

## **Section 404(b)(1) Evaluation**

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

### **PROJECT TITLE: NON-FEDERAL PLAQUEMINES LEVEE REHABILITATION MITIGATION Big Mar**

**PROJECT DESCRIPTION.** CEMVN Task Force (TF) Unwatering rehabilitated breaches in two non-Federal Levee systems in Plaquemines Parish, Louisiana after Hurricanes Katrina and Rita. Breaches in the Plaquemines Parish East Bank Back levee (Braithwaite and Scarsdale) and the West Bank Back levee (Citrus Lands) were rehabilitated. The actions taken by TF Unwatering resulted in the loss 21.3 acres of fresh intermediate marsh.

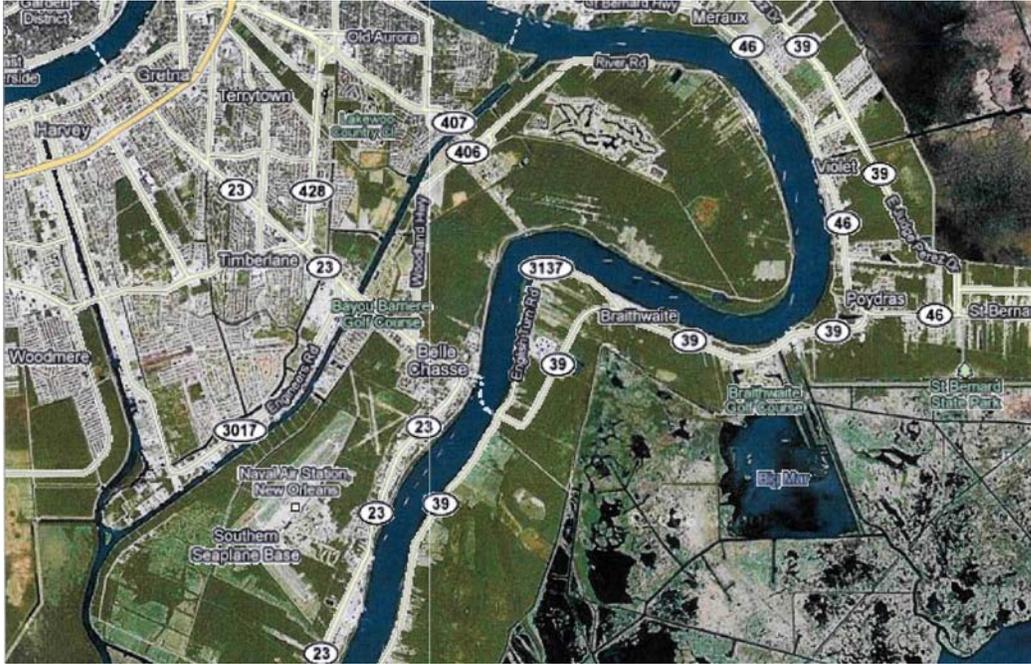
The USFWS quantified unavoidable project impacts on fresh/intermediate marsh wildlife resources and calculated mitigation needs for the TF Unwatering effort through the use of Wetland Value Assessment (WVA). These models were used to calculate a total of 12.1 Average Annual Habitat Units (AAHU) of freshwater marsh impacted by TF Unwatering efforts.

CEMVN is proposing to mitigate for freshwater marsh loss due to the actions of TF Unwatering. This site has been chosen as mitigation for the impacts incurred during the TF Unwatering and rehabilitation of the Braithwaite and Scarsdale breaches.

### **PROPOSED ACTION**

The proposed marsh creation site is located to the west of the Big Mar, which is the outfall of the Caernarvon outflow channel. Both Big Mar and the marsh creation site are located on the east bank of the Mississippi River in Plaquemines Parish in the immediate vicinity of the Braithwaite and Scarsdale breach repair sites (Figures 1 and 4). The existing condition of the marsh creation site consists of open water areas that were once fresh marsh. Some plants currently found in this area are delta duck potato, cattails, water hyacinth, and willow (Figures 2 and 3).

