

APPENDIX I

SECTION 404 (B) (1) EVALUATIONS

SECTION 404(b)(1) EVALUATION DREDGED MATERIAL

I. Project Description

- a. Location. Tampa Harbor, Hillsborough County, Florida.
- b. General Description. The Corps is proposing to place dredged material from the construction of the Tampa Harbor-Ybor Turning Basin in the former Garrison Navigation Channel
- c. Authority and Purpose. The study was authorized by two resolutions adopted by the Committee on Public Works, U.S. Senate dated 18 January 1957 and 4 May 1962; and three resolutions adopted by Committee on Public Works, U.S. House of Representatives dated 9 April 1957, 19 June 1963, and 23 June 1964. The Chief of Engineers approved preparation of one report covering all the resolutions on 23 July 1964. Pursuant to Section 204 of the Water Resources Development Act of 1996, the US Army Corps of Engineers was delegated the authority to look for opportunities for using dredged material in a way beneficial to the aquatic environment. Creating habitat and increasing water quality is the purpose of placing dredged material in Garrison Channel.

d. General Description of Dredged or Fill Material

(1) General Characteristics of Material. The excavated material to be placed in the channel was tested On May 7, 1998. Three sample stations in Ybor Channel were sampled as part of the Tampa Harbor Port Sutton 1998 Evaluation of Dredged Material for Ocean Disposal. This evaluation considered dredged material from maintenance dredging and new work in these channels. Materials were found to be predominately silty sands with shell fragments. Aluminum and iron were present in the sediments at much higher concentrations than other heavy metals which were either undetectable or present at low to moderate levels. High aluminum and iron levels are typical of urban environments. No PCBs, pesticides, polynuclear aromatic hydrocarbons, or organotin compounds were detected in any sediments. Chemical testing of elutriates showed low levels for metals, total organic carbon, and ammonia. No pesticides, PCBs, polynuclear aromatic hydrocarbons, organotin compounds, or cyanide were detected in the elutriates.

(2) Quantity of Material. Approximately 165,000 cubic yards of dredged material excavated from the navigation entrance channel will be placed in the channel.

(3) Source of Material. The material will be excavated from within the Tampa

Harbor-Ybor Turning Basin. This area is a shallow-water area adjacent to the existing channel.

e. Description of the Proposed Discharge Site.

- (1) Size and Location. The placement area is located in the Port of Tampa in the former Garrison Navigation Channel. It can hold approximately 165,000 cubic yards of material.
- (2) Type of Site. The site is a former navigation channel that connects Ybor Turning Basin and Sparkman Channel. The channel has a maximum depth of 12 feet.
- (3) Type of Habitat. It is a former navigation channel.
- (4) Timing and Duration of Discharge. There is no exact timing and length of project designated.

f. Description of Disposal Method. A clam-shell dredge would excavate the heavier grained material and placed into a barge. The clam-shell would create underwater berms on either end of Garrison Channel to prevent sloughing of finer-grained material into adjacent areas. Other finer-grained material would be placed in between the berms. Turbidity curtains would be employed to reduced turbidity and meet standards.

II. Factual Determinations

a. Physical Substrate Determinations.

- (1) Substrate Elevation and Slope. There is no slope and the bottom elevation is within 15 feet of mlw.
- (2) Sediment Type: predominately silty sands with shell fragments.
- (3) Dredged/Fill Material Movement. The dredged material is not likely to movement because it is a low energy area and the channel acts as a sediment trap for silty material.
- (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. Fisheries at or near the disposal area should not experience

substantive adverse 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 its 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. Turbidity would be controlled to not impact adjacent areas.

(6) Actions Taken to Minimize Impacts. Turbidity curtains or flocculents could be employed to reduce impacts on adjacent areas. The standard manatee protection conditions would also be employed to reduce potential for impacts.

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. There would be improved water quality at the site from the increased dissolved oxygen levels.

(h) Nutrients. The material to be discharged is mainly silty 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. Raising the bottom elevation of Garrison Channel will increase tidal flows in the channel and produce greater flushing resulting in improved water quality.
- (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.

c. Suspended Particulate/Turbidity Determinations

- (1) Expected Changes in Suspended Particulate and Turbidity Levels in Vicinity of Disposal Site. Impacts at the dredging site are expected to be minimal and of short duration. No long-term impacts are anticipated. 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 an increase in dissolved oxygen at this location from the reduced bottom depths.
 - (c) Toxic Metals and Organics. Aluminum and iron were present in the sediments at much higher concentrations than other heavy metals which were either undetectable or present at low to moderate levels. High aluminum and iron levels are typical of urban environments. No PCBs, pesticides, polynuclear aromatic hydrocarbons, or organotin compounds were detected in any sediments. 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. By raising the bottom elevation there would be an increase in primary production.

(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. The excavated material to be placed in the channel was tested On May 7, 1998. Three sample stations in Ybor Channel were sampled as part of the Tampa Harbor Port Sutton 1998 Evaluation of Dredged Material for Ocean Disposal. Aluminum and iron were present in the sediments at much higher concentrations than other heavy metals which were either undetectable or present at low to moderate levels. High aluminum and iron levels are typical of urban environments. No PCBs, pesticides, polynuclear aromatic hydrocarbons, or organotin compounds were detected in any sediments. Chemical testing of elutriates showed low levels for metals, total organic carbon, and ammonia. No pesticides, PCBs, polynuclear aromatic hydrocarbons, organotin compounds, or cyanide were detected in the elutriates.

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. None would be affected.
- (7) Other Wildlife. Not applicable.
- (8) Actions to Minimize Impacts. No actions are necessary.

f. Proposed Disposal Site Determinations

- (1) Mixing Zone Determination. Not applicable
- (2) Determination of Compliance with Applicable Water Quality Standards: The proposed project will not result in any violation of State water quality criteria.
- (3) Potential Effects on Human Use Characteristic
 - (a) Municipal and Private Water Supply. Not applicable.
 - (b) Recreational and Commercial Fisheries. There would be no change due to the poor water quality in the Port.
 - (c) Water Related Recreation. Not applicable.
 - (d) Aesthetics. The proposed discharge would increase noise and scenic degradation along the shoreline near the residential area in the Garrison Channel.
 - (e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. Not applicable.

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.

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