and cover the benthic organisms at the disposal site.

4.3.7 Irreversible and Irretrievable Resource Commitments.

A long-term commitment has been previously been made concerning the designation of the ODMDS, and the use and maintenance of the navigation channel. Basically, these commitments of the bottom resources are irreversible and irretrievable. These commitments also extend to submerged aquatic vegetation and wetlands that occur within the vicinity and surrounding areas of the disposal sites.

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4.4 DREDGING AND EGMONT KEY BEACH PLACEMENT.

4.4.1 Physical.

a. Water Quality. Dredging operations would produce temporary changes in water quality. Turbidity levels in the areas of dredging would be elevated above normal. Visible plumes at the water surface are expected in the immediate vicinity of the dredging operation. Elevated turbidity levels are expected to dissipate rapidly, returning to background levels in a short period of time. The disposal area has been designed and sized to allow for settling of sediments prior to being discharged into the Bay.

Temporary minor elevations in turbidity levels will be experienced from the return water from the disposal site.

Recent concern raised by local conservation interests, for which there is some tentative scientific agreement, suggests that bay sediments may be high in various forms of nitrogen. Resuspension of these nutrients in the water column as a result of disturbing sediments is being postulated as a cause of excessive plankton growth that shades out seagrasses. Maintenance dredging will result in a temporary increase in turbidity in the immediate project area. However, no long term adverse impact on water quality will result from this project. Increased depth and clearance in the shipping channel as a result of shoal removal will reduce turbidity due to a reduction in sediments being resuspended and retained in the water column by prop wash of passing ships..

b. Historic Properties. Egmont Key is the location of Egmont Key State Park and the former Fort Dade. Egmont Key is also the location of a former U.S. Marine Hospital, and the site of 19th century occupations associated with the Lighthouse Complex, Seminole War and Civil War. Beach placement of sand would be a benefit to help restore the shoreline in front of the former coastal artillery fortifications.

c. Noise. There would be relatively no impact from dredging within the harbor due to the background levels within the harbor area. There would be increases in noise levels at the disposal site from the presence and operation of the discharge equipment. This impact would be mitigated by the implementation of local noise ordinances.

d. Safety. The navigable capacity of the channel would be maintained providing long-term safety benefits.

4.4.2 Biological

a. Manatees. Since manatees are not likely to be found in the vicinity of the Harbor, they are not likely to be affected. To insure the manatee's protection, the standard State and federal manatee protection conditions would be implemented during construction (Appendix II). In addition, a special dedicated manatee monitor will be used on clamshell operations.

b. Sea grasses. There are no seagrasses in the vicinity of the dredging or disposal area.

c. Sea turtles. Sea turtle nesting could be adversely impacted during placement of dredged material along the Beach Placement Area. To mitigate this impact, a nest monitoring and relocation program would be implemented during construction. After construction the beach would be monitored for compaction and escarpments and if the beach does not meet standards for nested the beach would be tilled. During dredging, sea turtles could be affected if a hopper dredge is used. To reduce the potential for impacts the hopper dredge would be equiped with draghead deflectors and the inflows and outflows monitored for incidental takes.

e. Mangrove wetlands. There would be no impact on mangroves.

f. Migratory Birds. There could be an adverse impact on migratory bird nesting in the beach placement area. This impact would be mitigated by the implementation of the Districts migratory bird protection plan during construction. This plan includes the voluntary avoidance of migratory bird nesting season (1 April through 30 August). If avoidance cannot be accomplished then, a monitor is employed to identify and segregate nesting areas from construction activities. Beach placement also beneficially impacts the colonial bird nesting areas along the southern tip of the island. This is accomplished by putting sand in the sand budget of the island which supplements the nesting area.

4.4.3 Social

a. Aesthetics. Air pollution, water turbidity, and noise pollution increases can be expected during project construction. Temporary construction impacts will not adversely affect the existing aesthetics found in the harbor area.

c. Recreation. There would be a low level of recreational opportunities from the few cruise ships and charter boats using the facility. There would be increased recreational opportunities along the newly created beach on Egmont Key.

4.4.4 Economic

a. Navigation. The proposed work will result in some temporary disruption of normal vessel traffic in the channel. The completion of work will have a favorable impact on the port with resulting beneficial effects to the local and regional economies. There would be a minor short-term disruption to the recreational boat traffic in the Grande Bayou area from the presence and operation of the dredged material transport and disposal operations.

b. Economics. There would be a minor short-term stimulus to the local economy from the sale of goods and services in support of the dredging. There would be a long-term minor impact on the regional economy from the increased safe passage of all types of commercial vessels into this port area.

4.4.5 Cumulative effects.

There would be no cumulative effects from the maintenance dredging and disposal operations.

4.4.6 Unavoidable effects.

There would be turbidity generated at both the dredging and disposal sites. The excavation of the material would eliminate benthic organisms within the dredging cut and cover the benthic organisms at the disposal site. Another unavoidable impact would be the short-term disruption to recreational navigation and fishing on Grande Bayou from the presence and operation of the dredged material transport and disposal operations.

4.4.7 Irreversible and Irretrievable Resource Commitments

A long-term commitment has been made concerning the designation of the upland disposal area, and the use and maintenance of the navigation channel. Basically, these commitments of the bottom resources are irreversible and irretrievable

4.5 DREDGING CMDA 2-D AND CMDA 3-D

4.5.1 PHYSICAL.

a. Water Quality. Dredging operations would produce temporary changes in water quality. Turbidity levels in the areas of dredging would be elevated above normal. Visible plumes at the water surface are expected in the immediate vicinity of the dredging operation. Elevated turbidity levels are expected to dissipate rapidly, returning to background levels in a short period of time. The disposal area has been designed and sized to allow for settling of sediments prior to being discharged into the Bay. Temporary minor elevations in turbidity levels will be experienced from the return water from the disposal site. Recent concern raised by local conservation interests, for which there is some tentative scientific agreement, suggests that bay sediments may be high in various forms of nitrogen. Resuspension of these nutrients in the water column as a result of disturbing sediments is being postulated as a cause of excessive plankton growth that shades out seagrasses. Maintenance dredging will result in a temporary increase in turbidity in the immediate project area. However, no long term adverse impact on water quality will result from this project. Increased depth and clearance in the shipping channel as a result of shoal removal will reduce turbidity due to a reduction in sediments being resuspended and retained in the water column by prop wash of passing ships.

b. Historic Properties. There would be no impacts to historic resources. The disposal sites are manmade islands created within the last 50 years.

c. Noise. Dredging equipment would generate some increase levels in this area. These impacts would be short-term and would not reach levels harmful to either man or wildlife.

d. Safety. There are no known safety concerns associated with the project other than what's common to these types of activities. Navigable capacity would be returned to the channel, providing long-term safety benefits. Material placement at the existing disposal sites would increase existing berm elevations. There are no safety factors associated with this activity if stabilized adequately. The Corps' safety performance in this matter is unquestionable.

4.5.2 Biological.

a. Manatee. There should be not adverse impacts to the manatee. During dredging, FWS approved manatee protocols would be in place and standard State manatee precautions would be used. The disposal sites are nearshore confined areas and placement of material do not propose any adverse impacts to the species.

b. Sea grasses. The project proposes no adverse impacts to submerged aquatic vegetation.

c. Sea Turtles. Three species of Federally-listed threatened sea turtles are know to occur in Tampa Bay. It is possible that a sparse level of nesting may occur. The turtle nesting occurrence have not been documented or evident on either disposal site. CMDA 2-D and CMDA 3-D are nearshore confined and created upland islands. Placement of dredged material proposes no adverse or beneficial effects to sea turtles.

d. Mangrove Wetlands. There would be no impact on any wetland species.

e. Migratory Birds. There could be an adverse impact on migratory bird nesting in the DMMA's. This impact would be mitigated by the implementation of the Districts migratory bird protection plan during construction. This plan includes the voluntary avoidance of migratory bird nesting season (1 April through 30 August). If avoidance cannot be accomplished then, a monitor is employed to identify and segregate nesting areas from construction activities.

4.5.3 Social.

a. Aesthetics. The existing berms would be raised to accommodate dredge volumes. This action would make the berms the highest geological features in the area. Hillsborough Bay is a highly developed commercial/industrial area and little adverse impact would occur to the area's aesthetics.

b. Recreation. Recreational activities at the disposal areas are limited to bird watching. The project would have a short-term impact on this use. Upon completion of the project, levels of utilization would return to normal.

4.5.4 ECONOMICS.

a. Navigation. Benefits are evident to navigation with use of disposal site within close proximity to the dredging area. This reduces material transport time and cost associated with disposal.

b. Economics. Use of the existing dredge management facility eliminates additional cost that would be incurred from site preparation and new construction. The availability of disposal area is important to maintenance dredging and the economy dependent on safe and unobstructed navigation.

4.5.5 Cumulative Effects.

The cumulative effect of disposal at either CMDA 2-D and 3-D would be the eventual elimination of disposal capacity. However, there are no adverse cumulative impacts associated with the activity. The long-term and cumulative effects are beneficial to birds nesting on the islands by providing replenished area for annual nesting.

4.5.6 Unavoidable Effects.

The project proposes no adverse impacts to resources within the area. Some disruption of navigation patterns may occur to large sea-going vessels, during channel maintenance and loading of dredging material for transport to the preferred disposal site. This impact is only short-terms, but provides long-term benefits at the conclusion. Smaller vessels should not experience any navigation disruptions.

4.5.7 Irreversible and Irretrievable Resource Commitments.

The dredging activity proposes no irreversible or irretrievable commitment of resources. Channel maintenance in this area proposes long-term commitment to the designation of the created upland areas for disposal. This commitment would have short-term impact on bird nesting during each disposal event.

4.6 DREDGING CARGIL/ALAFIA RIVER DISPOSAL AREA "A AND C."

4.6.1 Physical.

a. Water Quality. Dredging operations would produce temporary changes in water quality. Turbidity levels in the areas of dredging would be elevated above normal. Visible plumes at the water surface are expected in the immediate vicinity of the dredging operation. Elevated turbidity levels are expected to dissipate rapidly, returning to background levels in a short period of time. The disposal area has been designed and sized to allow for settling of sediments prior to being discharged into the Bay. Temporary minor elevations in turbidity levels will be experienced from the return water from the disposal site. Recent concern raised by local conservation interests, for which there is some tentative scientific agreement, suggests that bay sediments may be high in various forms of nitrogen. Resuspension of these nutrients in the water column as a result of disturbing sediments is being postulated as a cause of excessive plankton growth that shades out seagrasses. Maintenance dredging will result in a temporary increase in turbidity in the immediate project area. However, no long term adverse impact on water quality will result from this project. Increased depth and clearance in the shipping channel as a result of shoal removal will reduce turbidity due to a reduction in sediments being resuspended and retained in the water column by prop wash of passing ships.There would be some short-term increase in turbidity at the existing discharge pipe for Disposal Area A or C. Normal procedures would be followed to ensure water quality is not adversely impacted during discharge operations. The discharge would meet State standards.

b. Historic Properties. The Cargil/Alafia disposal areas are manmade features within the last 50 years. No adverse impacts would result to any historical properties.

c. Noise. Some increase levels would result from the operation of equipments. The project would occur in an area that has considerable low to moderate decibels from airport activities, commercial and industrial activities, and large vessels. Any increased decibels levels would be minimal and of short-duration, and proposes no adverse impacts to area residents or wildlife.

d. Safety. There should be no adverse impacts to this value. Beneficial components are anticipated. Navigation would be unobstructed to large draft vessels and existing islands would be replenished with each disposal event.

4.6.2 Biological.

a. Manatees. There would be no adverse impacts on manatees during construction activities. Manatee protocols would be in place and standard construction precautions would be followed.

b. Sea grasses. There are would be no impacts on seagrasses.

c. Sea turtles. There would be no impacts on sea turtles.

d. Mangrove Wetlands. There are no wetland species established on the disposal areas, no impact would result.

e. Migratory Birds. There could be an adverse impact on migratory bird nesting in the DMMA's. This impact would be mitigated by the implementation of the Districts migratory bird protection plan during construction. This plan includes the voluntary avoidance of migratory bird nesting season (1 April through 30 August). If avoidance cannot be accomplished then, a monitor is employed to identify and segregate nesting areas from construction activities..

4.6.3 Social.

a. Aesthetics. There would be no adverse impacts. The disposal sites are located within close proximity to an airport, commercial and industrial facilities, and large marinas.

b. Recreation. The project should propose no adverse impact to any recreational activities occurring on the islands. The normal use of the islands benefit shorebirds and migratory species.

4.6.4 Economic.

a. Navigation. Long-term benefits would result to navigation with the use of accessible sites for disposal operations.

b. Economics. There would be a short-term stimulus to the local economy from the sale of goods and services in support of the project.

4.6.5 Cumulative Effects.

There would be no adverse cumulative effects from the selection of this disposal alternative.

4.6.6 Unavoidable Effects.

Some disruption of navigation patterns may occur to large vessels during maintenance and disposal of dredged material. This impact would be only short-terms and would provide long-term benefits at conclusion. Smaller vessels should not experience any navigation disruptions.

4.6.7 Irreversible and Irretrievable Resource Commitments.

A long-term commitment has been made concerning the designation of the upland disposal area, and the use and maintenance of the navigation channel. Basically, these commitments of the bottom resources are irreversible and irretrievable.

5 LIST OF PREPARERS

NAME	DISCIPLINE	EXPERIENCE	ROLE IN PREPARING EA
William J. Fonferek	Biologist	21 years environmental impacts assessment	O&M NEPA Coordinator, Environmental Impact Assessment, Endangered Species Coordination
Tommy Birchett	Archeologist	21 years experience NEPA documentation	Cultural Resources Analysis
C.L. Brooks	Biologist	22 years environmental impacts	EA revisions Impact Assessment
Paul C. Stevenson	Landscape Architect	9 years landscape architect, field and design work	Aesthetic and Recreational Resource Analysis
Glen Schuster	Environmental Engineer	18 years professional engineer	Water Quality Impacts

6 CONSULTATION WITH OTHERS - PUBLIC INVOLVEMENT PROCESS.

In order to comply with the National Environmental Policy Act implementing regulation 33 CFR 335 through 338, a public notice (PN-SPH-193) dated 7 November 1994 was issued for the work requesting comments on the proposed work. The following comments were received.

