



South Central Coast Louisiana

Draft Feasibility Study with Integrated Environmental Impact Statement



Hurricane Ike flooding in Delcambre, Louisiana.

Appendix A-2 – Wetland and Cultural Costs and Assumptions

November 2019

Contents

No table of contents entries found.

LIST OF TABLES

No table of figures entries found.

Table 1. Final Array of Alternatives' Environmental Mitigation Requirements and Cost Assumptions

Table 2. Atchafalaya Riverine Levees Segments Ex- 22, 21, and 19 Wetland Impact Assumptions(Rev 09/11)

Table 3. Franklin to Garden City EX-1

Table 4. Ring Levees

Table 5. Wave Attenuation Structures

LIST OF FIGURES

No table of figures entries found.

Fourth Iteration Measures Environmental Mitigation Requirements and Costs Assumptions

Alt. #	Measures						Wetland Mitigation Costs	Wetland Mitigation Cost Assumptions	Cultural Resources Survey Costs	Cultural Resources Mitigation Costs	Cultural Resources Mitigation Cost Assumptions
	A	B	C	D	E	F					
1	Ring Levee 1+2 (East City of Delcambre, City of New Iberia, Port of Iberia)	Levees West of Berwick (Ex-1)	Morgan City Levees (Ex-16, Ex-22, Ex- 21, EX-20, Ex 19)		Nonstructura I	Wave attenuation structure shoreline-feature dependent upon levee justification would be refined post TSP, would reduce long term O&M	A = \$16,308,760 B = \$923,471 C = \$0 D = N/A E = \$0 F\$ ¹ Total: \$17,232,231 CR Survey: A = \$8,192,394. B = \$3,482. C = \$151,421. D = N/A E = N/A F = TBD Total: \$8,347,297.	1. A = 300 foot wide footprint (includes constr. Zone and final footprint) 2. Forested wetland mitigation costs = \$232,000 /acre; 3. Non-forested wetland costs = \$84,000/acre 4. No borrow site or future lifts impacts were included in this assessment.	A = \$611,502. B = \$99,786. C = \$322,219. D = N/A E = \$5,307,000. F = TBD Total: \$6,340,507.	A = \$3,092. B = N/A C = \$49,310. D = N/A E = TBD F = TBD Total: \$52,402.	A = Assumes avoidance of Cemeteries (RL 1 + 2 n = 2 and EX-16 n = 1); E = Assumes 25YR Floodplain, actual number of structures to be redefined, and CR mitigation costs TBD.
2	Ring Levee 2- Port of Iberia	Levees West of Berwick (Ex-1)	Morgan City Levees (Ex-16, Ex-22, Ex- 21, EX-20, Ex 19)		Nonstructura I	Wave attenuation structure shoreline-feature dependent upon levee justification would be refined post TSP, would reduce long term O&M	A = \$18,526,116 B = \$923,471 C = \$0 E= F\$ ¹ Total: \$19,449,587 CR Survey: A = \$ 10,340,737. B = \$3,482. C = \$151,421. D = TBD E = N/A F = TBD Total: \$ 10,495,640.	1. A = 300 foot wide footprint (includes constr. Zone and final footprint) 2. Forested wetland mitigation costs = \$232,000 /acre; 3. Nonforested wetland costs = \$84,000/acre 4. No borrow site or future lifts impacts were included in this assessment.	A = \$305,109. B = \$99,786. C = \$322,219. D = N/A E = \$5,307,000. F = TBD Total: \$ \$6,034,114.	A = \$2,688. B = N/A C = \$49,310. D = N/A E = TBD F = TBD Total: \$51,998.	A = Assumes avoidance of Cemeteries (EX-16 n = 1); E = Assumes 25YR Floodplain, actual number of structures to be redefined, and CR mitigation costs TBD.
3			Morgan City Levees (Ex-16, Ex-22, Ex- 21, EX-20, Ex 19)		Nonstructura I	Wave attenuation structure shoreline-feature dependent upon levee justification would be refined post TSP, would reduce long term O&M	Total: \$0 CR Survey: A =N/A B = N/A C = \$151,421. D = N/A E = N/A F = TBD Total: \$151,421.	C &E = No encroachment into wetlands is required – no mitigation required. No Wave attenuation structure required.	A = N/A B = N/A C = \$322,219. D = N/A E = \$5,307,000. F = TBD Total: \$ \$5,629,219	A = N/A B = N/A C = \$49,310. D = N/A E = TBD F = TBD Total: \$51,998.	A = Assumes avoidance of Cemeteries (EX-16 n = 1); E = Assumes 25YR Floodplain, actual number of structures to be redefined, and CR mitigation costs TBD.
4	Ring Levee 1+2 (East City of Delcambre, City of New Iberia, Port of Iberia)				Nonstructura I	Wave attenuation structure shoreline-feature dependent upon levee justification would	A = \$16,308,760 E = \$0.00 F = \$ ¹	1. A = 300 foot wide footprint (includes constr. Zone and final footprint)	A = \$611,502. B = N/A C = N/A D = N/A	A = \$3,092. B = N/A C = N/A D = N/A	A = Assumes avoidance of Cemeteries (RL 1 + 2 n = 2);

