Annex F: DRAFT 404(B)(1) Determination

US Army Corps of Engineers,
New Orleans District

To: File

From: Whitney Hickerson, CEMVN-ED-H

CC:

Date: 09 February 2018

Re: LCA BUDMAT – Tiger Pass 2, Spanish Pass Extension Project

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A short form 404 (b)(1) evaluation of the Federal actions for the subject project was performed by ED-HW for water quality impacts. Existing data were used to make factual determinations for the subject actions. The following summarizes the review process and comments noted:

I. Subpart B – Review of Compliance

a. *230.10 (b) (1)*: After consideration of disposal site dilution and dispersion, there are no expected violations of State water quality from the proposed Federal actions.

II. Subpart C – Physical and Chemical Characteristics of the Aquatic Ecosystem

a. *230.20 - Substrate Impacts*: The proposed project would generate changes in the physical, chemical, and biological characteristics of substrate at the project site. Placement of dredged material from the Mississippi River Head of Passes Hopper Dredge Disposal Area (HDDA) would alter project site substrate elevations, converting open water and marsh to marsh and ridge. Organisms adapted to aquatic habitat would be replaced by organisms adapted to aquatic or terrestrial habitat that recolonize the project site owing to alterations in substrate elevations.

Sediment from the HDDA has been described as sandy silt, while the project site contains a combination of Balize and Larose soils and dredged and frequently flooded aquents (USDA 2016). Balize and Larose soils are characterized as level and poorly drained mineral soils (USDA 2000). Surface layers of these soil types are dark gray and dark grayish brown, very fluid muck, mucky clay and silt loam, while underlying layers are dark gray and gray slightly to very fluid clay, silt, and silty clay loam. Dredged and frequently flooded aquents are characterized as level, poorly drained soils forming in hydraulically deposited fill material dredged from nearby marshes during the construction and maintenance of waterways. Aquents are slightly saline or

saline throughout, and are typically stratified throughout with mucky, clayey, loamy, and sandy layers, and are firm in the upper strata and slightly to very fluid in the lower strata. The aquents at the project site may be from the placement of dredged material excavated for the construction of nearby oil exploration canals. Therefore, it appears there are some physical differences between project site soils and dredged material proposed for ridge and marsh platform construction.

Placement of dredged material and material excavated at the project site for dike construction is expected to smother sessile benthic organisms at the project site. Following construction of the project and establishment of vegetation at the project site, these organisms would be replaced by organisms adapted to aquatic or terrestrial habitat that recolonize the project site.

Please see content addressing 230.61 (a) for HDDA vicinity sediment evaluation results. Based on findings of these sediment evaluations, chemical and biological substrate impacts of the proposed project are expected to be minor.

Overall, substrate impacts of the proposed project are expected to be byproduct of what is considered to be beneficial habitat modification. Due to high local subsidence rates, global sea-level rise, wind-induced wave energy, and tropical activity that occasions the area, the proposed project is expected to eventually disappear, as the proposed project would be subject to these forces of nature and eventually erode and submerge.

b. *230.21 – Suspended Particulates/Turbidity Impacts*: The proposed project includes the mechanical excavation of waterbottom material at the project site for the construction of earthen retention dikes, and use of the retention dikes for the confinement of hydraulically dredged material pumped into the project features for their construction. Therefore, the project is expected to generate localized increases in turbidity in the vicinity of the project site during construction activities, as well as following rainfall events until dredged material has consolidated and vegetation has established at the site.

The project site is close to the Mississippi River, which contains turbid waters with seasonally high suspended sediment concentrations. In addition, due to the soil types and large fetches in the project site vicinity, it is likely that vicinity waters can become very turbid in windy conditions. Localized increases in turbidity at the project site are therefore expected to be minor relative to background concentrations in the vicinity.

c. *230.22 – Water Column Impacts*: The proposed project includes the mechanical excavation of waterbottom material at the project site for the construction of earthen retention dikes, and use of the retention dikes for the confinement of hydraulically dredged material pumped into the project site. Therefore, the proposed project is expected to generate localized water column impacts in the vicinity of the project site during construction activities, as well as following rainfall events until dredged material has consolidated and vegetation has established at the site.