6.1 FEDERAL RESOURCE AGENCIES

6.1.1 U.S Fish and Wildlife Service (USFWS).

The USFWS by letter dated April 5, 2000, provided a biological opinion (BO) in accordance with Section & of the Endangered Species Act of 1973 (Act). The concluding opinion was that the erosion control project as proposed, was not likely to jeopardize the continued existence of the loggerhead or green sea turtle, and is not likely to destroy or adversely modify designated critical habitat. Under the "incidental take" section of the Act, the Corps was advised of requirements related to the species and measures to be employed to ensure protection of loggerhead or green sea turtles species that may be encountered. The BO also included six reasonable and prudent measures considered necessary to and appropriate to minimize take of loggerhead and green sea turtles, in addition to, twelve terms and conditions which implement the reasonable and prudent measures, along with two discretionary conservation recommendations.

6.2 STATE RESOURCE AGENCIES

The State Historic Preservation Officer (SHPO) responded to the public notice PN-SP-227 by letter dated 7 March 2000, stating that based on the information provided, the proposed undertaking would have no adverse effect on historic properties. The letter also noted that Egmont contained three National Register properties, Egmont Key (8Hi117), the Egmont Lighthouse (8Hi117A) and the Fort Dade Cemetery (8Hi117B). The SHPO agreed that the shoreline stabilization project would help in protection of the historic properties at Egmont Key.

6.3 NEW PUBLIC NOTICE

A new public notice (PN-SPH-123) dated January 21, 2000 for the use of the western shoreline of Egmont Key as a placement was issued. No responses were received

On June 23, 2004, a public notice was issued on the proposed place`ment of Tampa Harbor maintenance dredged material on Egmont Key. To date, no responses have been received.

6.4 PUBLIC OR WORKING MEETINGS

The State of Florida Parks and Recreation Division conducted several meetings on the proposal. The first meeting was on November 10, 1999, and at January 14, 2000 in Ybor City. This was a working group meeting to discuss problems and potential solutions for Egmont Key placement (Meeting notes, Appendix III).

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APPENDIX I

SECTION 404(B)(1) EVALUATION

SECTION 404(b)(1) EVALUATION
DREDGED MATERIAL

I. Project Description

a. Location. Tampa Harbor, Pinellas County, Florida.

b. General Description. The Corps is proposing to place dredged material from the maintenance of Tampa Harbor along the shoreline of Egmont Key at the mouth of Tampa Bay, Florida.

c. Authority and Purpose. The project is authorized by the Rivers and Harbors Act of December 31, 1970, House Document 401, 91st Congress, 2nd Session. . Since the initial maintenance, sand and sediments have periodically accumulated in the channel reducing the navigable capacity of the project. The navigation channel is used by ocean going vessels. The channel depths are reduced by sedimentation. In order to maintain the Federal standard, the channel must be dredged.

d. General Description of Dredged or Fill Material

(1) General Characteristics of Material. The material would be sandy, shelly material with some fines.

(2) Quantity of Material. Approximately 250,000 cubic yards of dredged material excavated from the navigation entrance channel will be placed along the western beach of Egmont Key.

(3) Source of Material. . The excavated material to be placed in along the shoreline would be sediments shoaled in the Tampa Harbor entrance channel.
.

e. Description of the Proposed Discharge Site.

(1) Size and Location. The placement area is the western two-thirds of the Egmont Key shoreline approximately 8,000 feet in length..

(2) Type of Site. The discharge site is the shoreline and shallow-water area.

(3) Type of Habitat. The discharge site is the beach and surf zone of the island.

(4) Timing and Duration of Discharge. The total maintenance dredging episode will last approximately 3 months.

f. Description of Disposal Method. The dredging would be conducted by a clam-shell, hydraulic or hopper dredge with pump-out capabilities

II. Factual Determinations

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The beach and surf zone are gently sloped areas.

(2) Sediment Type. Sediment analysis of the disposal site indicates that the bottom is composed of sand.

(3) Dredged/Fill Material Movement. The dredged material is placed in the littoral drift zone and will become part of the natural southward shift of beach sand. Two geo-textile tubes have been placed as groins to help retard movement of the sand along the island .

(4) Physical Effects on Benthos. Placement will result in the loss of benthic organisms at the placement site. These communities will reestablish quickly upon completion of work. Disruption of marine life at the placement area will be short term.

(5) Other Effects.. Standard manatee construction conditions will be required of all contractors. The work as proposed will not jeopardize protected species. No known historical properties will be affected by this project. The proposed work will result in some temporary disruption of normal vessel traffic in the harbor, but it's completion will have a favorable impact on the operation of the port with a resulting beneficial effect on the local and regional economy. Temporary degradation in water quality at the dredging and disposal sites will also occur

(6) Actions Taken to Minimize Impacts. The standard manatee protection conditions would also be employed to reduce potential for impacts. If a hopper dredge is used, conditions from the Gulf Regional Biological Opinion from National Marine Fisheries service will be implemented to protect sea turtles. Included in these is a dredging window from 1 December to 31 march, a NMFS approved observer, inflow screens and deflector draghead.

b. Water Circulation, Fluctuation and Salinity Determinations

(1) Water

(a) Salinity. No impacts to salinity at disposal site.

(b) Water Chemistry. There will be no changes in water chemistry at the site.

(c) Clarity. There will be a temporary increase in turbidity level at the disposal site and immediately adjacent to the disposal area during the disposal operations.

(d) Color. Due to the minor silt content, there will be a brown turbidity plume associated with the discharge operations.

(e) Odor. There would be no odor problems associated with the dredged material since the material contains few organics and would not be exposed to the air.

(f) Taste. Not applicable.

(g) Dissolved Gas Levels. Not applicable.

(h) Nutrients. The material to be discharged is mainly sand with shell fragment, therefore no nutrients would be bound in the material and no release of nutrients would be anticipated.

(i) Eutrophication. No eutrophication is anticipated.

(2) Current Patterns and Circulation. Not applicable.

(3) Normal Water Level Fluctuations. Not applicable.

(4) Salinity Gradients. Not applicable.

(5) Actions That Will Be Taken to Minimize Impacts. The disposal site will be operated to maintain state water quality standards.

d. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulate and Turbidity Levels in Vicinity of Disposal Site. No changes are anticipated because the dredged material is sandy material containing few fines.

(2) Effects (degree and duration) on Chemical and Physical values

(a) Light penetration. Light penetration would be reduced during disposal operations. This would be short-term in duration and would not cause any significant adverse effects.

(b) Dissolved Oxygen. There would be no reduction in dissolved oxygen levels from the discharge of the sandy dredged material.

(c) Toxic Metals and Organics. No toxic materials are anticipated to be encountered.

(d) Pathogens. Not Applicable.

(e) Aesthetics. There will be an increase in noise levels and aesthetic degradation from the presence and operation of dredging equipment at the disposal site.

(f) Others as Appropriate. None.

(3) Effects on Biota (consider environmental values in sections 230.21, as appropriate)

(a) Primary Production, Photosynthesis. No photosynthesis occurs at this site.

(b) Suspension/Filter Feeders. Little or no impact is expected.

(c) Sight Feeders. Little or no impact is expected.

(4) Actions taken to Minimize Impacts. None required.

d. Contaminant Determinations. No contaminants have been previously encountered and therefore none are anticipated.

e. Aquatic Ecosystem and Organism Determinations

(1) Effects on Plankton. No significant effects.

(2) Effects on Benthos. No significant benthic populations are located in the disposal site and therefore no significant adverse impacts are anticipated.

(3) Effects on Nekton. None are anticipated.

(4) Effects on Aquatic Food Web. None are anticipated.

(5) Effects on Special Aquatic Sites. No special aquatic sites are located within the disposal site.

(a) Sanctuaries and Refuges. Not applicable.

(b) Wetlands. Not applicable.

(c) Mud Flats. Not applicable.

(d) Vegetated Shallows. None would be affected.

(e) Coral Reefs. Not applicable.

(f) Riffle and Pool Complexes. Not applicable.

(6) Threatened and Endangered Species. Sea turtle nesting could be affected by the work.

(7) Other Wildlife. Not applicable.

(8) Actions to Minimize Impacts. The standard manatee protection conditions would be employed. In addition, a sea turtle nest monitoring and relocation effort would be implemented. . If a hopper dredge is used, conditions from the Gulf Regional Biological Opinion from National Marine Fisheries service will be implemented to protect sea turtles. Included in these is a dredging window from 1 December to 31 march, a NMFS approved observer, inflow screens and deflector draghead.

f. Proposed Disposal Site Determinations

(1) Mixing Zone Determination. No mixing will likely occur due to the sandy nature of the dredged material, the shallow water and the small quantity of fines associated with the material.

(2) Determination of Compliance with Applicable Water Quality Standards. Water quality certification has been issued by the State. Monitoring of the discharge site will be conducted to insure State standards met.

(3) Potential Effects on Human Use Characteristic

(a) Municipal and Private Water Supply. Not applicable.

(b) Recreational and Commercial Fisheries. Not applicable

(c) Water Related Recreation. Not applicable.

(d) Aesthetics. The proposed discharge would increase noise and scenic degradation along the ocean front during disposal operations.

(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. The State of Florida has requested our assistance to help preserve historical assets on the Egmont Key State Recreation Area by placing the dredged material along the shoreline.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. Since the bottom substrate is silty, the placement of an irregular sandy substrate would provide additional diversity to the area. It would also create potential substrate for seagrass bed colonization.

h. Determination of Secondary Effects on the Aquatic Ecosystem. Not applicable.

APPENDIX II

ENDANGERED SPECIES CONSULTATON

file

April 20, 1994

Planning Division
Environmental Branch

Mr. David L. Ferrell
Field Supervisor
U.S. Fish and Wildlife Service
P.O. Box 2676
Vero Beach, Florida 32961-2676

Dear Mr. Ferrell:

This is in reference to the upcoming maintenance dredging of the St. Petersburg Harbor in Tampa Bay, Florida (see attached maps).

According to the U.S. Fish and Wildlife Service, Region 4 Handbook, *Endangered and Threatened Species of the Southeastern United States*, the following species could be found in Tampa Bay:

green sea turtle	*Chelonia mydas*
hawksbill sea turtle	*Eretmochelys imbricata*
Kemp's Ridley sea turtle . .	*Lepidochelys kempii*
leatherback sea turtle . . .	*Dermochelys doriacea*
loggerhead sea turtle . . .	*Caretta caretta*
West Indian manatee	*Trichechus manatus*

Since no food or habitat for manatees and sea turtles is located in or adjacent to the dredging area, we have made a No Effects determination concerning the impacts of the proposed dredging on these species. In addition, we will place the standard special conditions in the Plans and Specification to protect the manatees should they wander into the construction area. Pursuant to Section 7 of the Endangered Species Act, we are asking for your concurrence in this determination.

Sincerely,

A. J. Salem
Chief, Planning Division

Enclosure

bcc:
CESAJ-CO-ON
CESAJ-DP

Ronferek/CESAJ-PD-ES KH
~~Kurzbach~~/CESAJ-PD-ES 4/20
~~Smith~~/CESAJ-PD-E
Davis/CESAJ-PD-A
TOY Salem/CESAJ-PD

United States Department of the Interior

FISH AND WILDLIFE SERVICE
6620 Southpoint Drive South
Suite 310
Jacksonville, Florida 32216-0958

IN REPLY REFER TO:
FWS/R4/ES-JAFL

April 5, 2000

Mr. James C. Duck
Chief, Planning Division
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida

FWS Log No.: 99-164 (St. Petersburg)

Dear Mr. Duck:

Enclosed is the biological opinion of the U.S. Fish and Wildlife Service regarding the Egmont Key beach renourishment project. This biological opinion is provided in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), and satisfies the Act. It does not address the requirements of other statutes, such as the National Environmental Policy Act.

The enclosed biological opinion is based on information provided by the public notice, the Corps project manager, Florida Fish and Wildlife Conservation Commission, field investigations, and other sources of information. A complete administrative record of this consultation is on file in this office. Should you have any questions regarding this biological opinion, please contact Bryan Pridgeon of my staff at (727)-570-5398 ext. 13.

Sincerely,

For David L. Hankla
Field Supervisor

Enclosure

BIOLOGICAL OPINION
Egmont Key Beach Renourishment Project

Consultation history

The Corps requested consultation for placing dredged material and constructing two geo-tube groins on the western shoreline of Egmont Key by a letter dated January 6, 2000. Our concerns with the project regard sea turtle nesting capabilities on a beach nourished with materials that may not be of beach quality and the effects of the groin field on sea turtle nesting. The Corps sent a letter to us on April 20, 1994, in which they concluded the St. Petersburg Harbor dredging project would not affect sea turtles or manatees. We provided a letter of concurrence on May 17, 1994. The current consultation does not address the dredging project; it addresses only the placement of dredged material on the western shoreline of Egmont Key and the construction of two geo-tube groins as described below and the potential effects on loggerhead and green sea turtles.

Biological Opinion

Description of the proposed action

The project is located on Egmont Key, an island at the mouth of Tampa Bay in Hillsborough County, Florida. When first surveyed in 1877 the island had 539 acres of dry land, in 1977 less than 280 acres remained. Erosion rates have increased since the early 1900's with the 20-year period of 1976-1996 having the highest rates; averaging erosion of 25.4 feet per year on the Gulf side of the island. From 1991 to1997, Gulf side erosion averaged 24.6 feet per year. This project is proposed as a temporary erosion control measure for the western side of the island.

Approximately 200,000 to 350,000 cubic yards of dredged material from the St. Petersburg Harbor maintenance dredging project will be placed at Egmont Key. Sediment quality is highly variable across the maintenance project. Material from within Bayboro Harbor is much siltier than that from the remainder of the project with silt contents from 14.4% to 27.4%; well above the state guidelines of 10% maximum silt content for beach quality sand. Silt content for the samples collected from stations outside of Bayboro Harbor varied from 1.3 to 4.4%. The proposed project calls for Bayboro Harbor sediments to be dredged first and to be the first placed below mean high water on the Gulf side of Egmont Key. Dredged material with a greater sand content then will be placed as a cap. No dredged material will be placed above mean high water elevation.

The two geo-tube groins will be constructed after dredged material placement is completed. They will be about 5 feet tall, 12.5 feet wide, and extend 220 feet into the Gulf from the mean high water line. Their top elevation will be +5.0 feet, or about four feet above the filled beach.

Status of the species

The reproductive strategy of sea turtles involves producing large numbers of offspring to compensate for the high natural mortality through their first several years of life. However, for at least two decades, several human-caused mortality factors have contributed to the decline of sea

turtle populations along the Atlantic coast and in the Gulf of Mexico (NRC 1990). These factors include commercial overutilization of eggs and turtles, incidental catches in commercial fishing operations, degradation of nesting habitat by coastal development, and marine pollution and debris. Therefore, human activities that affect the behavior and/or survivability of turtles on their remaining nesting beaches, particularly the few remaining high density nesting beaches, could seriously reduce our ability to conserve sea turtles.

