



**DEPARTMENT OF THE ARMY**  
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS  
P. O. BOX 60267  
NEW ORLEANS, LOUISIANA 70160-0267

September 19, 2013

REPLY TO  
ATTENTION OF

Operations Division  
Operations Manager,  
Completed Works

Mr. Joseph Dantin - President  
Board of Commissioners  
Lafourche Basin Levee District  
Post Office Box 670  
Vacherie, Louisiana 70090

Dear Mr. Dantin:

We have received an application for a Department of the Army permit dated July 15, 2013, from Entergy – Waterford 3, concerning permission to replace four dolphins on the right descending Mississippi River bank, vicinity of second order levee station 443+00, in St. Bernard Parish, Louisiana.

We have no objection to your Board's issuance of a permit for that portion of the work which is under your jurisdiction provided:

a. The work is accomplished in accordance with the above referenced application, vicinity map and accompanying drawings, copy enclosed.

b. All pile driving work is performed and completed while the stage of the Mississippi River is below elevation +15.0 feet on the Carrollton gage, at New Orleans, Louisiana. Information concerning current river stages may be obtained on our website at [www.mvn.usace.army.mil](http://www.mvn.usace.army.mil).

c. Riprap is placed around all piles that penetrate through the revetment in accordance with the Corps of Engineers standard drawing, "Repair Procedures Required When Penetrating Revetments With Piles, Caissons and/or Pile Clusters," file No. H-18-45204, copy enclosed.

d. Any damage to the bank resulting from the applicant's activities is repaired at the applicant's expense.

e. That should changes in the location or section of the existing levee and/or river, or in the generally prevailing conditions in the vicinity, be required in the future in the public interest, the applicant shall make changes in the project concerned, or in the arrangement thereof, as may be necessary to satisfactorily meet the situation and shall bear the cost thereof.

This letter of no objection is based upon engineering criteria, and no interpretation or comments regarding local laws, zoning, or ordinances concerning property rights, etc., have been made. Additionally, this letter of no objection does not obviate the applicant's requirement to obtain federal, state, or local permits required by law.

If we can be of any further assistance, please feel free to call Mr. Albert Terry of my office, at (504) 862-2311. Additionally, future correspondence concerning this project should reference our permit number 13-592. This will allow us to more easily locate records of previous correspondence, and thus provide a quicker response.

Please furnish this office a copy of your permit if the applicant's proposal is approved by your Board.

Sincerely,



Amy E. Powell  
Operations Manager, Completed Works

Enclosures

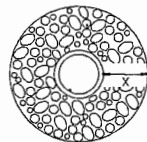
Copies Furnished:

CPRA, Baton Rouge, Attn: Rhonda Braud  
CPRA, Baton Rouge, Attn: Antonio German  
Entergy – Waterford 3  
Attn: Mr. Gerald Davey

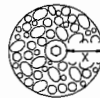
A cross-sectional diagram of a stone riprap structure. A vertical pile is driven into the ground. To the left of the pile, a layer of stone riprap is shown, with a horizontal dimension 'X' indicated. To the right of the pile, a layer of 'ASPHALT WILLOW OR A.C. MATTRESS' is shown, with a horizontal dimension 'X' indicated. The top of the mattress is at a height 'Y' above the ground level. The entire structure is situated on a 'RIVER BANK'.



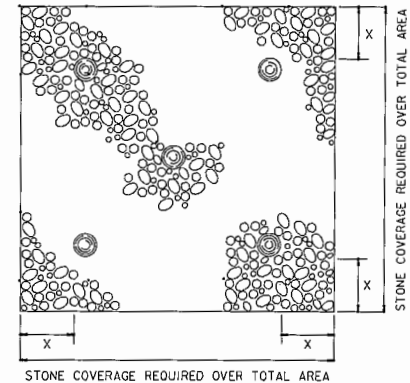
A cross-sectional diagram of a stone riprap structure. A central vertical cylinder represents the structure. On either side, a sloped layer of stones (riprap) is shown. The horizontal distance from the center of the cylinder to the outer edge of the riprap on each side is labeled 'X'. The vertical height of the riprap layer on each side is labeled 'Y'. To the right of the riprap, a layer of 'ASPHALT WILLOW OR A.C. MATTRESS' is indicated. The entire structure is situated on a 'RIVER BANK'.



A cross-sectional diagram of a stone riprap mattress. A rectangular stone mattress is shown resting on a river bank. The mattress is composed of stones and is supported by a layer of riprap. A cable or rope is attached to the top of the mattress and extends upwards. The diagram is labeled with 'STONE RIPRAP' pointing to the stones, 'ASPHALT WILLOW OR A.C. MATTRESS' pointing to the mattress structure, and 'RIVER BANK' pointing to the ground. Dimensions are indicated: 'X' for the width of the mattress and 'Y' for the height of the mattress.



A cross-sectional diagram of a stone riprap structure on a river bank. The structure consists of three vertical stone pillars. The area between and around the pillars is filled with riprap (stones). The structure is built on a sloped river bank. Dimensions are indicated: 'X' for the horizontal distance between pillars, and 'Y' for the vertical height of the structure. Labels include 'STONE RIPRAP' pointing to the stones, 'ASPHALT WILLOW OR A.C. MATTRESS' pointing to the base layer, and 'RIVER BANK' pointing to the slope.



DEPTH OF WATER IN FEET AT POINT OF PENETRATION AT TIME OF STONE PLACEMENT	DIMENSIONS IN FEET FOR PROTECTION AREA REQUIRED							
	PILE		CAISSON		SPUD PILE (BUOY AND ANCHOR CHAIN)		PILE CLUSTER	
	X	Y	X	Y	X	Y	X	Y
1' - 10'	3	1.5	5	2			3	1
11' - 40'	5	2	8	3	7	3	6	2
41' - 60'	8	3	12	4	12	4	10	3

1. SIZE OF RIPRAP TO VARY BETWEEN 6 POUNDS AND 125 POUNDS WITH 40 PERCENT TO 60 PERCENT OF THE STONE WITHIN THE RANGE OF 25 POUNDS TO 75 POUNDS.

2. WHEN PENETRATING THE UPPER BANK PAVING IN A REVETMENT AREA WITH PILES, CAISSONS AND/OR PILE CLUSTERS, A 10 INCH THICK RIPRAP STONE LAYER SHALL BE PLACED OVER ALL AREAS WHERE THE BANK PAVING IS DISTURBED BY DRIVING OPERATIONS.
3. WHEN USING AN ANCHOR CHAIN AND BUOY SYSTEM, THE ANCHOR CHAIN MUST BE ATTACHED AT THE TOP OF THE PILE TO MINIMIZE REVETMENT DAMAGE.