

**SECTION 404(b)(1) EVALUATION REPORT**  
**MAINTENANCE DREDGING OF THE**  
**TWO-MILE CHANNEL**  
**FEDERALLY AUTHORIZED NAVIGATION PROJECT**  
**FRANKLIN COUNTY, FLORIDA**

**PURPOSE:** To ensure that the proposed placement of fill material does not violate any applicable State water quality standards; or does not violate the Toxic Effluent Standard of Section 307 of the Clean Water Act (CWA). Further to ensure placement of fill material would not jeopardize the continued existence of any federally listed endangered or threatened species or contribute to significant degradation of waters of the United States.

**I. PROJECT DESCRIPTION:**

A. **Location:** The Two-Mile Federal Navigation Channel is located in Apalachicola Bay south of the city of Apalachicola, Franklin County, Florida. A previously approved placement area to the northwest of the channel that will be utilized for sediment placement.

B. **General Description:** The proposed action consists of removing approximately 450,000 cubic yards (cy) of sediment to bring the Two-Mile channel back to its federally authorized dimensions. Future maintenance dredging to remove approximately 50,000 cy of sediment will occur approximately every 5-10 years. The channel will be dredged to a design depth of -6 feet (ft) mean low low water (MLLW) plus 2 ft. of advanced maintenance and 2 ft. for allowable overdepth. Material dredged from the Two-Mile channel will be placed in a 40-acre upland placement area on the Apalachicola Airport property north of U.S. Highway 98.

C. **Authority and Purpose:** Improvements at Two Mile were authorized initially 21 November 1963 by Chief of Engineers under authority in Section 107 of the River and Harbor Act of 14 July 1960. Modifications to the Two-Mile project to provide for breakwaters paralleling the existing channel, and an extension channel 6 feet deep by 100 feet wide and about 9,000 feet long extending eastward to the Gulf Intracoastal Waterway by the Chief of Engineers under 107 authority. Other features of existing project were authorized by River and Harbor Acts of 3 September 1954 (H. Doc. 557, 82d Congress, 2d Sess.), 3 July 1958, and prior acts.

D. **General Description of Dredged or Fill Material:**

(1) **General Characteristics of Material:** The sediments of the dredge channel vary, with clayey sands dominating at the ends of the channel and clays dominating the interior. Clay sediments were classified as high plasticity, elastic silt and were comprised of approximately 89.45 percent fine material. Sandy sediments were clayey sands comprised of approximately 69.9 percent sand.

(2) **Quantity of Material:** The proposed action consists of removing approximately 450,000 cubic yards (cy) of sediment to bring the channel back to the federally authorized dimensions. Future maintenance dredging to remove approximately 50,000 cy of sediment will likely occur approximately every 5-10 years.

(3) **Source of Material:** Material consists of clays, sands and silts dredged from within the Federal navigation channel.

**E. Description of the Proposed Discharge Site:**

(1) **Location:** A previously approved upland placement area to the northwest of the channel will be utilized for sediment placement.

(2) **Size:** The upland placement area covers approximately 40 acres.

(3) **Type of Site:** The upland placement area was constructed in September of 1999. The dikes surrounding the area were constructed to +20 feet Mean Lower Low Water, with a slope of 2:1 and a crown width of 8 feet. The area has four interior cells and four weir boxes, allowing increased settling time for fine-grained sediments. With regular use, the placement area has an expected 50 years of useful life.

(4) **Type of Habitat:** The confined upland placement area is a previously used diked material management area consisting of some native vegetation.

(5) **Timing and Duration of Discharge:** Maintenance dredging and disposal would be performed on an as needed basis. The frequency of channel dredging and the associated time between uses of the upland placement area ranges on an average from once every 5-10 years. Maintenance dredging cycles typically require 2-3 months to complete.

**F. Description of the Placement Method:** The contractor will use a hydraulic pipeline or mechanical dredge and the dredged material would be pumped via pipeline to the upland placement area. Placement will occur in a previously used, diked dredge material management area.

**II. Factual Determinations (Section 230.11):**

**A. Physical Substrate Determinations:**

(1) **Substrate Elevation and Slope:** The preferred alternative would have no adverse impacts on the existing substrate elevation and slope within the project vicinity. The project would result in the removal of substrate as needed to a depth of -6 feet MLLW with two feet of advanced maintenance and two feet of allowable overdepth within the project area. The upland placement area ranges in elevation, but a minimum of 2 feet of freeboard is maintained at the top.

(2) **Sediment Type:** The dredged material proposed for disposal is composed of primarily sand, silts and clays.

(3) **Dredged/Fill Material Movement.** The material placed within the confined upland placement area would be retained within the area.

(4) **Physical Effects on Benthos.** Disruption in the benthic community is expected to be temporary and minimal. Immobile benthic fauna within the proposed project area may be covered, but the community should repopulate within several months of completion. Mobile benthic fauna will likely avoid the disturbed area and return upon project completion. No adverse impacts are anticipated to occur to benthos at the confined upland placement area.

