



Port Fourchon Belle Pass Channel Deepening Project, Louisiana



Appendix C: Hydraulics and Hydrodynamics – Draft Clean Water Act Section 404(b)(1)

January 2025

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Port Fourchon Federal Channel Deepening 404(b)(1) Short Form

The following short form 404(b) (1) evaluation follows the format designed by the U.S. Army Corps of Engineers, New Orleans District, Office of the Chief of Engineers (CEMVN-OCE). As a measure to avoid unnecessary paperwork, and to streamline regulation procedures, while fulfilling the spirit and intent of environmental statutes, CEMVN is using this format for all proposed project elements requiring a 404(b)(1) evaluation but involving no adverse significant impacts.

PROJECT DESCRIPTION

This 404(b)(1) short form is for the Port Fourchon federal channel deepening project. Deepening would be achieved by the same dredging operation that is currently used for maintenance. The existing maintenance project was authorized for a navigation channel 300 ft wide with an elevation of -24 ft Mean Lower Low Water (MLLW) on the inland reach for mile 3.4 to Mile 0.0 and to an elevation of -26 ft MLLW for the offshore reach from Mile 0.0 to Mile -1.3. The proposed action would dredge the Federal navigation channel to an elevation of -30 ft MLLW for the inland reach plus 3 ft of advanced maintenance and to -32 ft MLLW for the offshore reach plus 4 ft of advanced maintenance (Figure 1). The proposed action follows the alignment of the existing maintenance project and extends to the newly authorized limits following the natural contour of the Gulf of America. Dredging would be accomplished with a hydraulic cutter-head dredge and material excavated would be transported to two (2) sites in a slurry via pipeline. The two dredge material disposal sites are located on the exterior of the existing jetties near the intersection with the existing shoreline.

Discharge location would be 200 ft offshore and would extend 300 – 3000 ft from the jetties in the shallow open water and be allowed to flow (Figure 1). Construction access for dredge, attendant plant, and discharge line is in open water. No upland areas would be utilized for construction or maintenance of the project. In addition, there are two pipelines that have the potential to interfere with the proposed dredge action that require removal prior to construction.

