

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. LCA BUDMAT – Spanish Pass, Ridge Restoration Project.

PROJECT DESCRIPTION.

Original Project (EA #542): The project site is located north of Spanish Pass and west of Venice, Louisiana. The original project included an earthen ridge approximately 5,000-feet long and 200-feet wide, constructed to an elevation of +6.5-feet NAVD88. The ridge was to be backed to the north by a 500-feet wide intermediate marsh platform along its entire length. The marsh platform was to be constructed to a height of +3.5-feet NAVD88, and was expected to settle to an elevation of +1.5-feet NAVD88 within 1-3 years. Construction of the ridge and marsh platform would have required 1.65 million cubic yards of dredged material, which would have been borrowed from the Mississippi River Head of Passes Hopper Dredge Disposal Area (HDDA). A 50-foot wide access right-of-way was to be used for dredge pipeline and earth-moving equipment access. Construction of the ridge and marsh platform and use of an access right-of-way would have directly impacted a total of approximately 77 acres of a combination of open water and intermediate marsh.

To transport dredged material excavated from the HDDA, a cutterhead dredge would have loaded hopper barges utilizing a spider barge. Once loaded, the hopper barges would have been transported by tugboat to a pump-out location in the Mississippi River, outside of the navigation channel. The material would have been removed from the hopper barges by an unloader, and then travel via pipeline along and under Jump Basin Road and through open water to the project site, where it would have been discharged at the site unconfined.

Revised Project (SEA #542.a):

Design Changes to Ridge Restoration and Marsh Platform

Two (2) existing crude pipelines (an active 12-inch crude pipeline and an abandoned 6-inch crude pipeline) owned by Plains All American, traverse portions of the Project Area in the location of the proposed ridge restoration and marsh creation platform. (Figure 2)

To avoid impacts to the pipelines, a no-work corridor has been established between the western and eastern sections. With the exception of allowable placement of dredge fill over the pipelines to provide a land bridge for equipment access, no work will be performed within 50-feet of either pipeline. The no work area includes the outside toes of the earthen perimeter dikes that are to be constructed adjacent to and parallel to these pipelines, but offset by a minimum of 50-feet. The width of this no work corridor between the allowable dike toes, that is to be maintained at these pipeline crossings, will vary from approximately 140-feet on the north end and approximately 160-feet on the south end.

In order to accommodate the pipeline corridor, the ridge and marsh platform would be divided into two sections, the western section and the eastern section. The ridge would begin approximately 1.3 miles west of LA Hwy 23 in Venice, LA and continue to the west along the north side of Spanish Pass. All elevations listed are considered to be post-construction and it is expected that the ridge crown would settle to an elevation of approximately +6.0-feet NAVD88 within 1-2 years of completion of construction.

The marsh platform would be constructed to an initial fill height of +3.5-feet NAVD88 and would be surrounded by a perimeter dike. The western side would measure 450-feet on the backside and 40 to 50-feet on the south side of the ridge. All elevations listed are considered to be post-construction and it is expected that the marsh platform would settle/dewater to an elevation of approximately +2.0-feet NAVD88, an increase of +0.5-feet NAVD88 from previous expectations, within 10 years of completion of construction. Approximately 36.5 acres of marsh would be created within the western section and approximately 19.2 acres of marsh would be created within the eastern section.

The final placement of material being pumped through the dredge material discharge pipeline would otherwise be handled in a manner similar to the handling of dredged materials for the normal O&M dredging of the HDDA when

it disposes of materials in the Delta National Wildlife Refuge. (DNWR), the Pass a Loutre Wildlife Management Area (PALWLMA), and the open waters of West Bay.

Expansion of Marsh Platform to Include Perimeter Dikes

EA #542 originally addressed impacts to approximately 78 acres (37.15 AAHUs) of open water and intermediate marsh associated with construction of the ridge restoration and marsh creation platform.

Design changes resulting from advanced engineering and design requires the construction of temporary perimeter dikes associated with the marsh creation platform. Earthen perimeter dikes would be needed in order to facilitate construction of the ridge and marsh platforms and maximize retention of the dredged material, as well as to prevent the material from entering adjacent lands, waterways, and pipeline rights-of-way. Any material necessary for dike, weir, and closure construction would come from within the area designated for the marsh creation platform, unless otherwise specified. Post construction, the dikes would be allowed to settle and/or erode, as well as vegetate naturally over time. If necessary, these perimeter dikes would later be breached or degraded to the settled elevations of the disposal area by the Non-Federal Sponsors.