**Figure 1. Big Mar Project Area**



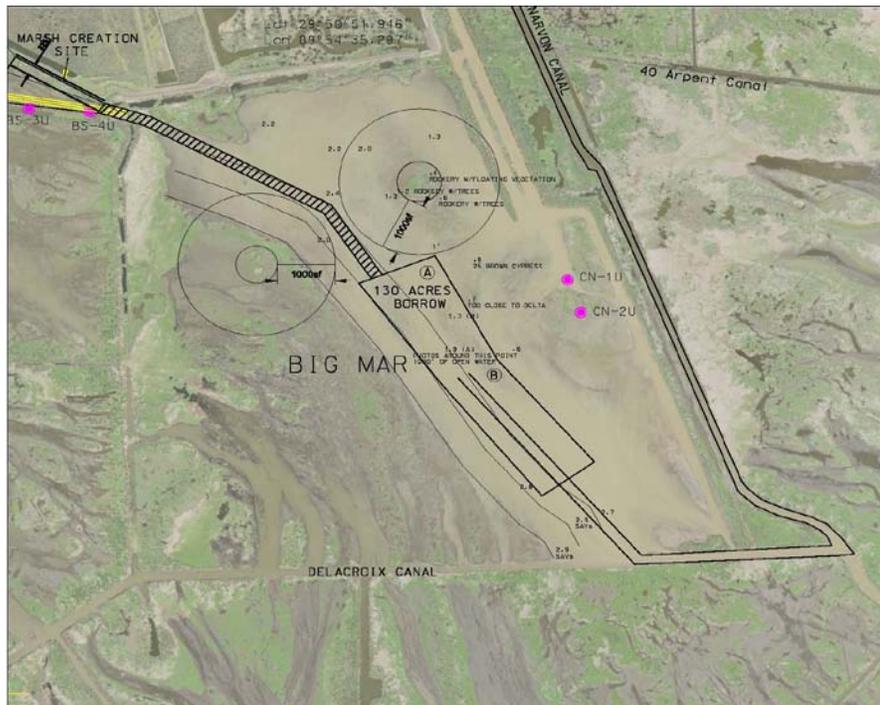
**Figure 2. Image of proposed marsh creation site**



Figure 3. Image of proposed marsh creation site



Figure 4: New Proposed Borrow Site



Approximately 150,000 CY of material would be excavated and hydraulically pumped from the borrow area (an area of 130 acres) to the marsh creation site. Approximately 150,000 CY would be deposited in the marsh creation site to create approximately 24 acres of new marsh. Material would be placed to elevation (+) 3.0 ft NAVD88. An excavator would be used to dig flotation to the marsh creation site. The access route would be dredged to a depth of (-) 6.0 ft. The material would be placed directly adjacent to the access route at alternating intervals as to not disturb the hydrology of the area and not to restrict water depth. The construction access flotation channels will be backfilled with the original substrate after the project is finished.

A bucket dredge would also be utilized to repair or construct containment dikes around the marsh creation site. The existing non-federal levee and remnant oil and gas access canal spoil banks would be utilized as the base for the marsh creation site containment dikes. Approximately 34,500 CY of material would be excavated from within Big Mar and the proposed marsh creation site to be utilized for dike/spoil bank refurbishment.

The staging area would be located in a previously disturbed location along the northwest end of Caernarvon Canal. This area is a stone parking lot for a private boat ramp area. No wetlands would be impacted by the staging area.

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

Preliminary<sup>1</sup>

Final<sup>2</sup>

A review of this project indicates that:

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);

YES	NO*	YES	NO
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b. The activity does not appear to: (1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the Clean Water Act; (2) jeopardize the existence of Federally listed endangered or threatened species or their habitat; and (3) violate requirements of any Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies);

YES	NO*	YES	NO
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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);

YES	NO*	YES	NO
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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).