Please see content addressing 230.61 (a) for HDDA vicinity sediment evaluation results. Based on findings of these sediment evaluations, water column impacts of the proposed project are expected to be temporary and minor.

d. *230.23 – Alteration of Current Patterns and Water Circulation*: The proposed project would locally alter current patterns and water circulation, by creating a hydraulic barrier in an area consisting largely of open water. There are no expected negative consequences due to the alteration of current patterns and water circulation in the project area. The project will locally reduce the fetch of open waterbodies over its lifetime.

e. *230.24 – Alteration of Normal Water Fluctuations/Hydroperiod*: The proposed project would have a negligible impact on the hydrology of surrounding surface waters, which are large open water expanses connected to the Gulf of Mexico.

f. *230.25 – Alteration of Salinity Gradients:* Project area salinity gradients are largely determined by the interaction between Mississippi River and Gulf of Mexico waters (e.g., see Swenson and Turner 1998). Due to the small footprint of the proposed project in relation to the area influenced by this interaction, as well as its location (e.g., it is not obstructing any large channels through which flow large volumes of Mississippi River and/or Gulf of Mexico waters), the project is not anticipated to alter salinity gradients.

III. Subpart F – Human Use Characteristics

a. *230.50 – Effects on Municipal and Private Water Supplies*: The nearest municipal or private water supply is located in the Mississippi River, approximately 40 miles upstream from the project site. Due to the small scale of the proposed project and its distance from the nearest drinking water intake, the project is not expected to impact any municipal or private water supplies.

IV. Subpart G – Evaluation of Dredged or Fill Material

a. *230.61 (a) – Considerations in Evaluating the Biological Availability of Possible Contaminants in Dredged or Fill Material:* The most recent sediment evaluation that includes sediment samples collected within and in the immediate vicinity of the HDDA was completed in 2009 (PBS&J 2009). For the evaluation, several water and sediment samples were collected from the HDDA in November and December of 2008. Water, elutriate, and sediment chemistry analyses were performed on these samples. Parameters included in analyses were the metals lead, mercury, nickel, and vanadium; polychlorinated biphenyls (PCBs; congeners and total arochlors); seventeen different polycyclic aromatic hydrocarbon (PAH) compounds; and oil mixtures (diesel and gasoline range organics, and oil and grease). In addition, sediment samples were tested for grain size distribution.

Lead, nickel, and vanadium were detected in water samples, as well as elutriates derived from sediment and water samples. In all cases, detected concentrations were below both acute and chronic U.S. Environmental Protection Agency (EPA) and Louisiana Department of Environmental Quality (LDEQ) freshwater water quality criteria for aquatic life (USEPA 2016, LDEQ 2016).

Lead, nickel, vanadium, fluoranthene, pyrene, and oil and grease were detected in sediment samples. Comparison of sediment chemistry results to National Oceanic and Atmospheric Administration (NOAA) sediment screening benchmarks revealed three of six samples collected within and in the immediate vicinity of the HDDA contained nickel concentrations above freshwater sediment screening benchmarks indicative of low probability of effects on benthic organisms (NOAA 2008).

Most sediment samples collected in the vicinity of the HDDA contained a sand content of 40-80%, silt content of 3-30%, and clay content of 7-26%, although two of the eight samples collected contained very low sand content (2-3%), silt content of 36-40%, and clay content of 58-62%.

Following the BP Gulf of Mexico oil spill in 2010, a sediment evaluation was conducted that included several navigation channels in the vicinity of the HDDA, to ascertain the possible effects of the BP Gulf of Mexico oil spill on the sediment quality of channel waterbottoms, which are dredged for waterway navigation purposes (USACE-MVN 2010). Sediment samples were collected in August 2010 for analysis of several compounds associated with oil contamination, including sixteen PAHs, and diesel, gasoline, and oil range organics. Comparison between sediment chemistry results and applicable sediment screening benchmarks revealed no exceedences of freshwater Threshold Effects Level (TEL) or Probable Effects Level (PEL) benchmarks for South Pass and Tiger Pass sediment samples, and the exceedence of the freshwater/saltwater TEL for dibenz(a,h)anthracene for one sediment sample collected from Batiste Collette, located on the opposite side of the Mississippi River from Venice.