The perimeter dikes would be constructed to a crown width of 5-feet, crown elevation of +5-feet NAVD88, and side slopes no steeper than 1V on 4H. The dikes to be constructed along the south side of the ridge would also include a 25-foot wide berm, to be constructed to elevation 0.0-feet NAVD88, and with slopes no steeper than 1V on 4H. The berm would tie into the southern slope of the perimeter dike, extend 25-feet at elevation 0.0-feet NAVD88, and then tie into natural ground (approximately -3.5-feet NAVD88) on a slope no steeper than 1V on 4H. Construction of the perimeter dikes would impact approximately 22.5 additional acres of open water (13.95 acres) mingled with patches of intermediate marsh (8.55 acres), with 13.8 acres within the western section and 8.7 acres within the eastern section.

Borrow Requirements

Borrow would be required for construction of the perimeter dikes around the marsh creation platform. Material for construction of the perimeter dikes would be obtained from borrow sites either from within or outside of the ridge and marsh creation platform footprint. (Figure 4) The potential borrow sources are identified as follows:

Approximately 28.2 acres could be impacted through interior and exterior borrow for the western cell:

- a) Exterior Borrow Pit north of western section = 7.3 acres
- b) Exterior Borrow Pit west of western section = 1.4 acres
- c) Exterior Borrow Pit south of western section and within adjacent Spanish Pass = 5.8 acres
- d) Interior Borrow Pit in western section, which would be backfilled during construction of the Project with dredged material = 13.7 acres

Approximately 15.3 acres could be impacted through interior and exterior borrow for the eastern cell:

- a) Exterior Borrow Pit north of eastern section = 2.9 acres
- b) Exterior Borrow Pit south of eastern section and within adjacent Spanish Pass = 4.4 acres
- c) Interior Borrow Pit of eastern section, which would be backfilled during construction of the project with dredge material = 8.0 acres

The newly proposed borrow pits, and the stability berms for the borrow pits, would impact 6.80 acres of marsh and 36.7 acres of open water for a total of 43.5 acres of additional impacts beyond those identified in EA #542 which identified all borrow material as coming from the HDDA. Of the 43.5 acres of additional impacts, 21.7 acres would be backfilled during construction of the marsh creation platform. The remaining 21.8 acres (10.8 AAHUs) would be allowed to refill naturally over time. The construction of the ridge and marsh platform would require approximately 1,700,000 cubic yards of silty sandy material to be obtained solely from the HDDA. This is an increase of 50,000 cubic yards of material from the 1,650,000 previously estimated.

Dredge Material Transport Method EA #542 included an assessment of transporting dredged material via barge from the HDDA to a designated off-loading site where the material would then be transferred via a dredge material discharge pipeline to the Project Area.

As detailed in EA #542, a cutterhead suction dredge working in the HDDA could be used to load hopper barges utilizing a spider barge and transport the loaded barges to the slip in Tiger Pass outside of the navigation channel at the eastern end of Haliburton Road in Venice, Louisiana, at which point an off-loader would be used to empty the barges, and transport the material via a temporary dredge material discharge pipeline to the Project Area. The arms of a spider barge are designed to optimize loading characteristics and production efficiency by loading the sediment into the hopper barges via multiple arms which allow for concurrent loading of multiple barges. This also allows for the cutterhead dredge to continue operating without having to shut down while waiting for the arrival of offloaded barges.

Dredging of Vessel Slip at eastern end of Haliburton Road

Once loaded with material from the HDDA, the hopper barges would be transported by tugboat to the designated pump-out location at an existing vessel slip at the eastern end of Haliburton Road located just outside of Tiger Pass and the navigation channel. In order for the off-loader to access the slip and off-load the material, the Contractor would be required to dredge for access to the slip and also inside of the slip. Any excavation deemed necessary would have to comply with the same allowable grades, slopes, etc., as well as disposal of any material dredged for access. The material would be transported from the slip via temporary dredge material discharge pipeline to the Project Area via the primary route. The extent of the dredging of the slip would be the minimum that the contractor deems necessary. However, dredging shall not exceed -11-feet MLG (-14.5-feet MLLW) with dredging at this depth no closer than 15-feet from the bulkheads. These dimensions are the maximum allowed, and could possibly be greater than what would actually be needed. Any material dredged for both access to and within the slip would be transported to and placed within the designated disposal site, located within the Mississippi River and opposite of the entrance to Grand Pass at approximate river Mile 10.5 AHP. All earthen material dredged shall be disposed of beyond/ deeper than the -55-feet MLG (-58.5-feet MLLW) contour.