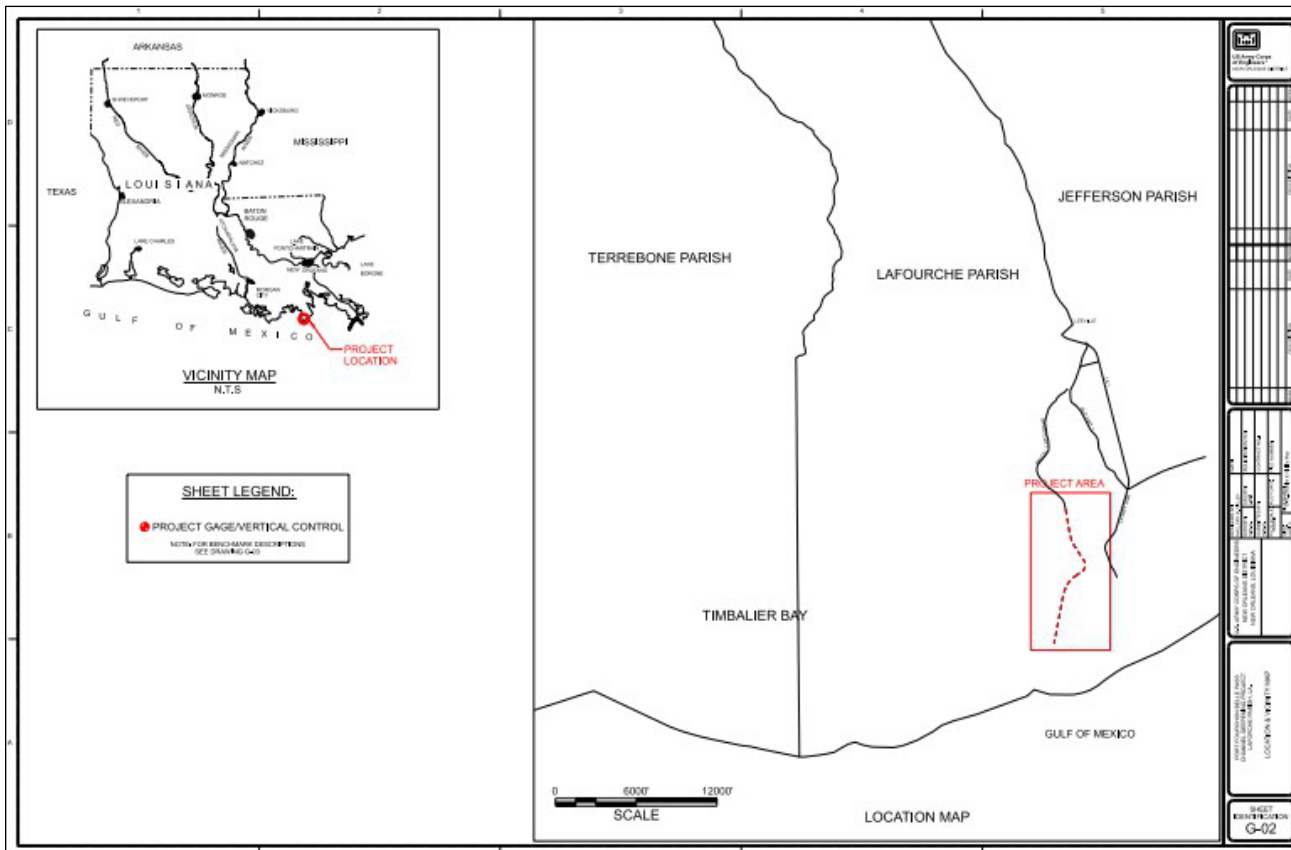


Figure 1. Project Vicinity Map



Figure 2. Project Area Map, Green Line is Inland Reach, Purple Line is Offshore Reach

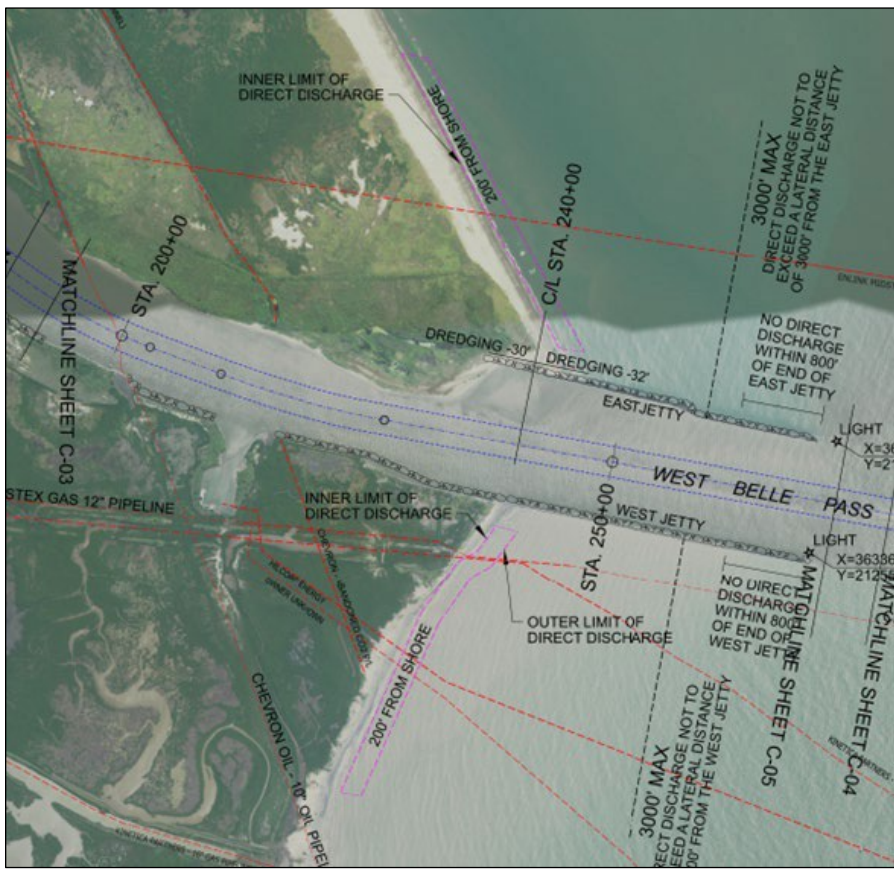


Figure 3. Disposal Area Plan View

1. Review of Compliance (§230.10 (a)-(d))

A review of this project indicates that:

	Preliminary ¹		Final ²	
	Yes	No	Yes	No
a. The discharge represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see Section 2 and information gathered for environmental assessment alternative)	x			
b. The activity does not appear to: i. violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act; ii. jeopardize the existence of Federally listed endangered or threatened species or their habitat; and iii. violate requirements of any Federally designated marine sanctuary (if no, see Section 2b and check responses from resource and water quality certifying agencies)	x			
c. The activity will not cause or contribute to significant degradation of waters of the United States including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, esthetic, and economic values (if no, see Section 2)	x			
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see Section 5)	x			

2. Technical Evaluation Factors (Subparts C-F)

- a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)