A sediment evaluation was also completed for lower Southwest Pass, in 2011 (PBS&J 2011). Water, sediment, and biota samples were collected in October 2010 for analysis of water, elutriate, and sediment chemistry, 10-day benthic toxicity (test organisms *L. plumulosis* and *A. bahia*), 4-day water column toxicity (test organisms: *A. bahia* and *M. beryllina*), and 28-day bioaccumulation (test organisms: *N. virens* and *M. nasuta*). Chemical analysis included fifteen metals; twenty one pesticides/PAHs; fifty six semivolatile organic compounds; and conventional parameters including ammonia, cyanide, total organic carbon, total petroleum hydrocarbons, and percent solids. In addition, sediment samples were tested for grain size distribution.

Several water samples contained concentrations of copper that exceeded EPA and LDEQ marine acute and chronic criteria. Curiously, elutriates did not exceed criteria for copper, and copper was only detected in one of seven samples. Two of seven

elutriate samples had total ammonia concentrations that exceeded EPA marine acute aquatic life criteria for unionized ammonia; upon further review, if was found that estimated unionized ammonia concentrations for these samples were just below conservative EPA acute freshwater and marine aquatic life criteria (USEPA 1989, 2013).

Sediment chemistry results revealed several samples contained concentrations of nickel, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, fluorine, phenanthrene, and pyrene that exceeded NOAA freshwater and saltwater sediment screening benchmarks indicative of low probability of effects on benthic organisms. In addition, one of the ten sediment samples had concentrations of arsenic that exceeded freshwater sediment screening benchmarks indicative of low probability of effects on benthic organisms.

Results of benthic toxicity, water column toxicity, and bioaccumulation testing suggest that disposal of dredged material was not expected to have significant adverse effects on aquatic organisms. It should be noted that water column toxicity test results suggested that a dilution factor of 100 would be required for dredged material effluent to not have adverse effects on water column organisms. In addition, for one *N. virens* bioaccumulation testing replicate, tissue concentrations of nickel from organisms exposed to Southwest Pass channel sediments were significantly higher than concentrations from organisms exposed to reference control sediments, suggesting some bioaccumulation of nickel for organisms exposed to channel sediments. Considering the findings of sediment chemistry results from PBS&J (2009, 2011), it may be possible that sediment from navigation channels in the vicinity of the Mississippi River Head of Passes (HOP) contain elevated levels of nickel.

Most sediment samples collected in lower Southwest Pass contained a sand content of 40-77%, silt content of 14-37%, and clay content of 7-22%, although three of the ten samples collected contained very low sand content (6-15%), silt content of 49-64%, and clay content of 30-45%.

An additional sediment evaluation for Southwest Pass is currently in preparation, and the results of the evaluation will be incorporated into this section if the completion date for the evaluation occurs before the final version of the Spanish Pass ridge restoration project 404(b)(1) evaluation is complete.

Review of U.S. Coast Guard National Response Center spill reports filed from 2006 to October 2016 reveals that there were approximately forty small (50 gallons or less) spills in the Mississippi River HOP region since 2006, and one spill of approximately 200 gallons that occurred in Tiger Pass (USCG 2016). Most of the small spills were approximately 10 gallons or less. The larger spill the occurred in Tiger Pass happened in January of 2006.

Appropriate references: See references

b. An evaluation of the appropriate information in VI(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: Yes

V. Disposal Site Delineation

a. *230.11 (f) – Considerations in Evaluating the Disposal Site:* The proposed project includes confinement dikes. It is located in the lowermost Barataria Estuary, where there is frequent exchange of Mississippi River water and saltwater from the Gulf of Mexico. It is surrounded by large expanses of open water.

b. An evaluation of the appropriate factors in V(a) above indicates that the disposal site and/or size of mixing zone are acceptable: Yes.

VI. Subpart H - Actions to Minimize Adverse Effects

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: If practical or already a design element of the proposed project, maximizing the hydraulic distance between the dredged material inflow point and effluent weir for each confined project feature would help ensure the dissipation of unionized ammonia to levels well below EPA aquatic life criteria.