(5) **Other effects.** No other effects are anticipated.

(6) **Actions Taken to Minimize Impacts (Subpart H).** The material will be placed using a pipeline into a diked management area. No other actions to minimize impacts are deemed appropriate for this project.

**B. Water Column Determinations:**

(1) **Salinity.** There would be no change in salinity gradients or patterns.

(2) **Water Chemistry (pH, etc.).** No effect.

(3) **Clarity.** Minor increases in turbidity may be experienced in the immediate vicinity of the project during disposal operations. However, these increases will be temporary and would return to pre-project conditions shortly after completion.

(4) **Color.** No effect.

(5) **Odor.** No effect.

(6) **Taste.** No effect.

(7) **Dissolved Gas Levels.** Temporary decreases in dissolved oxygen could likely result from the operations. If decreases occur, they will be of a short duration. No significant effect to the water column is anticipated.

(8) **Nutrients.** Slight increases in nutrient concentrations may occur; however, these would rapidly return to normal. These described increases would have no significant effect to the water column.

(9) **Eutrophication.** No effect.

**C. Water Circulation, Fluctuation, and Salinity Gradient Determinations:**

**(1) Current Patterns and Circulation.**

(a) **Current Patterns and Flow.** No changes to currents are anticipated to result from the use of the upland placement area.

(b) **Velocity.** No effect.

(2) **Stratification.** No effect.

(3) **Hydrologic Regime.** No effect.

(4) **Normal Water Level Fluctuations.** No effect.

(5) **Salinity Gradient.** The salinities in the project vicinity are highly variable due to the inflow of freshwater from surrounding rivers and the tidal influence from the Gulf of Mexico. No effect on the salinity gradient is anticipated.

**D. Suspended Particulate/Turbidity Determination:**

(1) **Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Placement Site:** Dredged material consists of fine silt, clays and sandy particles. Impacts from sediment disturbance during dredging operations are expected to be temporary, minimal and similar to conditions experienced during past routine operation and maintenance of the Two-Mile channel. Suspended particles are expected to settle out within a short time frame (hours to days), with no long-term significant effects on water quality. Turbidity during disposal is not expected to violate State water quality certification criteria.

**(2) Effects on Chemical and Physical Properties of the Water Column:**

(a) **Light Penetration.** No significant effects.

(b) **Dissolved Oxygen.** No significant effects.

(c) **Toxic Metals and Organics.** No effects.

(d) **Pathogens.** No effect.

(e) **Esthetics.** No effect.

**(3) Effects on Biota:**

(a) **Primary Production Photosynthesis.** No significant effects.

(b) **Suspension/Filter Feeders.** No significant effects.

(c) **Sight Feeders.** Shorebirds tend to be attracted to associated placement activities due to the presence of food items in the sediment.

(4) **Actions Taken to Minimize Impacts (Subpart H).** No further actions are deemed appropriate.

E. **Contaminant Determinations.** The dredged material within the channel was tested in 2020. Test results indicate that all of the sediments are suitable for open-water placement and that all of the sediment is suitable for placement within the designated upland containment areas.

Sediment and elutriate chemistry tests were run on samples of channel sediments and site waters in 2020. Sediment chemistry results showed that were some metals and TPH with concentrations that were above the residential exposure criteria or the default leachability criteria. Therefore, additional testing was conducted to further assess the dredge material and determine its suitability for upland disposal. Mercury was the only metal detected in elutriate chemistry testing. Synthetic precipitation leaching procedure tests detected chromium, but the result did not exceed the groundwater quality criteria. No metals exceeded Florida's Class II surface water quality criteria. Total petroleum hydrocarbons were not detected during elutriate testing and no results for them exceeded marine surface water quality criteria. Results from those additional analyses indicate that the dredge material meets residential exposure criteria, default leachability criteria, and marine surface water and groundwater criteria, as applicable.

Based on all of the results of this testing, all sediment analytes are within applicable Florida Department of Environmental Protection regulatory criteria. All of the material is suitable for placement in the proposed placement area.

**F. Aquatic Ecosystem and Organism Determinations:**

(1) **Effects on Plankton.** No significant effects.

(2) **Effects on Benthos.** No significant long-term effects would occur to the benthos.

(3) **Effects on Nekton.** No significant effects.

(4) **Effects on Aquatic Food Web.** No significant effects.

**(5) Effects on Special Aquatic Sites.** No effect.

(a) **Sanctuaries and Refuges.** No effect.

(b) **Wetlands.** No significant effects

(c) **Mud Flats.** Not applicable.