Loggerhead Sea Turtle

The loggerhead sea turtle (*Caretta caretta*), listed as a threatened species on July 28, 1978 (43 FR 32800), inhabits the continental shelves and estuarine environments along the margins of the Atlantic, Pacific, and Indian Oceans. Loggerhead sea turtles nest within the continental U.S. from Louisiana to Virginia. Major nesting concentrations in the U.S. are found on the coastal islands of North Carolina, South Carolina, and Georgia, and on the Atlantic and Gulf coasts of Florida (Hopkins and Richardson 1984). Total estimated nesting in the Southeast is approximately 50,000 to 70,000 nests per year (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b).

From a global perspective, the southeastern U.S. nesting aggregation is of paramount importance to the survival of the species and is second in size only to that which nests on islands in the Arabian Sea off Oman (Ross 1982, Ehrhart 1989, National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b). The status of the Oman colony has not been evaluated recently, but its location in a part of the world that is vulnerable to disruptive events (e.g., political upheavals, wars, catastrophic oil spills) is cause for considerable concern (Meylan *et al.* 1995). The loggerhead nesting aggregations in Oman, the southeastern U.S., and Australia account for about 88 percent of nesting worldwide (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b). About 80 percent of loggerhead nesting in the southeastern U.S. occurs in six Florida counties (Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties) (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b).

Recent genetic analyses using restriction fragment analysis and direct sequencing of mitochondrial DNA (mtDNA) have been employed to resolve management units among loggerhead nesting cohorts of the southeastern U.S. (Bowen *et al.* 1993; B.W. Bowen, University of Florida, Gainesville, in litt., November 17, 1994, and October 26, 1995; Encalada *et al.* 1998). Assays of nest samples from North Carolina to the Florida Panhandle have identified three genetically distinct nesting sub-populations: (1) northern nesting sub-population - Hatteras, North Carolina, to Cape Canaveral, Florida; (2) South Florida nesting sub-population - Cape Canaveral to Naples, Florida; and (3) Florida Panhandle nesting sub-population - Eglin Air Force Base and the beaches around Panama City, Florida. These data indicate that gene flow between the three regions is very low. If nesting females are extirpated from one of these regions, regional dispersal will not be sufficient to replenish the depleted nesting sub-population (Bowen *et al.* 1993, B.W. Bowen, University of Florida, Gainesville, in litt., October 26, 1995).

Green Sea Turtle

The green sea turtle (*Chelonia mydas*) was listed under the ESA on July 28, 1978 (43 FR 32800). Breeding populations of the green turtle in Florida and along the Pacific Coast of Mexico are listed as endangered; all other populations are listed as threatened. The green turtle has a worldwide distribution in tropical and subtropical waters. Major green turtle nesting colonies in the Atlantic occur on Ascension Island, Aves Island, Costa Rica, and Surinam.

Within the U.S., green turtles nest in small numbers in the U.S. Virgin Islands and Puerto Rico, and in larger numbers along the east coast of Florida, particularly in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991a). Nesting also has been documented along the Gulf coast of Florida on Santa Rosa Island (Okaloosa and Escambia Counties) and from Pinellas County through Collier County (Florida Department of Environmental Protection, unpubl. data). Green turtles have been known to nest in Georgia, but only on rare occasions (Georgia Department of Natural Resources, unpubl. data). The green turtle also nests sporadically in North Carolina (North Carolina Wildlife Resources Commission, unpubl. data). The first documentation of green turtle nests in South Carolina were reported in 1996 (S. Murphy, South Carolina Department of Natural Resources, pers. comm., 1996). Unconfirmed nesting of green turtles in Alabama has also been reported (R. Dailey, Bon Secour National Wildlife Refuge, pers. comm., 1995).

Status of the species within the action area

Loggerhead Sea Turtle

The loggerhead sea turtle nesting and hatching season for Hillsborough County, Florida, extends from April 1 through November 30. Incubation ranges from about 45 to 95 days. Information provided by the Florida Marine Research Institute indicates that from 1993 through 1998 loggerhead sea turtle nest numbers varied from 31 to 72 on Egmont Key.

Green Sea Turtle

The green sea turtle nesting and hatching season for Southwest Florida extends from May 15 through October 31. Incubation ranges from about 45 to 75 days. Nesting data from Meylan *et al.* (1995) and the Florida Marine Research Institute (unpubl. data) indicate that from 1979 through 1998, no green sea turtle nests were recorded on Egmont Key; although green turtle nesting has been reported elsewhere on Florida's Southwest coast in Pinellas, Sarasota, Charlotte, Lee, Collier, and Monroe Counties.

Effects of the action

Direct effects

Our concerns include the effects of the installed geotextile groins on sea turtle nesting at Egmont Key and the effects of beach nourishment on sea turtle nesting habitat. Effects to nesting habitat are of particular concern if the placement of the dredged material below mean high water results in material being exposed at tides lower than mean high tide to the extent that provides potential nesting habitat for sea turtles.

The physical obstruction of the groins may affect adult female and hatchling sea turtles. Adult females may be deterred from approaching their preferred nesting location by the presence of the groins. If they pass the groins and attempt to nest they will still be influenced by the geo-tubes that will segment the beach. The geo-tubes will act as barriers between beach segments and also prevent nesting on the geo-tube alignment. The groins may also serve as impediments to emigration by hatchlings. Hatchlings will have less ability to traverse unknown barriers.

Although sand is proposed for placement below the mean high water elevation for this project, there is the potential for it to become exposed at tides lower than mean high tide and contain potential sea turtle nesting habitat. The placement of sand on an eroded section of beach or an existing beach in and of itself may not provide suitable nesting habitat for sea turtles. Although beach nourishment may increase the potential nesting area, significant negative impacts to sea turtles may result if protective measures are not incorporated during construction. Nourishment during the nesting season, particularly on or near high density nesting beaches, can cause increased loss of offspring from human-caused mortality and, along with other mortality sources, may significantly impact the long-term survival of the species. For instance, projects conducted during the nesting and hatching season could result in the loss of sea turtles through disruption of adult nesting activity and by burial or crushing of nests or hatchlings. While a nest monitoring and egg relocation program would reduce these impacts, nests may be inadvertently missed or misidentified as false crawls during daily patrols. In addition, nests may be destroyed by operations at night prior to beach patrols being performed. Even under the best of conditions, about 7 percent of the nests can be misidentified as false crawls by experienced sea turtle nest surveyors (Schroeder 1994).

1. Nest relocation

Besides the potential for missing nests during a nest relocation program, there is a potential for eggs to be damaged by their movement or for unknown biological mechanisms to be affected. Nest relocation can have adverse impacts on incubation temperature (and hence sex ratios), gas exchange parameters, hydric environment of nests, hatching success, and hatchling emergence (Limpus *et al.* 1979, Ackerman 1980, Parmenter 1980, Spotila *et al.* 1983, McGehee 1990). Relocating nests into sands deficient in oxygen or moisture can result in mortality, morbidity, and reduced behavioral competence of hatchlings. Water availability is known to influence the incubation environment of the embryos and hatchlings of turtles with flexible-shelled eggs, which has been shown to affect nitrogen excretion (Packard *et al.* 1984), mobilization of calcium

(Packard and Packard 1986), mobilization of yolk nutrients (Packard *et al.* 1985), hatchling size (Packard *et al.* 1981, McGehee 1990), energy reserves in the yolk at hatching (Packard *et al.* 1988), and locomotory ability of hatchlings (Miller *et al.* 1987).

Comparisons of hatching success between relocated and *in situ* nests have noted significant variation ranging from a 21 percent decrease to a 9 percent increase for relocated nests (Florida Department of Environmental Protection, unpubl. data). Comparisons of emergence success between relocated and *in situ* nests have also noted significant variation ranging from a 23 percent decrease to a 5 percent increase for relocated nests (Florida Department of Environmental Protection, unpubl. data). A 1994 Florida Department of Environmental Protection study of hatching and emergence success of *in situ* and relocated nests at seven sites in Florida found that hatching success was lower for relocated nests in five of seven cases with an average decrease for all seven sites of 5.01 percent (range = 7.19 percent increase to 16.31 percent decrease). Emergence success was lower for relocated nests in all seven cases by an average of 11.67 percent (range = 3.6 to 23.36 percent) (A. Meylan, Florida Department of Environmental Protection, in litt., April 5, 1995).

A final concern about nest relocation is that it may concentrate eggs in an area resulting in a greater susceptibility to catastrophic events. Hatchlings released from concentrated areas also may be subject to greater predation rates from both land and marine predators, because the predators learn where to concentrate their efforts.

2. Equipment

The placement of pipelines and the use of heavy machinery on the beach during a construction project may also have adverse effects on sea turtles. They can create barriers to nesting females emerging from the surf and crawling up the beach, causing a higher incidence of false crawls and unnecessary energy expenditure.

3. Artificial lighting

Another impact to sea turtles is disorientation (loss of bearings) and misorientation (incorrect orientation) of hatchlings from artificial lighting. Visual cues are the primary sea-finding mechanism for hatchlings (Mrosovsky and Carr 1967, Mrosovsky and Shettleworth 1968, Dickerson and Nelson 1989, Witherington and Bjorndal 1991). Artificial beachfront lighting is a well documented cause of hatchling disorientation and misorientation on nesting beaches (Philbosian 1976; Mann 1977; Florida Department of Environmental Protection, unpubl. data). In addition, research has also documented significant reduction in sea turtle nesting activity on beaches illuminated with artificial lights (Witherington 1992). Therefore, construction lights along a project beach and on the dredging vessel may deter females from coming ashore to nest, disorient females trying to return to the surf after a nesting event, and disorient and misorient emergent hatchlings from adjacent non-project beaches. Any source of bright lighting can profoundly affect the orientation of hatchlings, both during the crawl from the beach to the ocean and once they begin swimming offshore. Hatchlings attracted to light sources on dredging barges may not only suffer from interference in migration, but may also experience higher probabilities of predation to predatory fishes that are also attracted to the barge lights. This impact could be

reduced by using the minimum amount of light necessary (may require shielding) or low pressure sodium lighting during project construction.

Indirect effects

1. Changes in the physical environment

Beach nourishment may result in changes in sand density (compaction), beach shear resistance (hardness), beach moisture content, beach slope, sand color, sand grain size, sand grain shape, and sand grain mineral content if the placed sand is dissimilar from the original beach sand (Nelson and Dickerson 1988a). These changes could result in adverse impacts on nest site selection, digging behavior, clutch viability, and emergence by hatchlings (Nelson and Dickerson 1987, Nelson 1988).

Beach compaction and unnatural beach profiles that may result from beach nourishment activities could negatively impact sea turtles regardless of the timing of projects. Very fine sand and/or the use of heavy machinery can cause sand compaction on nourished beaches (Nelson *et al.* 1987, Nelson and Dickerson 1988a). Significant reductions in nesting success (i.e., false crawls occurred more frequently) have been documented on severely compacted nourished beaches (Fletemeyer 1980, Raymond 1984, Nelson and Dickerson 1987, Nelson *et al.* 1987), and increased false crawls may result in increased physiological stress to nesting females . Sand compaction may increase the length of time required for female sea turtles to excavate nests and also cause increased physiological stress to the animals (Nelson and Dickerson 1988c). Nelson and Dickerson (1988b) concluded that, in general, beaches nourished from offshore borrow sites are harder than natural beaches, and while some may soften over time through erosion and accretion of sand, others may remain hard for 10 years or more.

These impacts can be minimized by using suitable sand and by tilling the beach after nourishment if the sand becomes compacted. The level of compaction of a beach can be assessed by measuring sand compaction using a cone penetrometer (Nelson 1987). Tilling of a nourished beach may reduce the sand compaction to levels comparable to unnourished beaches. However, a pilot study by Nelson and Dickerson (1988c) showed that a tilled nourished beach will remain uncompacted for up to 1 year. Therefore, the Service requires multi-year beach compaction monitoring and, if necessary, tilling to ensure that project impacts on sea turtles are minimized. A root rake with tines at least 42 inches long and less than 36 inches apart pulled through the sand is recommended for compacted beaches. Service policy calls for beaches to be tilled if compaction levels exceed 500 psi.

A change in sediment color on a beach could change the natural incubation temperatures of nests in an area, which, in turn, could alter natural sex ratios. To provide the most suitable sediment for nesting sea turtles, the color of the nourished sediments must resemble the natural beach sand in the area. Natural reworking of sediments and bleaching from exposure to the sun would help to lighten dark nourishment sediments; however, the timeframe for sediment mixing and bleaching to occur could be critical to a successful sea turtle nesting season.

2. Escarpments

On nourished beaches, steep escarpments may develop along their water line interface as they adjust from an unnatural construction profile to a more natural beach profile (Coastal Engineering Research Center 1984, Nelson *et al.* 1987). These escarpments can hamper or prevent access to nesting sites. Researchers have shown that female turtles coming ashore to nest can be discouraged by the formation of an escarpment, leading to situations where they choose marginal or unsuitable nesting areas to deposit eggs (e.g., in front of the escarpments, which often results in failure of nests due to prolonged tidal inundation). This impact can be minimized by leveling any escarpments prior to the nesting season.

Cumulative effects

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. The Service is not aware of any cumulative effects in the project area.

Conclusion

After reviewing the current status of the loggerhead and green sea turtles, the environmental baseline for the action area, the effects of the proposed groin placement and dredged material placement, and the cumulative effects, it is the Service's biological opinion that the erosion control project, as proposed, is not likely to jeopardize the continued existence of the loggerhead or green sea turtle and is not likely to destroy or adversely modify designated critical habitat.

No critical habitat has been designated for the loggerhead sea turtle; therefore, none will be affected. Critical habitat for the green sea turtle has been designated for the waters surrounding Culebra Island, Puerto Rico, and its outlying keys; however, this action does not affect Culebra Island, Puerto Rico, or its outlying keys, and no destruction or adverse modification of that critical habitat is anticipated.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered or threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of

section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the Corps of Engineers so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps of Engineers has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps of Engineers (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps of Engineers must report the progress of the action and its impacts on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or extent of incidental take

The Service has reviewed the biological information and other information relevant to this action. Based on this review, incidental take is anticipated for (1) all sea turtle nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) all sea turtle nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (4) disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (5) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; and (6) all nests destroyed as a result of escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service.

Effect of the take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and prudent measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of loggerhead and green sea turtles.

1. If the erosion control project will be conducted during the sea turtle nesting season,

surveys for nesting sea turtles shall be conducted. If nests are constructed in the area of dredged material placement, the eggs shall be relocated.

2. After completion of the erosion control project and prior to the next three nesting seasons, beach compaction shall be monitored and tilling shall be conducted as required to reduce the likelihood of impacting sea turtle nesting and hatching activities.