YES	NO*	YES	NO
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2. Technical Evaluation Factors (Subparts C-F).

N/A    Not Significant    Significant\*

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

- (1) Substrate impacts.
- (2) Suspended particulates/turbidity impacts.
- (3) Water column impacts.
- (4) Alteration of current patterns and water circulation.
- (5) Alteration of normal water fluctuations/hydroperiod.
- (6) Alteration of salinity gradients.

		x
	x	
	x	
	x	
	x	
	x	

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

- (1) Effect on threatened/endangered species and their habitat.
- (2) Effect on the aquatic food web.
- (3) Effect on other wildlife (mammals, birds, reptiles, and amphibians).

	x	
	x	
	x	

c. Special Aquatic Sites (Subpart E).

- (1) Sanctuaries and refuges.
- (2) Wetlands.
- (3) Mud flats.
- (4) Vegetated shallows.
- (5) Coral reefs.
- (6) Riffle and pool complexes.

x		
	x	
x		
x		
x		
x		

d. Human Use Characteristics (Subpart F).

- (1) Effects on municipal and private water supplies.
- (2) Recreational and commercial fisheries impacts.
- (3) Effects on water-related recreation.
- (4) Esthetic impacts.
- (5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.

x		
	x	
	x	
x		
x		

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

2.a.(1) – Substrate Impacts: There would be significant impacts to the substrate due to the overlay of dredged material into the targeted area, changing it from mostly open water to freshwater marsh. This action would restore the area to historical substrate elevations, which is expected to result in long-term environmental benefits to the area. Dredged material discharge into the project area would adversely affect immobile organisms, as they would be smothered by dredged material placed within the site. Aquatic organisms are expected to gradually reestablish from adjacent areas not affected by the dredging and disposal activities. It is expected that organisms present in adjacent marsh would migrate to this area with the establishment of new marsh vegetation.

3. Evaluation of Dredged or Fill Material (Subpart G).<sup>3</sup>

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

(1) Physical characteristics .....	<u>    X    </u>
(2) Hydrography in relation to known or anticipated sources of contaminants .....	<u>    X    </u>
(3) Results from previous testing of the material or similar material in the vicinity of the project .....	<u>    X    </u>
(4) Known, significant sources of persistent pesticides from land runoff or percolation .....	<u>          </u>
(5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances .....	<u>    X    </u>
(6) Other public records of significant introduction of contaminants from industries, municipalities, or other sources .....	<u>    X    </u>
(7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities .....	<u>          </u>
(8) Other sources ..See references below.....	<u>    X    </u>

Appropriate references:

- a. U.S. Army Corps of Engineers (USACE), 404 (b)(1) Evaluation (Long Form) - MRGO Restoration, July 2010
- b. USACE, White's Ditch Diversion Water Quality Assessment, September 2010
- c. US Coast Guard, National Response Center: <http://www.nrc.uscg.mil/nrchp.html>
- d. US EPA, CERCLIS Database of Hazardous Waste Sites: [www.epa.gov/superfund/sites/cursites/index.htm](http://www.epa.gov/superfund/sites/cursites/index.htm)
- e. US EPA, EnviroMapper StoreFront: <http://www.epa.gov/enviro/html/em/index.html>
- f. US EPA, National Recommended Water Quality Criteria, 2006: <http://epa.gov/waterscience/criteria/wqcriteria.html>
- g. US EPA, Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, July 2004: <http://www.epa.gov/owow/wetlands/pdf/40cfrPart230.pdf>
- h. Louisiana Department of Environmental Quality (LDEQ) 2008a. Ambient Surface Water Quality Monitoring Data website. <http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2421>. Last accessed on January 13, 2009.
- i. LDEQ 2008b. Chapter 11 Surface Water Quality Standards. <http://www.deq.louisiana.gov/portal/LinkClick.aspx?link=planning%20fregs%20title33%2033v09.pdf&tabid=1674>. Last accessed on November 17, 2008
- j. National Oceanic and Atmospheric Administration (NOAA) 2006. *Screening Quick Reference Tables*. [http://response.restoration.noaa.gov/type\\_topic\\_entry.php?RECORD\\_KEY%28entry\\_topic\\_type%29=entry\\_id,topic\\_id,type\\_id&entry\\_id\(entry\\_topic\\_type\)=90&topic\\_id\(entry\\_topic\\_type\)=2&type\\_id\(entry\\_topic\\_type\)=2](http://response.restoration.noaa.gov/type_topic_entry.php?RECORD_KEY%28entry_topic_type%29=entry_id,topic_id,type_id&entry_id(entry_topic_type)=90&topic_id(entry_topic_type)=2&type_id(entry_topic_type)=2). Last accessed on November 18, 2008