Transportation of Dredge Material from Slip to Project Area

The dredge material discharge pipeline would begin at the slip at the eastern end of Haliburton Road, travel along the north side of Haliburton Road and be placed within the existing drainage canal paralleling Haliburton Road. A temporary ramp would be constructed over the dredge material discharge pipeline in order to provide vehicle ingress and egress at the eastern end of Haliburton Road. The ramp would measure approximately 12-feet in width by approximately 150-feet in length and consist of crushed stone. Upon completion of the contract, the dredge material discharge pipeline would be removed and the ramp graded in order to restore the area to pre-existing conditions.

The dredge material discharge pipeline would then cross under Tide Water Road via a 42-inch casing to be jack and bored under the road in advance and available for use by the dredging contractor. The dredge material discharge pipeline would then travel approximately 850-feet from the north end of the bored culvert to Spanish Pass Road via a corridor covering approximately 1.4 acres, of which approximately 1.1 acres is intermittent marsh that could be impacted. The dredge material discharge pipeline would then pass over Spanish Pass Road and enter Spanish Pass itself. Once in the open waters of Spanish Pass, the dredge material discharge pipeline would then traverse an approximate distance of 1.25 miles to reach the eastern end of the ridge and an additional 1.0 mile to reach the western edge of the proposed ridge. The dredge material discharge pipeline and all construction equipment would remain within the banks of Spanish Pass itself. It is not expected that any utilities or pipelines would be impacted along the access route, or within the entire ridge area. Delivery of dredge material to the Project Area would be in a manner that would avoid impacting pipeline rights-of-way and utilities passing through the access route. The proposed route would not require the dredge material discharge pipeline to traverse across any levees, federal or otherwise. The construction equipment would access the Project Area primarily through open water bodies in order to minimize damage to existing wetlands.

Additional Staging Area and Access Routes

Construction of a permanent staging area would be necessary to facilitate the construction. The staging area would measure approximately 75-feet by 75-feet and would be located at the west end of Spanish Pass Road, and adjacent to Spanish Pass. The staging area would be comprised of crushed stone aggregate, placed over a geotextile base (if needed) and would remain in place upon completion of construction. Construction of the staging area would permanently impact approximately .13 acres (.19 AAHUs) of intermediate marsh. From the staging area, the dredge material discharge pipeline would travel through an existing boat access corridor to the Project Area, a distance of 1.18 miles. Access to the staging area would take place via the existing Spanish Pass Road, which would require minor

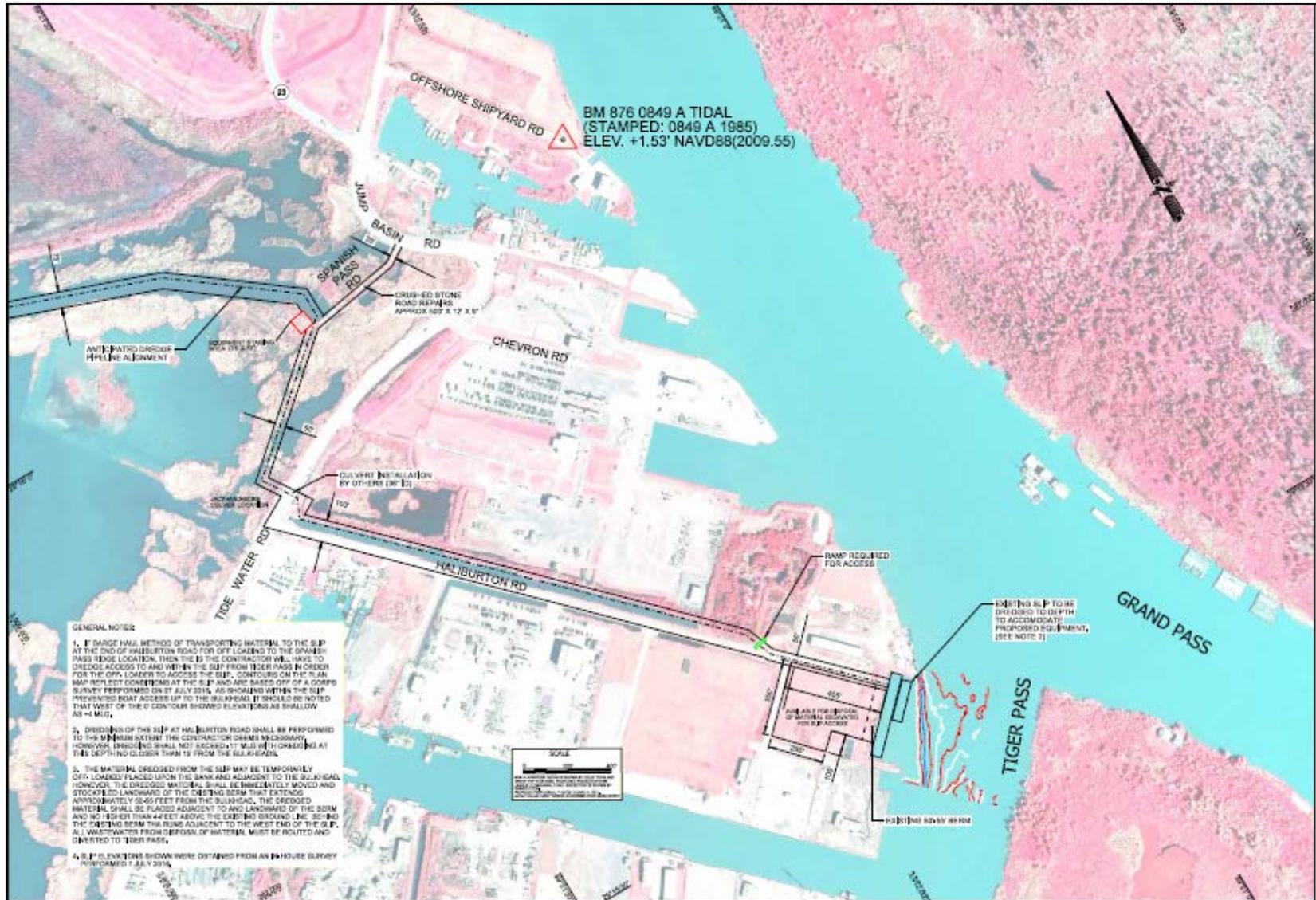
rehabilitation to handle the proposed truck traffic. Because the roadway is already in place, there would be no additional impacts to resources.