3. Immediately after completion of the erosion control project and prior to the next three nesting seasons, monitoring shall be conducted to determine if escarpments are present and escarpments shall be leveled as required to reduce the likelihood of impacting sea turtle nesting and hatching activities.

4. The applicant shall ensure that contractors doing the beach nourishment work fully understand the sea turtle protection measures detailed in this incidental take statement.

5. During the sea turtle nesting season, construction equipment and pipes shall be stored in a manner that will minimize impacts to sea turtles to the maximum extent practicable.

6. During the sea turtle nesting season, lighting associated with the project shall be minimized to reduce the possibility of disrupting and disorienting nesting and/or hatchling sea turtles.

Terms and conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps of Engineers must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. All fill material placed above the mean high water elevation shall be sand that is similar to that already existing at the beach site in both coloration and grain size distribution. All such fill material shall be free of construction debris, rocks, or other foreign matter and shall generally not contain, on average, greater than 10 percent fines (i.e., silt and clay) (passing the #200 sieve) and shall not contain, on average, greater than 5 percent coarse gravel or cobbles, exclusive of shell material (retained by the #4 sieve).

2. Daily early morning sea turtle nesting surveys shall be required if any portion of the erosion control project occurs during the period from April 1 through November 30. Nesting surveys shall be initiated 65 days prior to project activities or by April 1, whichever is later. Nesting surveys shall continue through the end of the project or through September 30, whichever is earlier. If nests are constructed in areas where they may be affected by construction activities, eggs shall be relocated per the following requirements.

2a. Nesting surveys and egg relocations shall only be conducted by personnel with

prior experience and training in nest survey and egg relocation procedures. Surveyors shall have a valid Florida Fish and Wildlife Conservation Commission permit. Nesting surveys shall be conducted daily between sunrise and 9 a.m. Surveys shall be performed in such a manner so as to ensure that construction activity does not occur in any location prior to completion of the necessary sea turtle protection measures.

2b. Only those nests that may be affected by construction activities shall be relocated. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests. Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left in place unless other factors threaten the success of the nest. Any nests left in the active construction zone shall be clearly marked, and all mechanical equipment shall avoid nests by at least 10 feet.

3. Immediately after completion of the erosion control project and prior to April 1 for 3 subsequent years, if dredged material placed during this project becomes exposed at tides lower than mean high tide such that it contains potential sea turtle nesting habitat, sand compaction shall be monitored in the area of restoration in accordance with a protocol agreed to by the Service, the State regulatory agency, and the applicant. If required, the area shall be tilled to a depth of 36 inches. All tilling activity must be completed prior to April 1. If the project is completed during the nesting season, tilling shall not be performed in areas where nests have been left in place or relocated. A report on the results of compaction monitoring shall be submitted to the Service prior to any tilling actions being taken. An annual summary of compaction surveys and the actions taken shall be submitted to the Service. This condition shall be evaluated annually and may be modified if necessary to address sand compaction problems identified during the previous year.

4. Visual surveys for escarpments along the project area shall be made immediately after completion of the beach nourishment project and prior to April 1 for 3 subsequent years. Results of the surveys shall be submitted to the Service prior to any action being taken. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by April 1. If the project is completed during the sea turtle nesting and hatching season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. The Service shall be contacted immediately if subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service will provide a brief written authorization that describes methods to be used to reduce the likelihood of impacting existing nests. An

annual summary of escarpment surveys and actions taken shall be submitted to the Service.

5. The applicant shall arrange a meeting between representatives of the contractor, the Service, the Florida Fish and Wildlife Conservation Commission, and the permitted person responsible for egg relocation at least 30 days prior to the commencement of work on this project. At least 10 days advance notice shall be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures.

6. From April 1 through November 30, staging areas for construction equipment shall be located off the beach to the maximum extent practicable. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. Temporary storage of equipment shall be off the beach to the maximum extent possible. Temporary storage of equipment on the beach shall be in such a manner so as to impact the least amount of nesting habitat and shall likewise not compromise the integrity of the dune systems.

7. From April 1 through November 30, all on-beach lighting associated with the project shall be limited to the immediate area of active construction only and shall be the minimal lighting necessary to comply with safety requirements. Shielded low pressure sodium vapor lights are recommended to minimize illumination of the nesting beach and nearshore waters. Lighting on offshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all U.S. Coast Guard and OSHA requirements. Shielded low pressure sodium vapor lights are highly recommended for lights on offshore equipment that cannot be eliminated.

8. In order to further reduce possible impacts to nesting and hatchling sea turtles, nighttime monitoring shall be required in the groin construction area during any periods when excavated trenches are present on the beach at night.

9. If a geotextile tube begins to disintegrate, the tube shall be repaired or removed and all material exfoliating from it shall be removed immediately. If maintenance of a tube is required during the period from April 1 through November 30, no work shall be initiated without prior coordination with the Fish and Wildlife Service Jacksonville Field Office.

10. A report describing the actions taken to implement the terms and conditions of this incidental take statement shall be submitted to the Jacksonville, Florida Field Office within 60 days of completion of the proposed work for each year when the activity has occurred. This report will include the dates of actual construction activities, names and qualifications of personnel involved in nest surveys and relocation activities, descriptions and locations of self-release beach sites, nest survey and relocation results, and hatching success of nests.

11. In the event a sea turtle nest is excavated during construction activities, the permitted person responsible for egg relocation for the project should be notified so the eggs can be moved to a suitable relocation site.

12. Upon locating a dead, injured, or sick endangered or threatened sea turtle specimen, initial notification must be made to the U.S. Fish and Wildlife Service Law Enforcement Office located in St. Petersburg, Florida at (727) 570-5398. Care should be taken in handling sick or injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological materials in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

The Service believes that no more than the following types of incidental take will result from the proposed action: (1) all sea turtle nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) all sea turtle nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (4) disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (5) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; and (6) all nests destroyed as a result of escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Surveys for nesting success of sea turtles should be continued for a minimum of 3 years following the erosion control project to determine whether sea turtle nesting success has been adversely impacted.

2. Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtles and/or the life history of sea turtle species that nest in the area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action(s) outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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Planning Division
Environmental Branch

JAN 06 2000

Mr. David J. Hankla
Field Supervisor
U.S. Fish and Wildlife Service
Suite 310
6620 Southpoint Drive South
Jacksonville, Florida 32216

Dear Mr. Hankla:

We are requesting a Biological Opinion for the beach placement of dredged material from the St. Petersburg Harbor maintenance dredging along the east shoreline of Egmont Key, Tampa Bay, Florida (See attached maps and drawings).

The State of Florida has requested we place the material along the beach to retard erosion until a more permanent solution can be determined. As part of this temporary measure it is planned to construct two geo-textile tube groins. The main purpose is to preserve the cultural resources on the island owned by the Department of Interior and leased to the State of Florida. According to the Egmont Key State Park manager, Mr. Robert Baker, sea turtle nesting along this area was severely impacted by the erosion during the Hurricane Floyd as the storm passed by the area. According to the State, they believe this placement would help create additional sea turtle nesting habitat along the island.

If you have any questions concerning this request, please contact Mr. Bill Fonferek at 904-232-2803 or by e-mail at William.J.Fonferek@usace.army.mil.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosure

Copy furnished (w/encls):

Dr. Robbin Trindell, Florida Fish and Wildlife Conservation Commission, Office of Environmental Services, Protected Species Management, 620 South Meridian Street, Tallahassee, Florida 32399-6000

bcc (w/o encls):
CESAJ-DP-I (Murphy)
CESAJ-CO-N (Novak)

Fonferek/CESAJ-PD-ER/2803/PJO 12-5
Dugger/CESAJ-PD-ER
Smith/CESAJ-PD-E
Murphy/CESAJ-DP-I
Duck/CESAJ-PD

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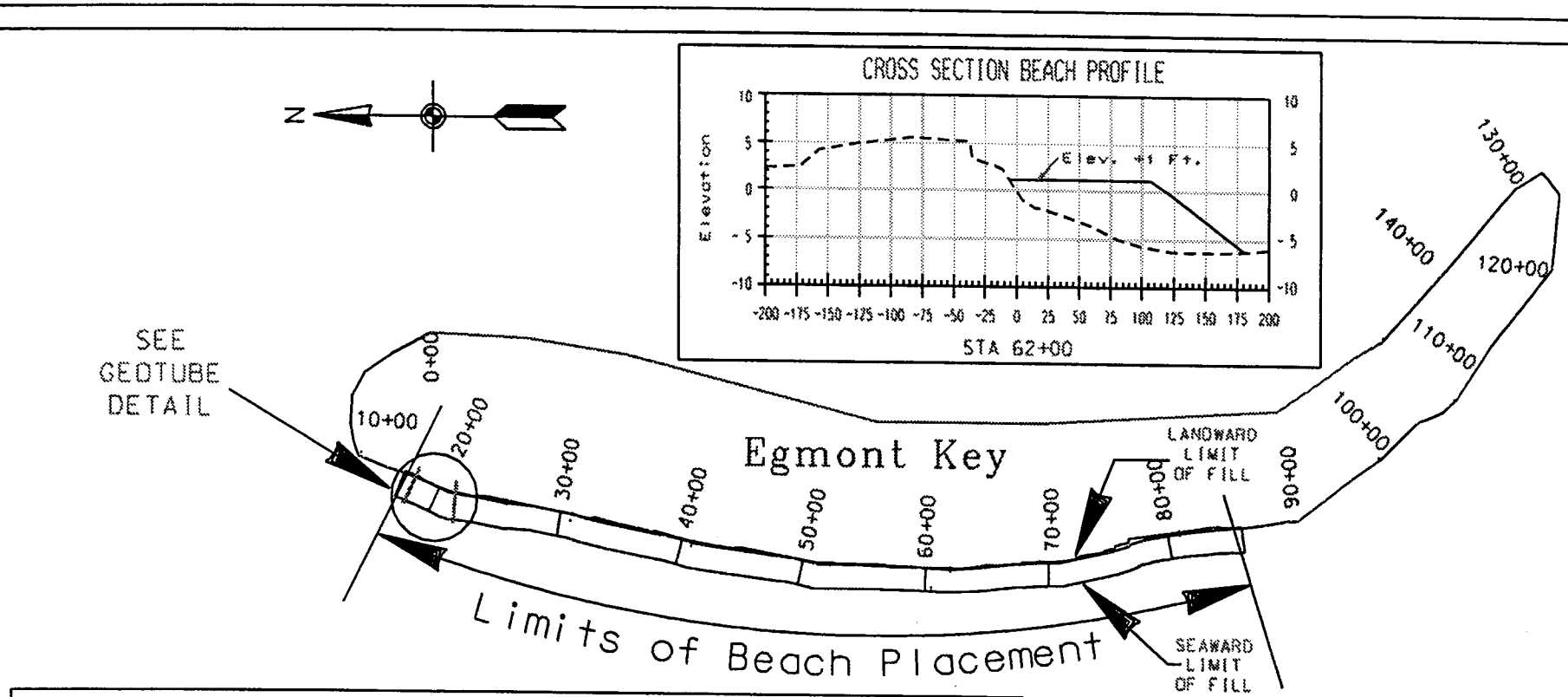
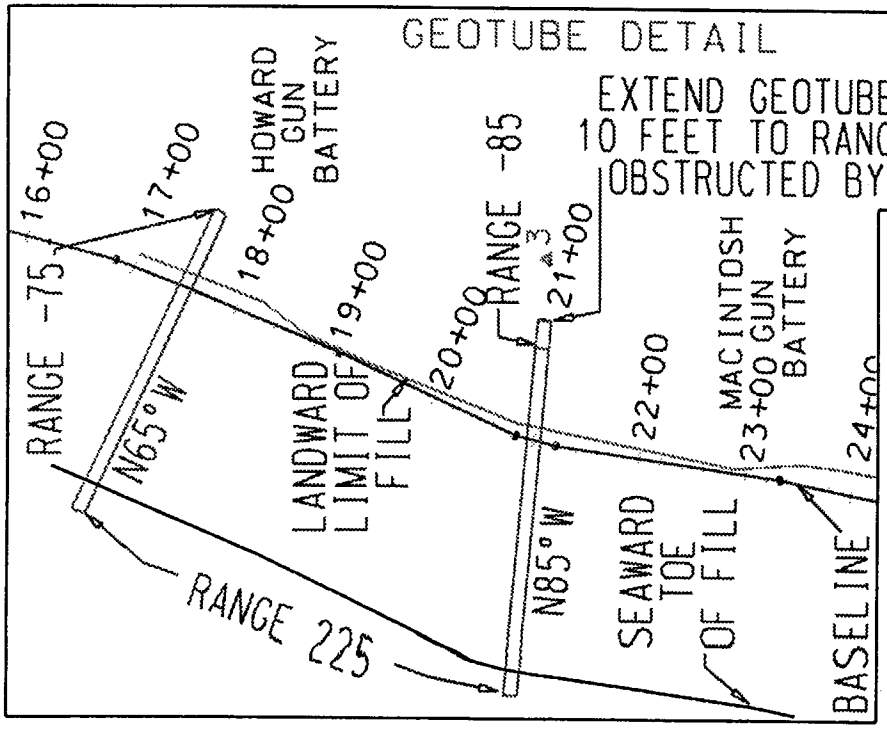




U.S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT, JACKSONVILLE, FLORIDA

MODIFICATION TO WATER QUALITY CERTIFICATION #522363069 FOR MAINTENANCE DREDGING OF ST. PETERSBURG HARBOR, FLORIDA, TO INCLUDE PLACEMENT AT EGMONT KEY

PLACEMENT AREA PLAN VIEW & CROSS SECTION

REV: Jan 2000	WQC DRAWING NO. 2

APPENDIX IV

COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS.

1. **National Environmental Policy Act of 1969, as amended.** Environmental information on the project has been compiled and the Environmental Assessment is available for review by the public in compliance with Regulation 33 CFR Parts 335-338. These regulations govern the Operations and Maintenance of U.S. Army Corps of Engineers Civil Works Projects involving the Discharge of Dredged or Fill Material into Waters of the US or Ocean Waters. Public Notice PN-SP-227 dated 21 January 2000 was issued soliciting comments from all interested parties for the maintenance of St Petersburg Harbor and placement at Egmont Key (Appendix IV). In addition, two public meetings were conducted by the Florida Department of Parks and Recreation in Ybor City, Florida. On June 23, 2004, a new public notice was issued on the proposed placement of Tampa Harbor maintenance dredged material on Egmont Key. Information and issues received from these responses and meetings are used in preparation of the environmental assessment. No comments were received. This public coordination and environmental impact assessment complies with the intent of NEPA. The process will fully comply with the Act once the Finding of No Significant Impact has been signed by the District Commander.