VII. Factual Determinations

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

a. Physical substrate at the disposal site (review sections II, IV, V, and VI above): Yes

b. Water circulation, fluctuation and salinity (review sections II, IV, V, and VI): Yes

c. Suspended particulates (review sections II, IV, V, and VI): Yes

d. Contaminant availability (review sections II, IV, and V): Yes

VIII. References

a. Louisiana Department of Environmental Quality (LDEQ). 2016. *LAC Title 33, Part IX*. http://www.deq.louisiana.gov/portal/DIVISIONS/LegalAffairs/RulesandRegulations/Title33.aspx. Last accessed October 27, 2016.

b. National Oceanic and Atmospheric Administration (NOAA). *SQuiRT Cards*. http://response.restoration.noaa.gov/environmental-restoration/environmental-assessment-tools/squirt-cards.html. Last accessed October 27, 2016.

c. Post, Buckley, Schuh & Jernigan, Inc. (PBS&J). 2009. *Contaminant Assessment, Mississippi River, Baton Rouge to the Gulf of Mexico, Louisiana, Southwest Pass*. Prepared for the U.S. Army Corps of Engineers, Galveston District, and the U.S. Army Corps of Engineers, New Orleans District. Contract W912HY-05-D-001, Delivery Order 0065.

d. Post, Buckley, Schuh & Jernigan, Inc. (PBS&J). 2011. *Mississippi River-Southwest Pass, Louisiana, Contaminant Assessment*. Prepared for the U.S. Army Corps of Engineers, New Orleans District. Contract W912P8-09-D-0005, Delivery Order 0012.

e. Swenson, E.M. and R.E. Turner. 1998. *Past, Present and Probable Future Salinity Variations in the Barataria Estuarine System*. Baton Rouge, LA: Louisiana State University, Coastal Ecology Institute, Center for Coastal, Energy, and Environmental Resources.

f. U.S. Army Corps of Engineers, New Orleans District (USACE-MVN). 2010. *Dredged Material Evaluation of Six Federal Navigation Channels following the Deepwater Horizon Incident*.

g. U.S. Coast Guard (USCG). 2016. National Response Center. http://nrc.uscg.mil/. Last accessed October 27, 2016.

h. U.S. Department of Agriculture (USDA). 2016. *Web Soil Survey*. http://websoilsurvey.nrcs.usda.gov/app/. Last accessed October 27, 2016.

i. U.S. Department of Agriculture (USDA). 2000. *Soil Survey of Plaquemines Parish, Louisiana*. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/louisiana/plaqueminesLA2000/plaquemines.pdf. Last accessed October 27, 2016.

j. U.S. Environmental Protection Agency (USEPA). 1989. *Ambient Water Quality Criteria for Ammonia (Saltwater) – 1989*. https://www.epa.gov/sites/production/files/2015-08/documents/ambient_water_quality_criteria_for_ammonia_saltwater_-_1989_0.pdf. Last accessed November 21, 2016.

k. U.S. Environmental Protection Agency (USEPA). 2013. *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater* https://www.epa.gov/sites/production/files/2015-08/documents/aquatic-life-ambient-water-quality-criteria-for-ammonia-freshwater-2013.pdf. Last accessed November 17, 2016.

l. U.S. Environmental Protection Agency (USEPA). 2016. *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table. Last accessed October 27, 2016.

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 at Tiger Pass 2 Project

PROJECT DESCRIPTION.

Previously Approved Plan – LCA BUDMAT at Tiger Pass Project**:** the initial LCA BUDMAT at Tiger Pass Project utilized approximately 1,700,000 cubic yards (CY) of material dredged from the USACE hopper dredge disposal area (HDDA), to construct an approximately 5,000 foot long non-continuous ridge, backed by an approximately 500 foot wide marsh platform at Spanish Pass. The project was evaluated in EA #542, and modifications to the original project design were evaluated in SEA #542.A.