N/A	Not Significant	Significant ^{3,5}
i. Substrate impacts	X	
ii. Suspended particulates/turbidity impacts.	X	
iii. Water column impacts	X	
iv. Alteration of current patterns and water circulation	X	
v. Alteration of normal water fluctuations/hydroperiod	X	
vi. Alteration of salinity gradients	X	

b. Biological Characteristics of the Aquatic Ecosystem (Subpart D)

i. Effect on threatened/endangered species and their habitat	x	
ii. Effect on the aquatic food web	x	
iii. Effect on other wildlife (mammals, birds, reptiles, and amphibians)	x	

c. Special Aquatic Sites (Subpart E)

i. Sanctuaries and refuges	x	
ii. Wetlands	x	
iii. Mud flats	x	
iv. Vegetated shallows	x	
v. Coral reefs	x	

vi. Riffle and pool complexes

x		
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d. Human Use Characteristics (Subpart F)

- i. Effects on municipal and private water supplies
- ii. Recreational and commercial fisheries impacts
- iii. Effects on water-related recreation.
- iv. Esthetic impacts
- v. Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves

X		
	X	
	X	
	X	
	X	

3. Evaluation of Dredged or Fill Material (Subpart G)

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material.

- i. Physical characteristics X
- ii. Hydrography in relation to known or anticipated sources of contaminants _____
- iii. Known, significant sources of persistent pesticides from land runoff or percolation _____
- iv. Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances X
- v. Other public records of significant introduction of contaminants from industries, municipalities, or other sources X
- vi. Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities _____

Appropriate references: See Encl 2

- b. An evaluation of the appropriate information in 3.a above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or the material meets the testing exclusion criteria.⁶

Yes	No ³
X	

4. Disposal Site Delineation (§230.11(f))

- a. The following factors, as appropriate, have been considered in evaluating the disposal site.

i. Depth of water at disposal site	X
ii. Current velocity, direction, and variability at disposal site	X
iii. Degree of turbulence	X
iv. Water column stratification	X
v. Discharge vessel speed and direction	X
vi. Rate of discharge	X
vii. Dredged or fill material characteristics (constituents, amount, and type of material, settling velocities)	X
viii. Number of discharges per unit of time	—
ix. Other factors affecting rates and patterns of mixing (specify)	—
	—

Appropriate references: See Encl 2

- b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable

Yes	No ³
X	

5. Actions to Minimize Adverse Effects (Subpart H)

All appropriate and practicable steps have been taken, through application of the recommendations of §230.70-230.77, to ensure minimal adverse effects of the proposed discharge

Yes	No ³
X	

6. Factual Determination (§230.11)

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short- or long-term environmental effects of the proposed discharge as related to:

- a. Physical substrate at the disposal site (review sections 2a, 3, 4, and 5 above)
- b. Water circulation, fluctuation and salinity (review sections 2a, 3, 4, and 5)
- c. Suspended particulates/turbidity (review sections 2a, 3, 4, and 5)
- d. Contaminant availability (review sections 2a, 3, and 4)
- e. Aquatic ecosystem structure and function (review sections 2b and c, 3, and 5)
- f. Disposal site (review sections 2, 4, and 5)
- g. Cumulative impact on the aquatic ecosystem
- h. Secondary impacts on the aquatic ecosystem

Yes	No ³
X	
X	
X	
X	
x	
x	
x	
x	

¹ Negative responses to three or more of the compliance criteria at this stage indicates that the proposed projects may not be evaluated using this "short form procedure". Care should be used in assessing pertinent portions of the technical information of items 2a-d, before completing the final review of compliance.

² Negative responses to one of the compliance criteria at this stage indicates that the proposed project does not comply with the guidelines. If the economics of navigation and anchorage of Section 404(b)(2) are to be evaluated in the decision-making process, the "short form" evaluation process is inappropriate.

³ A negative, significant, or unknown response indicates that the project may not be in compliance with the Section 404(b)(1) Guidelines.

⁴ For 1.b., review is for i. only (i.e., The activity does not appear to violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act)

⁵ Where a check is placed under the significant category, the preparer has attached explanation.

⁶ If the dredged or fill material cannot be excluded from individual testing, the "short form" evaluation process is inappropriate.

7. Evaluation Responsibility

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May 14, 2024

8. Findings

- | | | |
|------|---|-------|
| a. | The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines | x |
| b. | The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s): | _____ |
| i. | There is a less damaging practicable alternative | _____ |
| ii. | The proposed discharge will result in significant degradation of the aquatic ecosystem | _____ |
| iii. | The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem | _____ |

Date: 25 July 2024

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