2. **Endangered Species Act of 1973, as amended.** Consultation was initiated with the US Fish and Wildlife Service by letter dated 6 January 2000. The USFWS concluded that the work would not likely jeopardize the continued existence of the manatee, if the Standard manatee protection conditions are implemented. A Biological Opinion dated 5 April 2000 was issued by the US Fish and Wildlife Service for the placement of dredged material. Consultation with the National Marine Fisheries Service was conducted by letter dated April 20, 1994. It requested a concurrence in a "No effects" determination. Consultation with the National Marine Fisheries Service for dredging in the entrance area of Tampa Bay was conducted by letter dated April 24, 1995. They issued a Biological Opinion by letter dated June 2, 1995, for the use of hopper dredges. Since that time a Gulf Regional Biological Opinion has been issued by NMFS dated November 19, 2003 for the use of hopper dredges. Included in the GRBO is a discretionary dredging window from 1 December to 31 march, a NMFS-approved observer, inflow screens and deflector draghead to protect sea turtles. This project was fully coordinated under the Endangered Species Act; therefore, this project is in full compliance with the Act.

3. **Fish and Wildlife Coordination Act of 1958, as amended**. The project has been coordinated with the USFWS during the public notice period. No response was received.

4. **National Historic Preservation Act of 1966, as amended (PL 89-665)**. By letter 7 March 2000, the State Historic Preservation Office (SHPO) responded to the public notice PN-SP-227. The SHPO stated that based on the information provided, the proposed undertaking will have no adverse effect on historic properties at Egmont Key. The SHPO further stated that there are three National Register sites on Egmont Key and that the shoreline stabilization project will help in the protection of the historic properties at Egmont Key. Coordination with the SHPO is in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, the Archeological and Historic Preservation Act, and Executive Order 11593.

5. **Clean Water Act of 1972, as amended.**

5.1. Section 401. (Water Quality) A Florida Department of Environmental Protection (DEP) Water Quality Certificate (WQC) has been issued for the maintenance dredging of this area. A request has been forwarded to DEP to allow placement of material in the hole. State water quality standards will be adhered to during construction. The project will cause temporary increases in turbidity where dredging is taking place and at the disposal site. The Florida water quality regulations require that water quality standards not be violated during dredging operations. The standards state that turbidity outside the designated mixing zone shall not exceed 29 NTU's above background. Various protective measures and monitoring programs will be conducted during construction to ensure compliance with State water quality standards. Should monitoring determine that the State turbidity standards have been exceeded, the contractor will be required to cease operations until conditions return to normal.

5.2. Section 404 (b)(1). The purpose of Section 404(b)(1) of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States through the control of discharges of dredged or fill material. Controls are established through restrictions placed on the discharges in Guidelines published in 40 CFR 230. An evaluation of the dredged material was conducted (Appendix I). The impacts are addressed in the Environmental Assessment and are primarily related to a minor increases in turbidity levels adjacent to the placement area.

Based on the probable impacts addressed in the environmental assessment, the 404(b)(1) evaluation and Inland Testing Manual requirements concerning the dredged material to be used, the proposed work would comply with the Guidelines and the intent of Section 404(b)(1) of the Clean Water Act.

5.3. Section 404. The public notice also meets the requirements of the Clean Water Act.

6. **Clean Air Act of 1972, as amended.** No air quality permits will be required for this project. Therefore, this Act would not be applicable.

7. **Coastal Zone Management Act of 1972, as amended.** The project has been evaluated in accordance with Section 307 of the Coastal Zone Management Act. It has been determined that the project would have no unacceptable impacts and would be consistent with the Florida Coastal Zone Management Plan (Appendix V). In accordance with the 1979 Memorandum of Understanding and the 1983 Addendum to the Memorandum concerning acquisition of water quality certifications and other State of Florida authorizations, the Draft Environmental Assessment, Coastal Zone Consistency Determination and Section 404(b)(1) Evaluation are being submitted to the State to show consistency with the Florida Coastal Zone Management Plan. Final state concurrence is issued concurrently with the issuance of the Water Quality Certification.

8. **Farmland Protection Policy Act of 1981.** No prime or unique farmland will be impacted by implementation of this project. This act is not applicable.

9. **Wild and Scenic River Act of 1968, as amended**. No designated Wild and Scenic river reaches will be affected by project related activities. This act is not applicable.

10. **Marine Mammal Protection Act of 1972, as amended**. Incorporation of the safe guards used to protect manatees during dredging and disposal operations will be implemented during construction, therefore, this project is in compliance with the Act.

11. **Estuary Protection Act of 1968.** No designated estuary will be affected by project activities. This act is not applicable.

12. **Federal Water Project Recreation Act, as amended**. There is no recreational development proposed for maintenance dredging or disposal. Therefore, this Act does not apply.

13. **Resource Conservation and Recovery Act of 1976, (PL 94-580; 7 U.S.C. 100, et seq.** This law has been determined not to apply as there are no items regulated under this act being disposed of or affected by this project.

14. **Toxic Substances Control Act of 1976, (PL 94-469; U.S.C. 2601, et seq.** This law has been determined not to apply as there are no items regulated under this act being disposed of or affected by this project.

15. **Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1401 et seq.** In accordance with Section 102(c), the Ocean Dredged Material Disposal Site has been designated by the Environmental Protection Agency by final rule published in the Federal Register dated 11 May 1995 (Appendix V). A Section 103 Report was prepared on 5 September 1979. No other information is available on previous dredging. Since, the material is to be placed in a beach placement area, this act is not applicable

16. **E.O. 11990, Protection of Wetlands**. No wetlands will be affected by project activities. This project is in compliance with the goals of this Executive Order.

17. **E.O. 11988, Floodplain Management**. No activities associated with this project will take place within a floodplain, therefore this project is in compliance with the goals of this Executive Order.

18. **E.O. 12898, Environmental Justice.** This project has been evaluated in accordance with the subject E.O. The project would not result in adverse human health or environmental effects. There would be no impacts on subsistence consumption of fish or wildlife from this project. Therefore, the work would comply with this E.O.

19. **Essential Fish Habitat, Magnuson-Stevens Fishery Conservation and Management Act**. The affects of the existing federal navigation project have been identified in the Environmental Assessment. The effects on EFH have been coordinated with the NMFS through the public notice. No response was received.

APPENDIX V

FLORIDA COASTAL ZONE CONSISTENCY DETERMINATION

Florida Coastal Zone Management Program
Federal Consistency Evaluation Procedures

1. Chapter 161, Beach and Shore Preservation.

The intent of the coastal construction permit program established by this chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

> Response: The proposed work project is located along the shoreline of Egmont Key. Information will be submitted to the state for a permit in compliance with this chapter.

2. Chapters 186 and 187, State and Regional Planning.

These chapters establish the State Comprehensive Plan which sets goals that articulate a strategic vision of the State's future. It's purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

> Response: The proposed work has been coordinated with the State without objection.

3. Chapter 252, Disaster Preparation, Response and Mitigation.

This chapter creates a state emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

> Response: The dredging and disposal of material will protect the navigation channel which could be used in emergency situations for transportation purposes. Therefore, this work would be consistent with the efforts of Division of Emergency Management.

4. Chapter 253, State Lands.

This chapter governs the management of submerged state lands and resources within state lands. This includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities; swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: The dredging of the harbor has been previously conducted without objection. No unique state resources would be affected. The proposal would comply with the intent of this chapter.

5. Chapters 253, 259, 260, and 375, Land Acquisition.

This chapter authorizes the state to acquire land to protect environmentally sensitive areas.

Response: Since the affected property already is in public ownership, this chapter would not apply.

6. Chapter 258, State Parks and Aquatic Preserves.

This chapter authorizes the state to manage state parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: The proposed work would benefit a State recreation area and would, therefore, be consistent with this chapter.

7. Chapter 267, Historic Preservation.

This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: The maintenance of existing navigation channels and use of the disposal areas has been coordinated with the State Historic Preservation Officer. Significant historic properties are not likely to be located in the existing navigation channel. Procedures will be implemented to avoid impacts on unidentified historic properties which may be located in the area of impact. Therefore, the work will be consistent with the goals of this chapter.

8. Chapter 288, Economic Development and Tourism

This chapter directs the state to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The maintenance dredging of the navigation channel encourages the development of St. Petersburg Harbor and economic growth of the area. Therefore, the work would be consistent with the goals of this chapter.

9. Chapters 334 and 339, Public Transportation.

This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: The maintenance dredging of the navigation channel promotes commercial navigation within St. Petersburg Harbor and Tampa Bay in general.

10. Chapter 370, Saltwater Living Resources.

This chapter directs the state to preserve, manage and protect the marine, crustacean, shell and anadromous fishery resources in state waters; to protect and enhance the marine and estuarine environment; to regulate fishermen and vessels of the state engaged in the taking of such resources within or without state waters; to issue licenses for the taking and processing products of fisheries; to secure and maintain statistical records of the catch of each such species; and, to conduct scientific, economic, and other studies and research.

Response: The maintenance dredging of this area would not adversely affect saltwater living resources. Based on the overall impacts of the work, the work is consistent with the goals of this chapter.

12. Chapter 372, Living Land and Freshwater Resources.

This chapter establishes the Game and Freshwater Fish Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: No living land or freshwater resources would be impacted by the maintenance dredging. The placement of the dredged material in the upland disposal area would benefit water quality and the biota in this lake system. Therefore, the work would comply with the goals of this chapter.

13. Chapter 373, Water Resources.

This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This work does not involve water resources as described by this chapter.

14. Chapter 376, Pollutant Spill Prevention and Control.

This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: This work does not involve the transportation or discharging of pollutants. Condition will be placed in the contract to handle any inadvertent spill of pollutants. Therefore, the project would comply with this Act.

15. Chapter 377, Oil and Gas Exploration and Production.

This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

Response: This work does not involve the exploration, drilling or production of gas, oil or petroleum product and therefore does not apply.

16. Chapter 380, Environmental Land and Water Management.

This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development.

Response: The maintenance dredging of the harbor has been coordinated with the local regional planning commission. Therefore, the work would be consistent with the goals of this chapter.

17. Chapter 388, Arthropod Control.

This chapter provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

Response: The work would not further the propagation of mosquitoes or other pest arthropods.

18. Chapter 403, Environmental Control.

This chapter authorizes the regulation of pollution of the air and waters of the state by the DEP.

Response: The DEP issued a water quality certification for the project. No air pollution permits are necessary for the project. Effects of the operation of construction equipment on air quality would be minor. Therefore, the work is complying with the intent of this chapter.

19. Chapter 582, Soil and Water Conservation.

This chapter establishes policy for the conservation of the state soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and water resources both onsite or in adjoining properties affected by the work. Particular attention will be given to work on or near agricultural lands.

Response: The proposed work is not located near or on agricultural lands. Conditions will be placed in the contract to control erosion of uplands. Therefore, the project would comply with this chapter.

APPENDIX VI

ESSENTIAL FISH HABITAT DETERMINATION

ESSENTIAL FISH HABITAT ASSESSMENT
ST. PETERSBURG HARBOR

1. The current project was authorized by House Document 70, 80th Congress, Second Session, dated May 17, 1950.. Since the initial maintenance, sand and sediments have periodically accumulated in the channel reducing the navigable capacity of the project. The navigation channel is used by ocean going vessels. The channel depths are reduced by sedimentation. In order to maintain the Federal standard, the channel must be dredged. The material from this location would be typically placed in the Ocean Dredged Material Disposal Area. The State of Florida had requested that we place the material along the shoreline of Egmont Key to retard erosion and help protect the historically significant batteries of Fort Dade.

Approximately 250,000 cubic yards of dredged material would be placed along approximately 8,000 feet of the upper 2/3rds of the western shoreline of Egmont Key.

2. Impacts to this resource are identified in Section 4, Environmental Consequences of the Environmental Assessment. We consider these impacts to be minimal on an individual project and cumulative affects basis.

APPENDIX V

FLORIDA COASTAL ZONE CONSISTENCY DETERMINATION

APPENDIX VII

DERP-FUDS Inventory
Project Report

DEPARTMENT OF THE ARMY
SOUTH ATLANTIC DIVISION, CORPS OF ENGINEERS
ROOM 313, 77 FORSYTH ST., S.W.
ATLANTA, GEORGIA 30335-6801

REPLY TO
ATTENTION OF:

12 JUL 1993

CESAD-PD-R (200)

MEMORANDUM FOR

COMMANDER, USACE, ATTN: CEMP-ZA, WASH DC 20314-1000
COMMANDER, HUNTSVILLE DIVISION, HUNTSVILLE, AL 35807-4301

SUBJECT: DERP-FUDS Inventory Project Report (INPR), Fort Dade, Site No. I04FL002300

1. I am forwarding the INPR for the former Fort Dade for appropriate action. The site and the proposed BD/DR and OEW projects are eligible for DERP-FUDS.

2. I recommend that CEMP-R approve the proposed BD/DR project and assign it through this headquarters to CESAJ for remedial design and removal action.

3. I recommend that CEHND determine if further study and remedial action are required for the OEW project. The RAC score is 4.

4. The HTRW project recommended in the District's memorandum has been returned to CESAJ for revision and will be forwarded under separate cover. Questions concerning the INPR should be directed to Gary Mauldin, CESAD-PD-R, at 404-331-6043. The Division focal point for actions beyond the preliminary assessment phase is Richard Connell, CESAD-PM-H, at 404-331-7045.

Encl

ROGER F. YANKOUPE
Brigadier General, USA
Commanding

CF (w/encl):
CDR, USACE, ATTN: CEMP-RF
CDR, JACKSONVILLE DISTRICT, ATTN: CESAJ-PD-E

log to GM

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

CESAJ-PD-EE (1110-2-1150a)

APR 13 1993

MEMORANDUM FOR Commander, South Atlantic Division

SUBJECT: DERP-FUDS Inventory Project Report (INPR) for Site No. I04FL002300, Fort Dade, Florida

1. Reference:

a. CESAJ-PD-EE memo dated 30 September 1992, subject as above.

b. CESAD-PD-R memo dated 22 December 1992, subject as above.

2. This INPR was previously submitted (Ref. 1.a.) but was returned with comments (Ref. 1.b.). In response to the comments:

a. A cost estimate for removing only the concrete wharf's top parallel runners has been included in the proposed Building Demolition/Debris Removal (BD/DR) Project.

b. An Ordnance and Explosive Waste (OEW) Project has been proposed.

c. No comments were received from the Savannah District on the proposed Hazardous and Toxic Waste (HTW) Project.