Jack and Bore Installation of Pipeline Casing under Tide Water Road.

The jack and bore, is a method of horizontal boring that involves the placement of a 42 inch pipeline casing to house a dredge material discharge pipeline beneath the surface of the earth, thereby eliminating above ground impacts. This method would be used to place the dredge material discharge pipeline beneath Tide Water Road. The equipment for the installation of the 42-inch casing and the dredge material discharge pipeline would impact approximately .27 acres on the north side (Spanish Pass Side) of Tide Water Road and .19 acres on the south side (Grand Pass Side) of Tide Water Road, for an overall impact of 0.46 acres of intermediate marsh impacted for placement of the dredge material discharge pipeline beneath Tide Water Road.

In total, an additional 77 acres of open water and intermediate marsh would be directly impacted by the revised project, for a total of 154 acres impacted by the revised project.

Figure 2. Revised off-loading area, pipeline route, and staging area plan view



1. Review of Compliance (~~700~~ 30.10 (a)

Preliminary1

Final2

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

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

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

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

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.

X X

- | | | |
|---|---|---|
| (3) Effect on other wildlife (mammals, birds, reptiles, and amphibians). | | X |
| c. Special Aquatic Sites (Subpart E). | | |
| (1) Sanctuaries and refuges. | X | |
| (2) Wetlands. | | X |
| (3) Mud flats. | | X |
| (4) Vegetated shallows. | | X |
| (5) Coral reefs. | X | |
| (6) Riffle and pool complexes. | X | |
| d. Human Use Characteristics (Subpart F). | | |
| (1) Effects on municipal and private water supplies. | X | |
| (2) Recreational and commercial fisheries impacts. | | X |
| (3) Effects on water-related recreation. | | X |
| (4) Esthetic impacts. | | X |
| (5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves. | X | |

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

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

- a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material.
- | | | |
|---|--|---|
| (1) Physical characteristics | | X |
| (2) Hydrography in relation to known or anticipated sources of contaminants | | X |
| (3) Results from previous testing of the material or similar material in the vicinity of the project | | X |
| (4) Known, significant sources of persistent pesticides from land runoff or percolation | | X |
| (5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances | | X |
| (6) Other public records of significant introduction of contaminants from industries, municipalities, or other sources | | X |
| (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 | | X |
| (8) Other sources (specify) | | |

Appropriate references: See memorandum (Encl 2)

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*
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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 X
- (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:

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*

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

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

¹Negative 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.

²Negative 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.

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

7. Evaluation Responsibility.

a. This evaluation was prepared by:

Name: Eric Glisch
Position: Environmental Engineer
Organization: U.S. Army Corps of Engineers, New Orleans District
Date: 11/21/2016

b. This evaluation was reviewed by:

Name: Malene Henville
Position: Supervisory Hydraulic Engineer
Organization: U.S. Army Corps of Engineers, New Orleans District
Date: 11/21/2016

8. Findings.

a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines _____

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: _____

Chief, Environmental Planning and Compliance
Branch