Proposed LCA BUDMAT Plan – LCA BUDMAT at Tiger Pass 2 Project : the LCA BUDMAT at Tiger Pass 2 Project would utilize up to 2,000,000 CY of material dredged from the HDDA to construct approximately 6,800 feet of ridge (29.8 acres) and approximately 91.6 acres of marsh platform to compliment the initial LCA BUDMAT Tiger Pass Project. The Project would extend the initial LCA BUDMAT Tiger Pass Project an additional 8,700 (non-continuous) feet westward. Due to numerous active oil and gas pipelines located within the project area, there are several breaks in the ridge resulting in a non-uniform and noncontiguous construction platform; therefore, the length of the ridge with the breaks excluded is approximately 6,800 feet. The Project would mirror the design developed for the initial LCA BUDMAT Tiger Pass Project. Figure 1 shows a theoretical cross section of the Project

Retention Dikes and Retention Dike Borrow: Earthen retention dikes would be needed in order to facilitate construction of the ridge and marsh platforms, and would be allowed to settle and/or erode, as well as vegetate naturally over time. If necessary, these retention dikes would be later breached or degraded to the settled elevations of the disposal area by the non-federal sponsor. The retention 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 berm (approximately 25 feet in width), 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 retention dike, extend at elevation 0.0 feet NAVD88, and then tie into the water bottom (approximately -3.5 feet NAVD88) on a slope no steeper than 1V on 4H. The above referenced berm width, side slopes and ground elevations would be verified by geotechnical investigations , testing and design, as well as surveys, to be performed for the proposed ridge and marsh platform expansion.

Borrow for construction of the retention dikes would be obtained from an adjacent borrow site and would come either from within or outside of the proposed ridge and marsh platform footprint. However, borrow excavation or placement would not be allowed within any pipeline corridors. Approximately 11.3 acres could be used for borrow to construct retention dikes north of the project footprint and outside of the Spanish Pass. Approximately 11.5 acres could be used for borrow south of the project footprint and within Spanish Pass. Borrow excavation would not be allowed where existing wetlands are present for areas outside of the project footprint.

Figure 2 below provides the general design details associated with the ridge and marsh platform, as well as proposed borrow locations and dimensions for retention dike construction.

Pipeline/ Utility Corridors: Several pipeline/utility corridors pass through the proposed project site. To avoid impacts to pipelines, no-work corridors would be established at each pipeline crossing location between each section of the proposed ridge expansion. With the exception of allowable placement of dredge fill over the pipelines to provide a land bridge for equipment access, no work would be performed within 50 feet of any pipelines, unless they have been abandoned in place and the pipeline owner has consented to construction over their pipeline(s). The no work area includes the outside toes of the earthen retention dikes that are to be constructed adjacent to and parallel to the pipelines.

Proposed Plan: The proposed ridge and marsh platform would begin approximately 2.5 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 would also be divided into sections to avoid existing pipeline corridors, which would be 27.2, 84.3, and 38.0 acres from west to east for a total project footprint or total diked footprint of 149.5 acres. The marsh platform would be constructed to an initial fill height of +3.5 feet NAVD88 and would be surrounded by a perimeter retention dike. 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, within 10 years of completion of construction. See Table 1 below for approximate acreages of relevant project features.

Table 1. This table summarizes area calculations for relevant features for this Proposed Action, including estimated existing marsh acres within the Project Site.

Feature Description	WEST Cell	MIDDLE Cell	EAST Cell	TOTAL	NOTES:
Total Diked footprint	27.2	84.3	38.0	149.5	Entire Impacted fill area, based on outer toe of dike alignment
Marsh Platform*	15.8	49.9	25.9	91.6	Area within total diked footprint that would be filled to target marsh elevation. Excludes ridge and retention dike.
Restored Ridge*	4.9	19.7	5.2	29.8	Area within total diked footprint that is filled above target marsh to restore ridge
Retention Dike*	6.5	14.7	6.9	28.1	Acreage of retention dikes within total diked footprint
Existing Marsh	4.0	17.2	1.7	22.9	Existing marsh within the total diked footprint
Exterior Borrow North	1.1	5.8	4.4	11.3	Exterior borrow source outside of Spanish Pass and north of the total diked footprint
Exterior Borrow South	1.9	7.7	1.9	11.5	Exterior borrow source inside of Spanish Pass and north of the total diked footprint

*Components of the Total Diked Area

The construction of this project could use as much as 2,000,000 CY of silty sandy material that would be obtained during dredging of the Hopper Dredge Disposal Area (HDDA), located at the Head of Passes of the Mississippi River Bird's Foot Delta. The material would be transported to Spanish Pass to extend the ridge and marsh platform, constructed under the previous LCA BUDMAT Tiger Pass Project, an additional 8,700 feet westward of non-continuous construction including gaps, or 6,800 feet of restored ridge excluding gaps. The new ridge and marsh platform would mimic the design used for the initial Tiger Pass Project. Ingress and egress of construction personnel and some equipment to the project site would be allowed via Spanish Pass, beginning at Spanish Pass road off of La Hwy 23, at a previously cleared staging area.