b. An evaluation of the appropriate information in 3a 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.

YES

NO\*

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

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

- |  |       |
|--|-------|
| (1) Depth of water at disposal site .....  | x     |
| (2) Current velocity, direction, and variability at disposal site .....                                      | x     |
| (3) Degree of turbulence .....   | x     |
| (4) Water column stratification .....  | x     |
| (5) Discharge vessel speed and direction .....   | _____ |
| (6) Rate of discharge .....  | _____ |
| (7) Dredged material characteristics (constituents, amount, and type of material, settling velocities) ..... | x     |
| (8) Number of discharges per unit of time .....  | _____ |
| (9) Other factors affecting rates and patterns of mixing (specify) .....                                     | _____ |

Appropriate references:

Same as 3(a)

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\*

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\*

Actions taken: All newly dredged flotation access channels would be backfilled at the conclusion of the project. The construction of containment dikes around the marsh creation site would lessen the impacts of increased turbidity and other water column impacts during the placement of the dredged material into the marsh creation area and its subsequent dewatering. The staging area for the project will be located in a previously disturbed location along the northwest end of the Caernarvon Canal (see Figure 4). The location is a stone parking lot for a private boat launch area, and no wetlands would be impacted by the staging area.

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). | <input type="checkbox"/> YES | NO* |
| b. Water circulation, fluctuation and salinity (review sections 2a, 3, 4, and 5).   | <input type="checkbox"/> YES | NO* |
| c. Suspended particulates/turbidity (review sections 2a, 3, 4, and 5)               | <input type="checkbox"/> YES | NO* |
| d. Contaminant availability (review sections 2a, 3, and 4).                         | <input type="checkbox"/> YES | NO* |
| e. Aquatic ecosystem structure and function (review sections 2b and c, 3, and 5).   | <input type="checkbox"/> YES | NO* |
| f. Disposal site (review sections 2, 4, and 5).                                     | <input type="checkbox"/> YES | NO* |
| g. Cumulative impact on the aquatic ecosystem.                                      | <input type="checkbox"/> YES | NO* |
| h. Secondary impacts on the aquatic ecosystem.                                      | <input type="checkbox"/> YES | NO* |

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

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>If the dredged or fill material cannot be excluded from individual testing, the "short form" evaluation process is inappropriate.

7. Evaluation Responsibility.

- a. Water Quality input provided by: Stephen T. Servay

Position: Chemist

Date : 10/21/2010

- b. This evaluation was reviewed by: Rodney Mach

Position: Supervisory Hydraulic Engineer, ED-HN

Date: 10/21/2010

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 complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions ..... \_\_\_\_\_

c. 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):

- (1) There is a less damaging practicable alternative ..... \_\_\_\_\_
- (2) The proposed discharge will result in significant degradation of the aquatic ecosystem ..... \_\_\_\_\_
- (3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem ..... \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
Joan M. Exnicios  
Chief, New Orleans Environmental Branch