3. This INPR reports on the DERP-FUDS Preliminary Assessment of Fort Dade. The Site Survey Summary Sheet and site map are Enclosure 1.

4. We determined that the site was formerly used by the Department of Defense. A recommended Findings and Determination of Eligibility (FDE) is Enclosure 2.

5. We also determined there is hazardous waste at the site eligible for clean-up under DERP-FUDS. The categories of hazardous waste at the site are BD/DR, HTW, and OEW. A Project Summary Sheet and cost estimate are Enclosure 3 for the BD/DR Project and Enclosure 4 for the HTW Project. A Project Summary Sheet is Enclosure 5 for the OEW Project.

6. I recommend that you:

a. Approve and sign the FDE.

b. Forward a copy of this INPR to CEMP requesting approval and funds for this District to accomplish the BD/DR Project.

c. Forward a copy of this INPR to CESAS for review and recommendation of the proposed HTW Project.

d. Forward a copy of this INPR to CEHND for review and recommendation of the proposed OEW Project.

7. Point of contact is Russ Jones, 904-232-2168.

5 Encls

TERRENCE C. SALT
Colonel, Corps of Engineers
Commanding

CF:
CESAJ-DP-I
CESAS-EN-G

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. I04FL002300
FORT DADE, FL
5 APRIL 1993

SITE NAME: The site was originally known as Fort Dade and is now known as Egmont Key State Park.

LOCATION: The former Fort Dade is located on Egmont Key, a small island located 35 miles southwest of Tampa at the mouth of Tampa Bay in Hillsborough County, Florida (see attached site location map).

SITE HISTORY: In 1849, Egmont Key was reserved for military purposes by the Commissioner of the General Land Office. In 1882, stewardship of the island was transferred to the War Department. An Army post was established on Egmont Key in 1899 to provide coastal defense of Tampa Bay. Congress authorized the sale of Fort Dade in 1926 but it was transferred to the Secretary of the Treasury in 1940. Egmont Key is now used by the U.S. Fish and Wildlife Service as a National Wildlife Refuge and by Florida Department of Natural Resources as the Egmont Key State Park.

SITE VISIT: Russell Jones, CESAJ-PD-EE, met with Bob Baker, Park Manager of Egmont Key State Park, to conduct a site assessment on 16 January 1992. There was no evidence of hazardous/toxic waste, abandoned storage tanks, or ordnance/explosive waste. Mr. Baker stated that he did not know of any ordnance problems from previous use of the site as a bombing and gunnery range. Several unsafe structures were identified but only a concrete wharf was determined to be potentially eligible for DERP-FUDS. Mr. Jones received a letter from Mr. Baker dated 26 March 1992 concerning an area where the groundwater had been found to be contaminated with a petroleum product.

Site POC: Mr. Bob Baker, Park Manager
Egmont Key State Park
Slip 656
4801 37th Street S.
St. Petersburg, Florida 33711
813-893-2627

CATEGORY OF HAZARD: BD/DR, HTW, and OEW.

PROJECT DESCRIPTION: There are three potential projects at this site-

a. BD/DR. The demolition and disposal of the remains of a concrete wharf.

b. HTW. Site Inspection of an area where the groundwater is contaminated with a petroleum product.

SITE SURVEY SUMMARY SHEET (CONT.)
FOR
DERP-FUDS SITE NO. I04FL002300
FORT DADE, FL
5 APRIL 1993

c. OEW. Investigation of the site as a former bombing and gunnery range.

AVAILABLE STUDIES AND REPORTS: None.

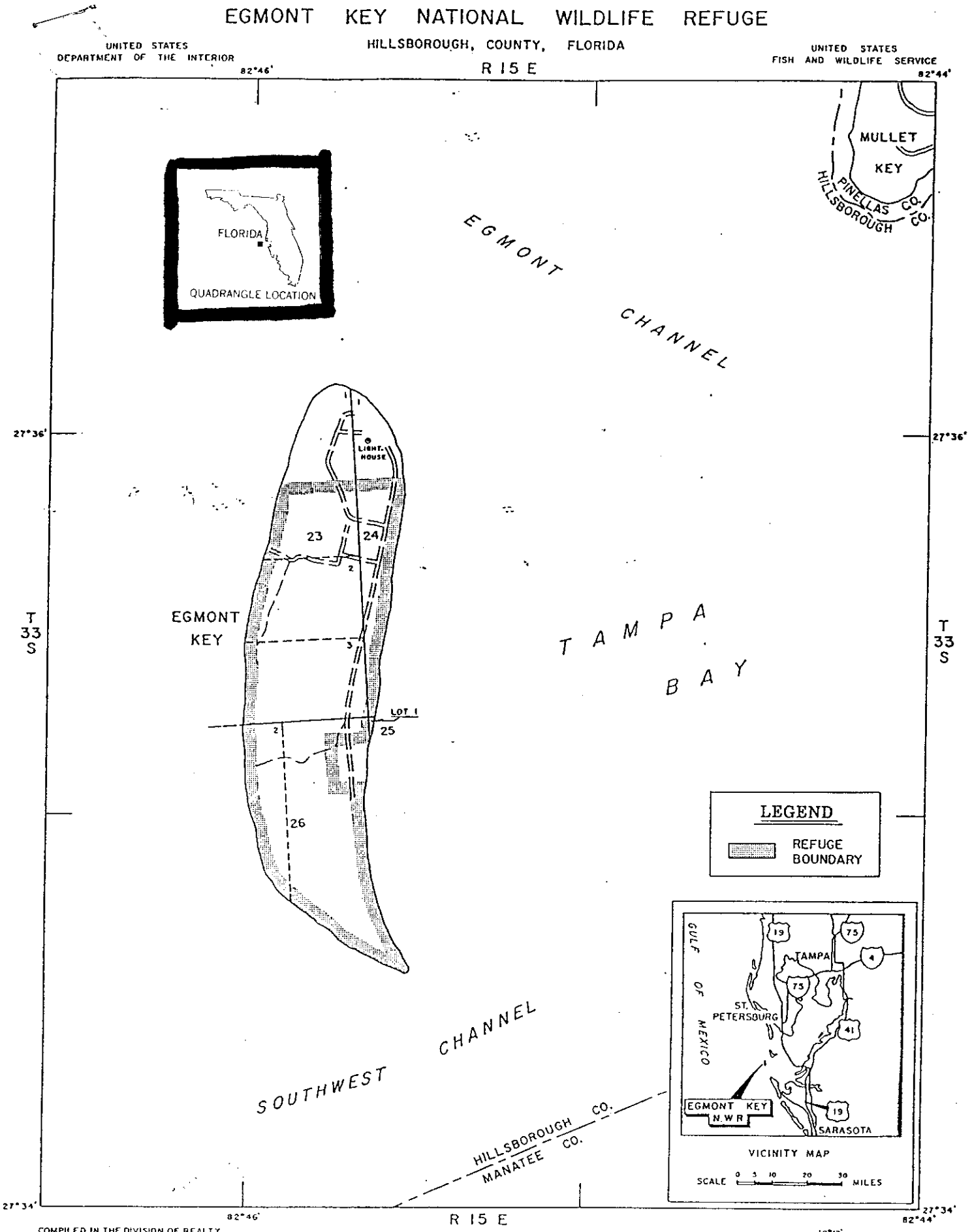
DISTRICT POC: Russ Jones, CESAJ-PD-EE, 904-232-2168.

EGMONT KEY NATIONAL WILDLIFE REFUGE

HILLSBOROUGH, COUNTY, FLORIDA

UNITED STATES
DEPARTMENT OF THE INTERIOR

UNITED STATES
FISH AND WILDLIFE SERVICE



COMPILED IN THE DIVISION OF REALTY
FROM SURVEYS BY U.S.G.S.

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ATLANTA, GEORGIA OCTOBER, 1973

4R FLA 884 403

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FORMERLY USED DEFENSE SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY

Fort Dade Military Reservation, FL

Site No. I04FL002300

FINDINGS OF FACT

1. By order of the Commissioner of the General Land Office dated 23 March 1849, Egmont Key was reserved for military purposes. By Executive Order dated 17 November 1882, the entire island, less 15 acres reserved to the Department of Commerce for lighthouse purposes, was transferred to the War Department for military purposes. The portion of the island transferred to the War Department was thought to consist of 378.02 acres based on a U.S. Land Office map dated 27 September 1877. On 10 March 1911, the Department of Commerce transferred 2.00 acres of the 15 acres to the War Department, bringing the total of Fort Dade Military Reservation to 380.02 acres. Egmont Key consists of a single island and is located 35 miles S.W. of Tampa at the mouth of Tampa Bay in Hillsborough County, Florida.

2. The post was established in 1899 and improvements made by the Army included 23 dwelling houses; 40 other buildings, including a hospital, warehouses, barracks, administration building, post office, chapel, mess halls, and guard houses; 25 temporary buildings; 2 piers; streets; sewers; sidewalks; water supply system and a 36" gauge railway. The Army used the site as a prison site, training area and as bombing and gunnery range. During the period of ownership by the War Department, other Federal agencies were granted use of portions of the island. The Department of Commerce was granted three permits, one to erect a fog signal, one for the temporary use of the piers for storage purposes and one for the Lighthouse Service to use a portion of the site. The Treasury Department was granted two permits, one for mosquito control work and the other for the Coast Guard to use a portion of the site. Exact acreage of the lands covered by the permits could not be determined as copies of the instruments could not be located and information concerning the permits was taken from disposal records. The YMCA was also granted a license to use a portion of the site to construct a building, this building was conveyed to the United States.

3. The sale of the former Fort Dade Military Reservation was authorized by an Act of Congress approved 12 March 1926. In 1927, the area of the Fort Dade Military Reservation originally thought to contain 380.02 acres on Egmont Key was determined to be 423.72 acres based on a War Department map dated November 1906 and corrected on 21 November 1914. Approximately 5.5 acres was sold to Hillsborough County by quitclaim deed dated 8 March 1928,

PROJECT SUMMARY SHEET
FOR
DERP-FUDS BD/DR PROJECT NO. I04FL002301
FORT DADE, FL
SITE NO. I04FL002300
5 APRIL 1993

PROJECT DESCRIPTION: A deteriorating concrete wharf, probably used to unload coal for Fort Dade, now poses a public safety hazard. The Florida Park Service, after discussing the situation with the U.S. Fish and Wildlife Service, requested that we remove the structure in a letter dated 26 March 1992.

The wharf now consists of parallel concrete slabs about 0.5 foot wide and about 2.5 feet apart. The wharf extends about 175 feet towards the shoreline and then turns parallel to the shore for about 85 feet. The wharf covers a total area of about 7,800 square feet. The location and a sketch of the wharf are shown in attached drawings.

The island is surrounded by many pleasure boats in good weather. Boaters are attracted to the island because of its beaches and the historic structures remaining from Fort Dade. Day cruise boats also visit the island and many of the passengers are senior citizens.

The wharf is inviting for some people to walk upon and is similar to walking on a balance beam. If one was to lose their balance though or some crumbling concrete gave way, they would fall between concrete slabs and probably hit themselves on the opposing slab in the process. If they fell on the side of the wharf along the shore and happened to be extremely unlucky, they could get knocked unconscious, fall into the water and drown. Mr. Baker, Park Manager, informed me that a senior citizen recently fell off a concrete slab and broke several ribs.

PROJECT ELIGIBILITY: The proposed project meets project eligibility criteria. The concrete wharf was constructed and then abandoned by the Army. The hazard (primarily a falling hazard) existed at the time Department of Defense (DOD) usage ceased. The attached BD/DR Project Summary Sheet Checklist addresses additional project eligibility criteria.

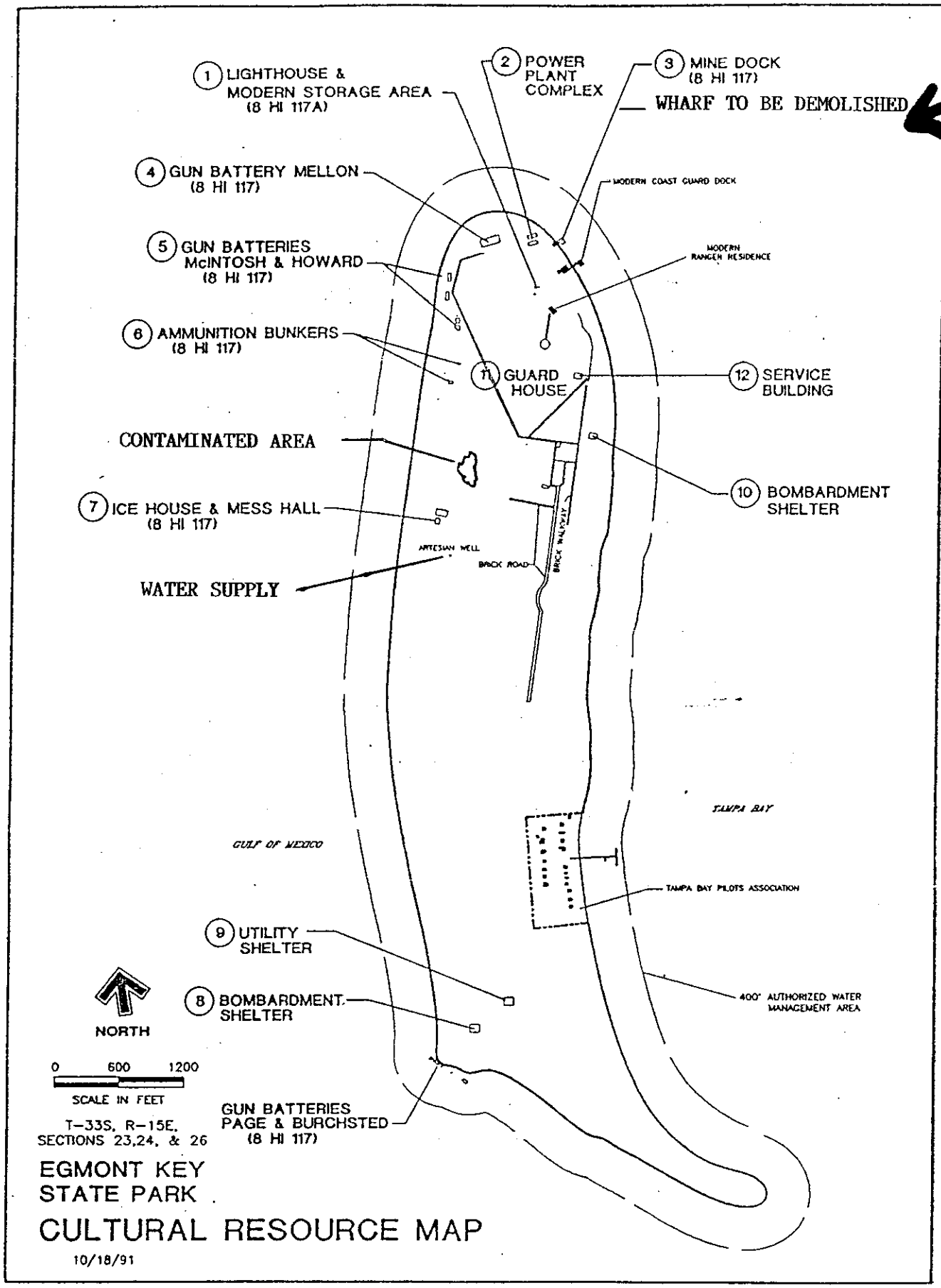
POLICY CONSIDERATIONS: The proposed project meets policy considerations. The site has not been owned by a private interest and the wharf has not been altered or beneficially used subsequent to DOD usage. The wharf does not contain asbestos. The attached BD/DR Project Summary Sheet Checklist addresses additional policy considerations.