(d) **Vegetated Shallows.** No significant impacts to the submerged aquatic vegetation (SAV) were identified in this evaluation. The EA provides a description of all known SAVs sites within the vicinity of the project area. Prior to any dredging or placement activities within these areas, proper coordination with all appropriate agencies will be made, and suitable placement plans will be determined to avoid adverse impacts.

(e) **Coral Reefs.** Not applicable.

(f) **Riffle and Pool Complexes.** Not applicable.

**(6) Effects on Threatened and Endangered Species.:** The USACE, Mobile District has determined that the West Indian manatee and the Gulf sturgeon federally listed species, may be affected but are not likely to be adversely affected as a result of the proposed action. In addition, the proposed action is not likely to destroy or adversely modify Gulf sturgeon critical habitat. The USACE, Mobile District will coordinate with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service via public notice and coordination correspondence.

**(7) Effects on Other Wildlife.** No significant effects.

**(8) Actions to Minimize Impacts.** No other actions to minimize impacts on the aquatic ecosystem are deemed appropriate.

**G. Proposed Disposal Site Determinations:**

**(1) Mixing Zone Determination.** The State of Florida will specify an appropriate mixing zone upon issuance of a state water quality certification and Environmental Resources Permit. Typical mixing zone requirements for a project similar to this would be a mixing zone of approximately 150 meters and sampled turbidity readings not exceeding 29 nephelometric turbidity units (NTU).

**(a) Depth of water at the disposal sites.** Material will be placed in an upland disposal area.

**(b) Current velocity, direction, and variability at the disposal site.**  
No effect.

(c) **Degree of turbulence.** Not significant.

(d) **Stratification attributable to causes such as obstructions, salinity or density profiles at the disposal site.** No effect.

(e) **Discharge vessel speed and direction, if appropriate.** No effect.

(f) **Rate of discharge.** Rate of discharge will vary according to the particular type of dredge disposing of the material.

(g) **Ambient concentrations of constituents of interest.** Sediment sampling and analysis was completed in 2020 to determine presence of potential contaminants in dredged sediments. No ambient constituents exceeded levels of concern. Further information regarding sediment sampling and results can be found in the associated Draft EA. Specific data tables and further analyses of testing results are presented in as an enclosure to the associated EA.

(h) **Dredged material characteristics, particularly concentrations of constituents, amount of material, type of material (sand, silt, clay, etc.) and settling velocities.** The proposed action consists of removing approximately 450,000 cubic yards (cy) of sediment to bring the channel back to the federally authorized dimensions. Future maintenance dredging to remove approximately 50,000 cy of sediment will likely occur approximately every 5-10 years. The sediments of the dredge channel vary, with clayey sands dominating at the ends of the channel and clays dominating the interior. Clay sediments were classified as high plasticity, elastic silt and were comprised of approximately 89.45 percent fine material. Sandy sediments were clayey sands comprised of approximately 69.9 percent sand. Settling of dredged material upon placement in the upland placement area is anticipated.

(i) **Number of discharge actions per unit of time.** The number of discharge actions per unit of time will vary depending upon the particular disposal activity.

(2) **Determination of Compliance with Applicable Water Quality Standards.** The proposed activity is in compliance with all applicable water quality standards.

(3) **Potential Effects on Human Use Characteristics.**

(a) **Municipal and Private Water Supply.** No effect.

(b) **Recreational and Commercial Fisheries.** Recreational and commercial fishing would be temporarily impacted primarily as a result of the physical presence of heavy equipment during operation activities.

(c) **Water Related Recreation.** No significant effects.

(d) **Aesthetics.** No significant effects.

(e) **Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves.** No effect.

(f) **Other Effects.** No effect.

H. **Determination of Cumulative Effects on the Aquatic Ecosystem.** The proposed action is not expected to have significant cumulative adverse impacts.

I. **Determination of Secondary Effects of the Aquatic Ecosystem.** The proposed action is not expected to have any significant secondary adverse effects on the aquatic ecosystem.

### III. **Finding of Compliance with the Restrictions on Discharge:**

A. No significant adaptations of the Section 404(b)(1) guidelines were made relative to this evaluation.

B. The proposed discharge represents the least environmentally damaging practicable alternative.

C. The planned placement of dredged materials would not violate any applicable State water quality standards; nor will it violate the Toxic Effluent Standard of Section 307 of the Clean Water Act (CWA).

D. Use of the previously authorized confined upland placement area will not jeopardize the continued existence of any federally listed endangered or threatened species or their critical habitat provided the specified conditions in this document are implemented during maintenance dredging and disposal operations.

E. The proposed placement of fill material will not contribute to significant degradation of waters of the United States, nor will it result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing; life stages of organisms dependent upon the aquatic ecosystem; ecosystem diversity, productivity and stability; or recreational, aesthetic or economic values.

F. Appropriate and practicable steps will be taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

DATE \_\_\_\_\_

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Sebastien P. Joly  
Colonel, U.S. Army  
District Commander