Dredge Material Transport Method: There are two (2) options available to transport material from the hopper dredge disposal area (HDDA) to the proposed ridge and marsh restoration site via barge haul.

1. This option would be done using a cutterhead dredge in the HDDA that pumps material into hopper barges. Once the hopper barge is filled with dredged material, it would be transported by tugboat to a DDMTS located in open water along the bankline of Grand Pass. From that location, dredged material would be hydraulically removed from the hopper barge via the DDMTS and pumped through a discharge pipeline that lies submerged across Grand Pass until it comes onto land at an existing slip at the end of Haliburton Road. From the slip at Haliburton Road to the project site, material would be transported via discharge pipeline to the Project Area. All discharge pipeline is temporary.

2. This option would use a hopper dredge with pump-out capability. A shallow hopper dredge could be loaded with dredged material and then transit to Grand Pass, at which point the material within the hopper dredge would then be pumped out and discharged through a discharge pipeline at the Haliburton Road slip. From the slip at Haliburton Road to the project site, material would be transported via discharge pipeline to the Project Area. All discharge pipeline is temporary.

At the slip at Haliburton Road, the dredge discharge pipeline would then travel along the north side of Haliburton Road and be placed within the existing drainage canal paralleling the road. Impacts to traffic on Haliburton Road would be minimal during dredged material disposal operations. A small triangular staging area is proposed at the pipelines intersection with Haliburton Road to accommodate pipeline and /or equipment offloading and reloading.

The dredge pipeline would then cross under Tide Water Road via a 42-inch casing that was bored under the road during the initial LCA BUDMAT Tiger Pass project. Upon exiting the casing under Tide Water Road, the pipeline could travel via one of two access corridors. For both options, the reach of pipeline corridor is currently defined as a 200 foot wide direct route from the bored casing location to Spanish Pass, of which the contractor would be limited to using 100 feet. Impacts to marsh within these corridors would be temporary. Upon completion of dredging and disposal activities, any use of either access corridor that results in impacts to existing marsh would be backfilled to approximately the elevation of the surrounding marsh and not to exceed approximately +3 feet NAVD88 in an effort to restore these degraded corridors to pre-project marsh elevations.

The proposed alternative routes would not require the dredge material pipeline to traverse across any levees, federal or otherwise. The construction equipment would access the site primarily through open water bodies in order to minimize damage to existing wetlands.

Refurbishment of a staging area, located at the west end of Spanish Pass Road and adjacent to Spanish Pass, and previously cleared and constructed during the initial LCA BUDMAT Tiger Pass project, would possibly be required. The staging area, comprised of crushed stone aggregate, was constructed under the initial BUDMAT project and measures approximately 75 feet in width and 75 feet in length, and impacted approximately 1.3 acres of marsh. The staging area would remain in place for future use.

Although the O&M Federal Standard limitations would not apply to the project addressed in this report, the final placement of material being pumped through the dredge 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.