PROJECT SUMMARY SHEET (CONT.)
FOR
DERP-FUDS BD/DR PROJECT NO. I04FL002301
FORT DADE, FL
SITE NO. I04FL002300
5 APRIL 1993

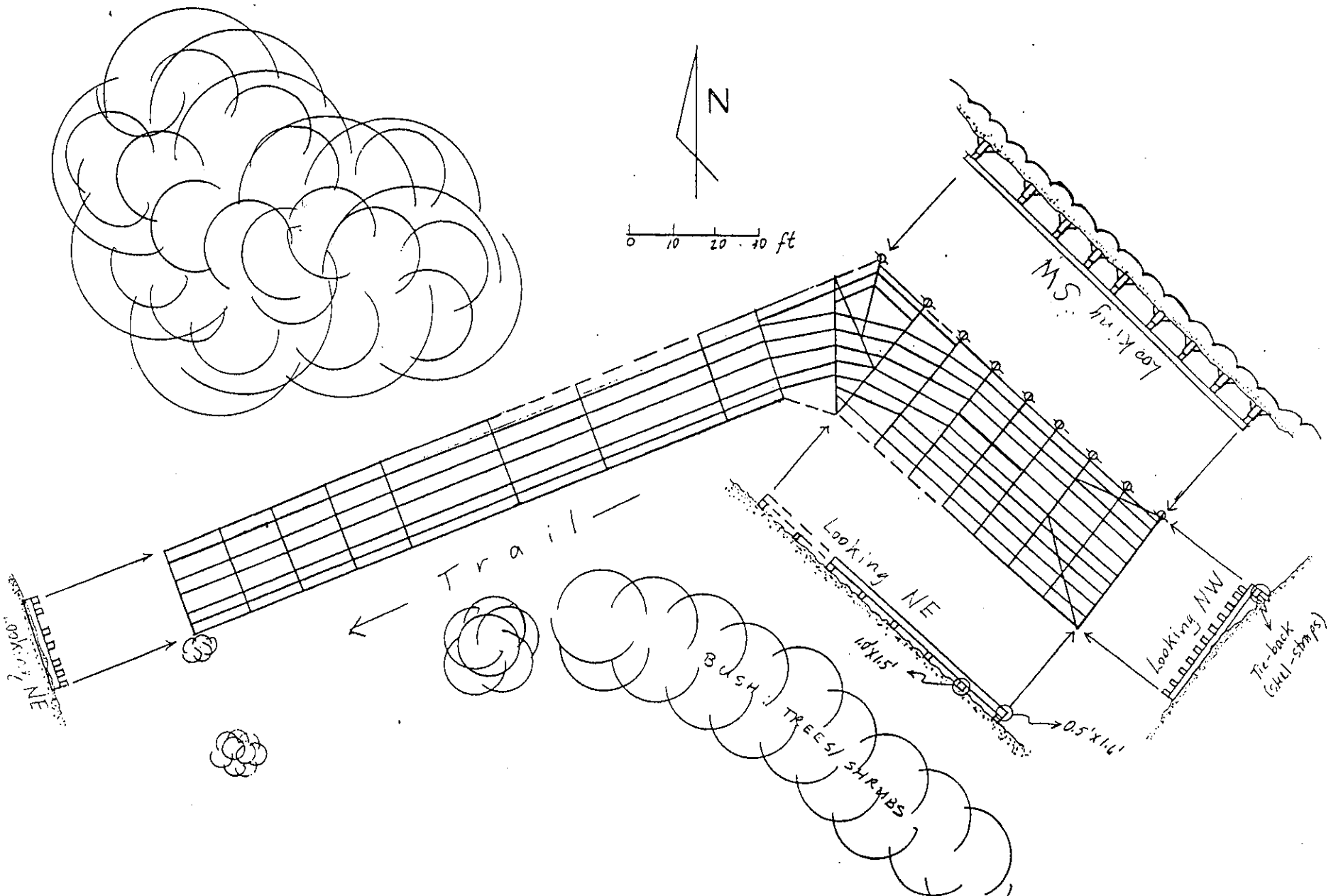
PROPOSED PROJECT: Demolish, remove, and dispose of the concrete wharf. The concrete could be disposed of at an offshore disposal site to allow it to be used as reef material. One cost estimate has been included for the removal of the whole wharf and another for the removal of the top parallel concrete runners only. It is recommended that the whole wharf be removed because: it would provide more reef material, leaving part of the wharf standing would not be desirable aesthetically, the cost of removing the whole wharf is estimated to be only $12,000 more.

DD FORM 1391: Attached. The total implementation cost for the removal of the whole wharf is estimated to be $92,000. The total implementation cost of the removal of the top parallel runners only is estimated to be $80,000.

DISTRICT POC: Russ Jones, CESAJ-PD-EE, 904-232-2168.


1 LIGHTHOUSE & MODERN STORAGE AREA (8 HI 117A)
2 POWER PLANT COMPLEX
3 MINE DOCK (8 HI 117)
WHARF TO BE DEMOLISHED
4 GUN BATTERY MELLON (8 HI 117)
MODERN COAST GUARD DOCK
5 GUN BATTERIES McINTOSH & HOWARD (8 HI 117)
MODERN RANGER RESIDENCE
6 AMMUNITION BUNKERS (8 HI 117)
11 GUARD HOUSE
12 SERVICE BUILDING
CONTAMINATED AREA
10 BOMBARDMENT SHELTER
7 ICE HOUSE & MESS HALL (8 HI 117)
ARTESIAN WELL
BRICK ROAD
BRICK WALKWAY
WATER SUPPLY
TAMPA BAY
GULF OF MEXICO
TAMPA BAY PILOTS ASSOCIATION
9 UTILITY SHELTER
8 BOMBARDMENT SHELTER
400' AUTHORIZED WATER MANAGEMENT AREA
NORTH
0 600 1200
SCALE IN FEET
GUN BATTERIES PAGE & BURCHSTED (8 HI 117)
T-33S, R-15E, SECTIONS 23,24, & 26
EGMONT KEY STATE PARK
CULTURAL RESOURCE MAP
10/18/91

Sketch plan and sections of the coal wharf for BD/DR.



10. T The hazard(s) existed at the time DOD usage ceased. (Provide details under Project Eligibility regardless of whether true or false.)

11. T The hazard(s) still exists. Owners cannot be reimbursed for any response activities. (If false, provide details under Policy Considerations.)

12. T The structure(s) was not altered or beneficially used by owners subsequent to DOD usage. (Address under Policy Considerations regardless of whether true or false.)

13. T The project does not involve partial demolition of a structure (must be all or nothing). (If false, provide details under Policy Considerations.)

14. T The project does not address asbestos containing materials (ACM), except where part of and incidental to a proposed project. (Address under Policy Considerations regardless of whether true or false.)

1 COMPONENT	FY 1993 MILITARY CONSTRUCTION PROJECT DATA	2 DATE
ARMY		5 APR 93

3 INSTALLATION AND LOCATION	4 PROJECT TITLE
FORT DADE EGMONT KEY, FLORIDA	DERP-FUDS

5 PROGRAM ELEMENT	6 CATEGORY CODE	7 PROJECT NUMBER	8 PROJECT COST ($000)
	BD/DR	I04FL002301	80

9 COST ESTIMATES

ITEM	U M	QUANTITY	UNIT COST	COST ($000)
CONSTRUCTION COST				40
CONTINGENCY (25%)				10
CONSTRUCTION CONTRACT COST				50
SUPV & ADMINISTRATION (8%)				4
TOTAL CONSTRUCTION CWE				54
DESIGN COST				4
EXCLUDABLE COSTS:				
FIELD SURVEYS				3
CONTRACT PROCESSING/AWARD				3
PROJECT MANAGEMENT				1
ENVIRONMENTAL ASSESSMENT AND COORDINATION				5
HISTORICAL DOCUMENTATION				10
TOTAL IMPLEMENTATION COST				80

10 DESCRIPTION OF PROPOSED CONSTRUCTION

DEMOLITION AND DISPOSAL OF A CONCRETE WHARF.
REVISED FOR DEMOLITION AND DISPOSAL OF TOP CONCRETE BEAMS ONLY.

PROJECT SUMMARY SHEET
FOR
DERP-FUDS OEW PROJECT NO. I04FL002303
FORT DADE, FL
SITE NO. I04FL002300
5 APRIL 1993

PROJECT DESCRIPTION: During the site assessment on 16 January 1992, Mr. Bob Baker, Park Manager of Egmont Key State Park, said he heard that part of the island had been used as an air-to-ground bombing and gunnery range by the military. He was unsure which part of the island had been used as the range. He was also unsure whether practice or explosive bombs had been used in the training exercises. Mr. Baker said no signs of ordnance have ever been found. Both practice and explosive bombs have been found at the nearby former Mullet Key Bombing and Gunnery Range (Project No. I04FL019701).

PROJECT ELIGIBILITY: The island was used as a bombing and gunnery range by the Army and may contain subsurface ordnance.

POLICY CONSIDERATIONS: This potential project appears to satisfy all current policy considerations regarding OEW.

PROPOSED ACTIVITIES: CEHND should make a determination of the need for an investigation of possible subsurface ordnance at this site beyond the scope of the Preliminary Assessment.

RISK ASSESSMENT: A Risk Assessment Code (RAC) of 4 has been assigned to this project (see attached Risk Assessment Procedures). This score was assigned based on the assumption that there are subsurface explosive bombs on the island (wherever the bombing and gunnery range was located).

DISTRICT POC: Russ Jones, CESAJ-PD-EE, 904-232-2168.

10 Feb 93
Previous editions obsolete

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVE WASTE (OEW) SITES

Site Name	Fort Dade	Rater's Name	Russell Jones
Site Location	Egmont Key, FL	Phone No.	904-232-2169
DERP Project #	I04FL002303	Organization	CESAJ-PD-EE
Date Completed	2 Apr 93	RAC Score	4

OEW RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882B and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at this site. The OEW risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OEW hazards identified at the site. The risk assessment is composed of two factors, **hazard severity and hazard probability.** Personnel involved in visits to potential OEW sites should view the CEHND videotape entitled "A Life Threatening Encounter: OEW."

Part I. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPE OF ORDNANCE
(Circle all values that apply)

A. Conventional Ordnance and Ammunition

	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	(10)
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms (.22 cal - .50 cal)	1
Conventional Ordnance and Ammunition (Select the largest single value)	10

What evidence do you have regarding conventional OEW? None, see Part II.

B. Pyrotechnics (For munitions not described above.)

	VALUE
Munition (Container) Containing White Phosphorus or other Pyrophoric Material (i.e., Spontaneously Flammable)	10
Munition Containing A Flame or Incendiary Material (i.e., Napalm, Triethlaluminum Metal Incendiaries)	6
Flares,Signals, Simulators	4
Pyrotechnics (Select the largest single value)	___

What evidence do you have regarding pyrotechnics? _____
none

C. Bulk High Explosives (Not an integral part of conventional ordnance; uncontainerized.)

	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10
Demolition Charges	10
Secondary Explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8
Military Dynamite	6
Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc.)	3
High Explosives (Select the largest single value)	___

What evidence do you have regarding bulk explosives? _____
none

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid or Liquid Propellants	6
Propellants	___

What evidence do you have regarding bulk propellants? _____
none

E. Radiological/Chemical Agent/Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear, incendiary and smoke)	5

Radiological/Chemical Agent (Select the largest single value) ___

What evidence do you have of chemical/radiological OEW? ___
none

==========

Total Hazard Severity Value 10
(Sum of Largest Values for A through E--Maximum of 61).
Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY*

Description	Category	Value
CATASTROPHIC	I	≥21
CRITICAL	II	≥10 <21
MARGINAL	III	≥5 <10
NEGLIGIBLE	IV	≥1 <5
**NONE		0

*** Apply Hazard Severity Category to Table 3.**

**If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC Score of 5 to determine your appropriate action.

C. Numbers of buildings within a 2 mile radius measured from the OEW hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0

Number of Buildings (Select the single largest value) 1

Narrative A small cluster of buildings.

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0

Types of Buildings (Select the largest single value) 5

Describe types of buildings in the area. Park ranger's office and home.

E. Accessibility to site refers to access by humans to ordnance and explosive wastes. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0

Accessibility (Select the single largest value) 1

Describe the site accessibility. Egmont Key is an island accessible only by boat.

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion by beaches or streams, increasing land development that could reduce distances from the site to inhabitated areas or otherwise increase accessability.

	VALUE
Expected	5
None Anticipated	0

Site Dynamics (Select largest value) 0

Describe the site dynamics. National wildlife refuge, no development expected.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

RAC 1 Imminent Hazard - Expedite INPR - Immediately call CEHND-ED-SY--commercial 205-955-4968 or DSN 645-4968.

RAC 2 High priority on completion of INPR - Recommend further action by CEHND.

RAC 3 Complete INPR - Recommend further action by CEHND.

RAC 4 Complete INPR - Recommend further action by CEHND.

RAC 5 Recommend no further action. Submit NOFA and RAC to CEHND.

Part IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Park Manager Bob Baker told me he heard that part of the island used to be used as an air-to-ground bombing range. It is not certain whether the bombs were explosive or not. No ordnance has ever been found. The location of the bombing range is uncertain.

Mr. Mauldin/np/16043
H:DPBDoew.GVM

CESAD-PD-R (200) 12 JUL 1993

MEMORANDUM FOR

COMMANDER, USACE, ATTN: CEMP-ZA, WASH DC 20314-1000
COMMANDER, HUNTSVILLE DIVISION, HUNTSVILLE, AL 35807-4301

SUBJECT: DERP-FUDS Inventory Project Report (INPR), Fort Dade, Site No. I04FL002300

1. I am forwarding the INPR for the former Fort Dade for appropriate action. The site and the proposed BD/DR and OEW projects are eligible for DERP-FUDS.

2. I recommend that CEMP-R approve the proposed BD/DR project and assign it through this headquarters to CESAJ for remedial design and removal action.

3. I recommend that CEHND determine if further study and remedial action ~~is~~ are required for the OEW project. The RAC score is 4.

4. The HTRW project recommended in the District's ~~cover letter~~ memorandum has been returned to CESAJ for revision and will be forwarded under separate cover. Questions concerning the INPR should be directed to Gary Mauldin, CESAD-PD-R, at 404-331-6043. The Division focal point for actions beyond the preliminary ~~Barnett~~/PD-R assessment phase is Richard Connell, CESAD-PM-H, at 404-331-7045.

McGovern/PD-S
Rushing/PM
Davis/EN
Foreman/PD
Jones/DX
Smith ~~Prince~~/DM
~~Simms/DC~~ out
~~Yankoupe/DE~~ /s/
PD

Encl

ROGER F. YANKOUPE
Brigadier General, USA
Commanding

CF (w/encl):
CDR, USACE, ATTN: CEMP-RF
CDR, JACKSONVILLE DISTRICT, ATTN: CESAJ-PD-E

NOTE: PM, CO, OC, SO reviewed with no comments.
EN comments incorporated.

SEE REVERSE FOR MFR

DEPARTMENT OF THE ARMY
SOUTH ATLANTIC DIVISION, CORPS OF ENGINEERS
ROOM 313, 77 FORSYTH ST., S.W.
ATLANTA, GEORGIA 30335-6801

REPLY TO
ATTENTION OF:

S: 29 January 1993

CESAD-PD-R (200)

22 December 1992

MEMORANDUM FOR COMMANDER, JACKSONVILLE DISTRICT, ATTN: CESAJ-PD-E

SUBJECT: DERP-FUDS Inventory Project Report (INPR) for Fort Dade, Site No. I04FL002300

1. The subject INPR is returned for the following revisions:

a. Building Demolition/ Debris Removal (BD/DR) Project: We agree with the comment by CESAD-EN-F (attached) questioning the complete removal of the pier. The purpose of a BD/DR project is to eliminate imminent safety hazards. Removing just the parallel concrete runners should eliminate the safety hazard. Please revise the project summary sheet and cost estimate accordingly.

b. Ordnance and Explosive Waste (OEW) Project: This site was previously used as a bombing and gunnery range. CEHND will return the INPR to us if we do not adequately address the potential OEW project. A Risk Assessment Code (RAC) score should be computed for this site. If the RAC score recommends further study, a project summary sheet should also be prepared.

c. Hazardous and Toxic Waste (HTW) Project: By copy of this memorandum, I am forwarding the HTRW project to Savannah District for review of the Project Planning Sheet and cost estimate. After review of these documents, I request that CESAS either return the documents to us for further processing (provided only minor comments are made) or return to CESAJ for their incorporation of significant comments. If significant revisions are required, CESAJ should reconcile the comments with CESAS and return the INPR to them for their concurrence. CESAS would then forward the INPR to CESAD for further processing.

2. Please revise the INPR accordingly and return to CESAD for further processing NLT 29 January 1993. The Action Summary will be revised to reflect this milestone. If you have any questions contact Gary Mauldin at (404) 331-6043.

FOR THE COMMANDER:

Dennis W. Barnett

DENNIS W. BARNETT, P.E.
Acting Director of Planning

2 Encls

CF: CESAS-PM-H

ROUTING SLIP SOUTH ATLANTIC DIVISION, U.S. ARMY CORPS OF ENGINEERS

From: CESAD-PD-R date: 7 OCT 92

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- ☐ Deputy Commander (Military) — DM
- ☐ Executive Assistant — DX

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- ☐ Value Engineering Officer — VE

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- ☐ Military Project Management Division — PP-M
- ■ Hazardous/Toxic Waste Restoration & Support for Others Division — PP-H

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- ☐ Contract Audit Branch — AO-K
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- ☐ Resident Audit Office, Mobile — AO-KM
- ☐ Resident Audit Office, Wilmington — AO-KW

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  - ☐ Navigation Branch — CO-ON
- ☐ Hydropower Management Division — CO-H
- ☐ Natural Resources Management Division — CO-R
  - ☐ Recreation & Program Branch — CO-RP
  - ☐ Natural Resources Management Branch — CO-RN
- ☐ Emergency Management Division — CO-E
  - ☐ Natural Disaster Branch — CO-ED
  - ☐ National Emergency Branch — CO-EE
  - ☐ Emergency Operations Branch — CO-EO

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- ☐ Recruitment & Placement — EP-A
- ☐ Military Personnel — EP-A
- ☐ Jacksonville Operating Division — EP-
- ☐ Savannah Operating Division — EP-
- ☐ Wilmington Operating Division — EP-

○ DIRECTORATE OF CONTRACTING — CT

○ OFFICE OF SECURITY AND LAW ENFORCEMENT — PM

● SAFETY & OCCUPATIONAL HEALTH OFFICE — SO

○ AIR FORCE REGIONAL CIVIL ENGINEERS EASTERN REGION — AFRCE-E

○ HEALTH FACILITIES OFFICE — HFO-E

○ MANAGEMENT ENGINEERING BRANCH — CERM-O

FOR:
- ○ ACTION
- ○ APPROVAL
- ○ SIGNATURE
- ○ RECOMMENDATION
- ● REVIEW & COMMENT
- ○ DRAFT REPLY
- ○ INFORMATION
- ○ FILE

REMARKS: DERP FUDS (POSITIVE)
I04FL002300
FORT DADE
BD/DR HTW
5:21 OCT 92

SAD Form 1470 AUG 90

Previous editions of this form are obsolete.

GARY MAULDIN

Logged 10/16

**REVIEW/COMMENT FORM FROM SAD-EN-F (2680) B HORNSBY

**1 - EN-F DATE RECEIVED: 15 Oct DATE ISSUED: 15 Oct

**2 - EN-B NAME: Hubbard DATE 10/28 COMMENTS?

**3 - EN-F (BARB) RECEIVED EN-F OUT

**NO. 251 SUBJECT: 41 Dade Inventory Project

**(PD) Mauldin

SUSPENSE DATE: 21 Oct

**COMMENTS:

1. WHY REMOVE THE WHOLE WHARF? JUST REMOVE THE TOP CONE RUNNERS — THIS WILL ELIMINATE THE FALLING HAZARD.

(SOUNDS LIKE THE USFWL WANTS DOD TO PAY THE BILL!)

2. DISAGREE WITH REQUEST TO SPEND $213,000 TO FIND OUT IF THERE IS A PROBLEM OTHER THAN SURFACE CONTAMINATION. THERE IS NO EVIDENCE OR SUPPORT THAT THIS WAS DOD CAUSED — EVEN IF IT WAS THE WATER WOULD BE CONTAMINATED BY NOW

COPIES FURNISHED TO:

EN-B EN-F EN-H EN-T

ROUTING SLIP SOUTH ATLANTIC DIVISION, U.S. ARMY CORPS OF ENGINEERS

From: CESAD-PD-R date: 7 OCT 92

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- ○ HEALTH FACILITIES OFFICE — HFO-E
- ○ MANAGEMENT ENGINEERING BRANCH — CERM-O

FOR: ○ ACTION ○ SIGNATURE ● REVIEW & COMMENT ○ INFORMATION
○ APPROVAL ○ RECOMMENDATION ○ DRAFT REPLY ○ FILE

REMARKS: DERP FUDS (POSITIVE) Possible OEW, see para. 3 of Proj. Planning Stat.
I04FL002300
~~PLS COMMENTS.~~
FORT DADE
BD/DR HTW R. Connell
S: 21 Oct 92

SAD Form 1470 AUG 90 Previous editions of this form are obsolete. Gary Mauldin

#9

CESAD-RE-M (405) 20 October 1992

MEMORANDUM FOR CESAD-PD-R

SUBJECT: DERP - FUDS, INPR, Fort Dade Military Reservation (Site No. 104FL002300)

We concur in the Findings and Determination of Eligibility.

JAMES E. CROWDER
Acting Director of Real Estate

ROUTING SLIP SOUTH ATLANTIC DIVISION, U.S. ARMY CORPS OF ENGINEERS

From: CESAD-PD-R date: 7 OCT 92

- ○ EXECUTIVE OFFICE
  - ☐ Commander — DE
  - ☐ Deputy Commander (Civil) — DD
  - ☐ Deputy Commander (Military) — DM
  - ☐ Executive Assistant — DX
- ○ SPECIAL ASSISTANTS
  - ☐ Small & Disadvantaged Business Utilization — DB
  - ☐ Value Engineering Officer — VE
- ○ DIRECTORATE OF PROGRAMS & PROJECT MANAGEMENT — PP
  - ☐ Assistant Director — PP-A
  - ☐ Civil Programs Management Division — PP-P
  - ☐ Civil Project Management Division — PP-C
  - ☐ Military Project Management Division — PP-M
  - ■ Hazardous/Toxic Waste Restoration & Support for Others Division — PP-H
- ○ AFFIRMATIVE ACTION OFFICE — AA
  - ☐ Equal Employment Opportunity — AA
- ○ DIRECTORATE OF INFORMATION MANAGEMENT — IM
  - ☐ Info Romts & Planning Division — IM-P
  - ☐ Technical Library — IM-PL
  - ☐ Info Support Services Division — IM-S
  - ☐ Comm Design & Ops Branch — IM-SC
    - ☐ COMSEC Center — IM-SCC
    - ☐ Computer Ops Branch — IM-SO
    - ☐ Mail & Records Admin Branch — IM-SR
  - ☐ Customer Assistance Center — IM-C
    - ☐ Reprographics Branch — IM-CR
    - ☐ Applications Support Branch — IM-CS
- ○ DIRECTORATE OF RESOURCE MANAGEMENT — RM
  - ☐ Budget & Manpower Division — RM-B
  - ☐ Finance & Accounting Division — RM-F
  - ☐ Management Analysis Division — RM-M
- ○ AUDIT OFFICE — AO
  - ☐ Internal Review Branch — AO-I
  - ☐ Resident IR Office, Charleston — AO-IC
  - ☐ Contract Audit Branch — AO-K
  - ☐ Resident Audit Office, Jacksonville — AO-KJ
  - ☐ Resident Audit Office, Mobile — AO-KM
  - ☐ Resident Audit Office, Wilmington — AO-KW
- ○ DIRECTORATE OF PLANNING — PD
  - ☐ Assistant Director — PD-S
  - ☐ Economics & Social Analysis Division — PD-E
  - ☐ Planning Assistance & Flood Plain Management Services Division — PD-A
  - ■ Environmental Resources Division — PD-R
  - ☐ Plan Formulation & Program Management Division — PD-P
- ● OFFICE OF COUNSEL — OC
- ○ DIRECTORATE OF ENGINEERING — EN
  - ☐ Assistant Director — EN-A
  - ■ Cost & Value Engineering Division — EN-B
  - ■ Geotechnical & Materials Division — EN-F
    - ☐ Division Lab — EN-FL
    - ☐ Geology Branch — EN-FG
    - ☐ Soils Mechanics Branch — EN-FS
  - ☐ Hydrology & Hydraulics Division — EN-H
    - ☐ Hydraulics & Coastal Engineering Branch — EN-HH
    - ☐ Water Management Branch — EN-HW
  - ☐ Technical Engineering Division — EN-T
    - ☐ Architectural & Site Development Branch — EN-TA
    - ☐ Electrical Branch — EN-TE
    - ☐ Mechanical Branch — EN-TM
    - ☐ Structural Branch — EN-TS
- ○ DIRECTORATE OF CONSTRUCTION-OPERATIONS — CO
  - ☐ Assistant Director — CO-A
  - ■ Construction Division — CO-C
    - ☐ Chemical Demilitarization Construction Management Branch — CO-CD
    - ☐ Programs Management Branch — CO-CM
    - ☐ Quality Assurance Branch — CO-CQ
    - ☐ Construction Files — CO-CX
  - ☐ Operations Division — CO-O
    - ☐ Regulatory Branch — CO-OR
    - ☐ Navigation Branch — CO-ON
  - ☐ Hydropower Management Division — CO-H
  - ☐ Natural Resources Management Division — CO-R
    - ☐ Recreation & Program Branch — CO-RP
    - ☐ Natural Resources Management Branch — CO-RN
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    - ☐ Natural Disaster Branch — CO-ED
    - ☐ National Emergency Branch — CO-EE
    - ☐ Emergency Operations Branch — CO-EO
- ○ DIRECTORATE OF REAL ESTATE — RE
  - ☐ Acquisition Division — RE-
  - ☐ Appraisal Division — RE-
  - ■ Management & Disposal Division — RE-M
  - ☐ Planning & Control Division — RE-
- ○ DIRECTORATE OF LOGISTICS MANAGEMENT — LM
  - ☐ Assistant Director — LM-
  - ☐ Protocol and Conferences — LM-
  - ☐ Transportation/Travel — LM-
  - ☐ Supply Room — LM-
- ○ DIRECTORATE OF HUMAN RESOURCES — EP
  - ☐ Assistant Director — EP-
  - ☐ Management Employee Relations/ Regulatory Services — EP-A
  - ☐ Training & Development — EP-A
  - ☐ Position Mgt & Classification — EP-A
  - ☐ Recruitment & Placement — EP-A
  - ☐ Military Personnel — EP-
  - ☐ Jacksonville Operating Division — EP-
  - ☐ Savannah Operating Division — EP-
  - ☐ Wilmington Operating Division — EP-
- ○ DIRECTORATE OF CONTRACTING — C
- ○ OFFICE OF SECURITY AND LAW ENFORCEMENT — PM
- ● SAFETY & OCCUPATIONAL HEALTH OFFICE — SC
- ○ AIR FORCE REGIONAL CIVIL ENGINEERS EASTERN REGION — AFRCE-E
- ○ HEALTH FACILITIES OFFICE — HFO-E
- ○ MANAGEMENT ENGINEERING BRANCH — CERM-O

FOR: ○ ACTION ○ SIGNATURE ● REVIEW & COMMENT ○ INFORMATION ○ APPROVAL ○ RECOMMENDATION ○ DRAFT REPLY ○ FILE

REMARKS: DERP FUDS (POSITIVE)
I04FL002300
FORT DADE
BD/DR HTW
S: 21 OCT 92

SAD Form 1470 AUG 90 Previous editions of this form are obsolete. Gary MAULDIN

ROUTING SLIP SOUTH ATLANTIC DIVISION, U.S. ARMY CORPS OF ENGINEERS

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