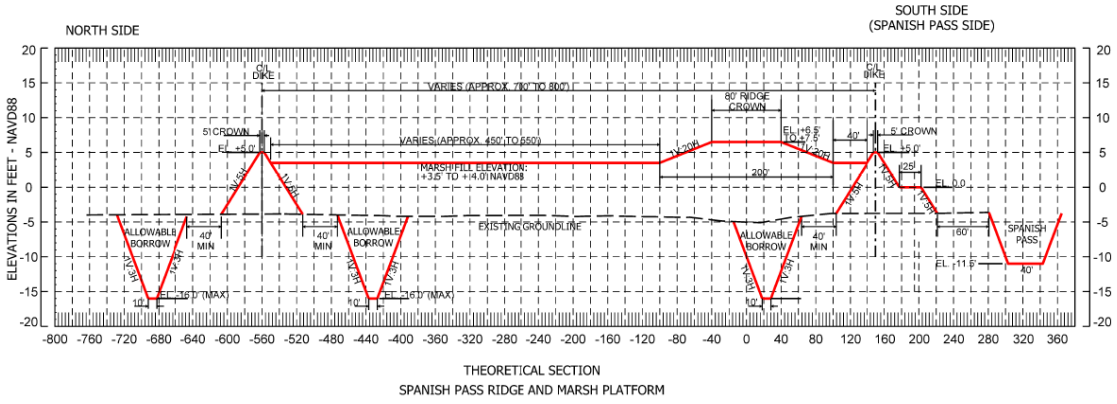

Figure 1

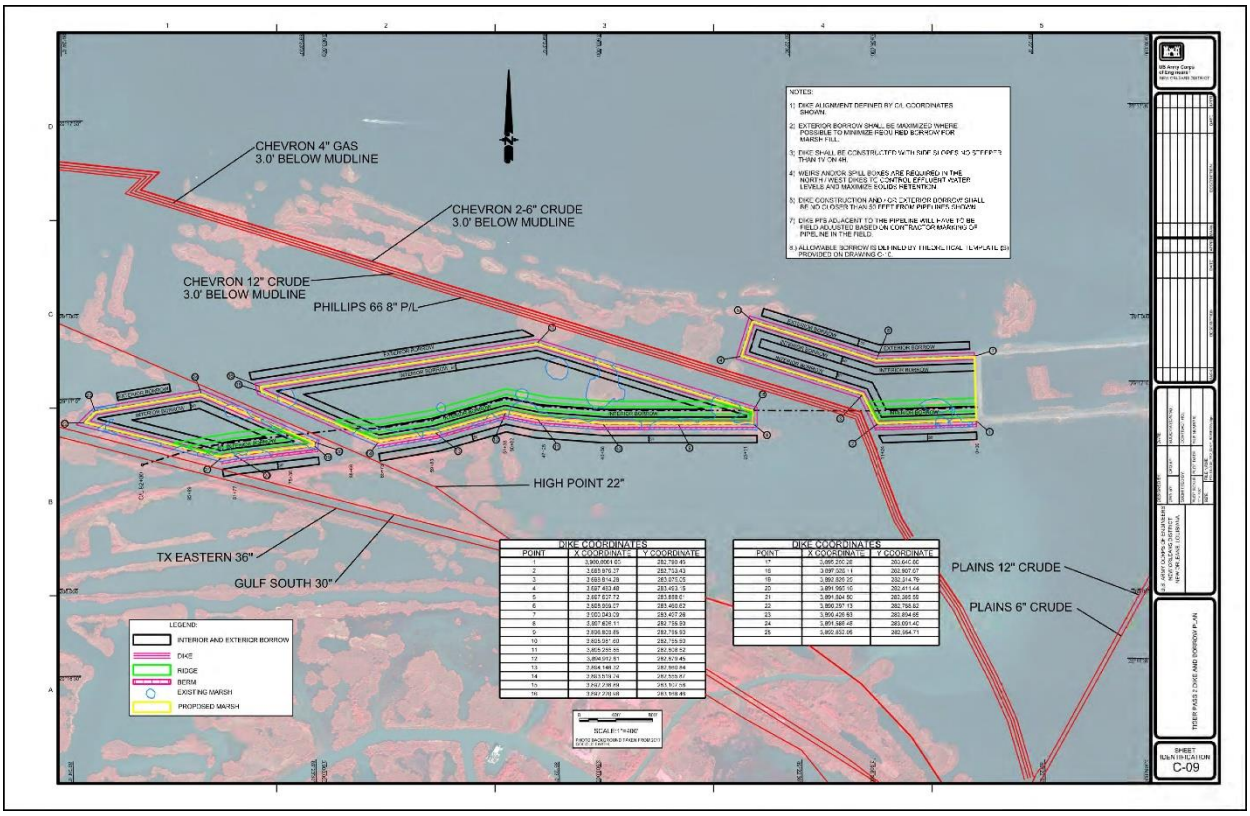

Figure 2. Project site plan view

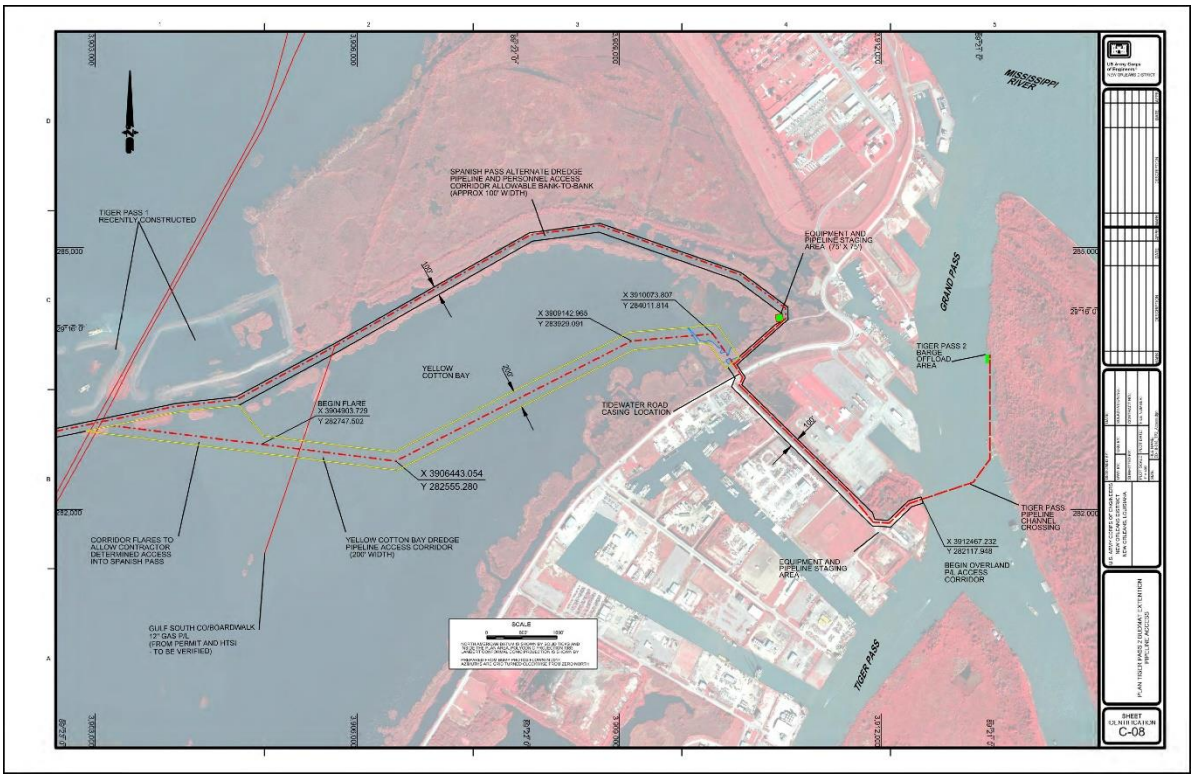

Figure 3. Off-loading area, pipeline route, and staging area plan view

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

	Preliminary[1]		Final[2]	
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);	FOR (1) ONLY 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.			x
(2) Suspended particulates/turbidity impacts.		x	
(3) Water column impacts.		x	
(4) Alteration of current patterns and water circulation.			x
(5) Alteration of normal water fluctuations/ hydroperiod.		x	
(6) Alteration of salinity gradients.		x	
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D).			
(1) Effect on threatened/endangered species and their habitat.		x	
(2) Effect on the aquatic food web.		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*

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:

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.

[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]If 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: Patrick Smith, PhD
Position: Environmental Resource Specialist
Organization: U.S. Army Corps of Engineers, New Orleans District
Date: March 1, 2018

b. Water Quality evaluation was prepared by:

Name: Whitney Hickerson
Position: Hydraulic Engineer
Organization: U.S. Army Corps of Engineers, New Orleans District
Date: 02/09/2018

c. Water Quality evaluation was reviewed by:

Name: Eric Glisch
Position: Environmental Engineer
Organization: U.S. Army Corps of Engineers, New Orleans District
Date: 02/01/2018

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