					be refined post TSP, would reduce long term O&M	Total: \$16,308,760 CR Survey: A = \$8,192,394. B = N/A C = N/A D = N/A E = N/A F = TBD Total: \$8,192,394.	2. Forested wetland mitigation costs = \$232,000 /acre; 3. Nonforested wetland costs = \$84,000/acre 4. No borrow site or future lifts impacts were included in this assessment.	E = \$5,307,000. F = TBD Total: \$5,918,502	E = TBD F = TBD Total: \$3,092.	E = Assumes 25YR Floodplain, actual number of structures to be redefined, and CR mitigation costs TBD.
5	Ring Levee 2-Port of Iberia				Nonstructural Wave attenuation structure shoreline-feature dependent upon levee justification would be refined post TSP, would reduce long term O&M	A = \$18,526,116 D = \$0.00 E = \$1 Total: \$18,526,116 CR Survey: A = \$ 10,340,737. B = N/A C = N/A D = N/A E = N/A F = TBD Total: \$10,340,737.	1. A = 300 foot wide footprint (includes constr. Zone and final footprint) 2. Forested wetland mitigation costs = \$232,000 /acre; 3. Nonforested wetland costs = \$84,000/acre 4. No borrow site or future lifts impacts were included in this assessment.	A = \$305,109. B = N/A C = N/A D = N/A E = \$5,307,000. F = TBD Total: \$ 5,612,109	A = \$2,688. B = N/A C = N/A D = N/A E = TBD F = TBD Total: \$2,688.	A = Assumes no unmarked cemeteries; E = Assumes 25YR Floodplain, actual number of structures to be redefined, and CR mitigation costs TBD.
6a					Nonstructural 25 year Floodplain	Total: \$0 CR Survey: A = N/A B = N/A C = N/A D = N/A E = N/A F = TBD Total: \$0.	No wetland mitigation required.	A = N/A B = N/A C = N/A D = N/A E = \$5,307,000. F = TBD Total: \$ 5,307,000.	A = N/A B = N/A C = N/A D = N/A E = TBD F = TBD Total: \$TBD	E = Assumes 25YR Floodplain, actual number of structures to be redefined, and CR mitigation costs TBD.
6b					Nonstructural 150 year Floodplain	Total: \$0 CR Survey: A = N/A B = N/A C = N/A D = N/A E = N/A F = TBD Total: \$0.	No wetland mitigation required.	A = N/A B = N/A C = N/A D = N/A E = \$5,307,000. F = TBD Total: \$8,845,000.	A = N/A B = N/A C = N/A D = N/A E = TBD F = TBD Total: \$TBD	E = Assumes 50YR Floodplain, actual number of structures to be redefined, and CR mitigation costs TBD.
7				EX-19, Ex-21 only		Total: \$0 CR Survey: A = N/A B = N/A	No wetland mitigation required.	A = N/A B = N/A C = N/A D = 176,353. E = N/A	A = N/A B = N/A C = N/A D = \$14,088. E = TBD	D = Assumes no unmarked cemeteries.

Fourth Iteration Measures Environmental Mitigation Requirements and Costs Assumptions

							C = N/A D = \$103,528. E = N/A F = TBD Total: \$103,528.		F = TBD Total: \$176,353.	F = TBD Total: \$14,088.	
8				EX-19, Ex-21 only	Nonstructural 25 year Floodplain		Total: \$0 CR Survey: A = N/A B = N/A C = N/A D = \$103,528. E = N/A F = TBD Total: \$103,528.	No wetland mitigation required.	A = N/A B = N/A C = N/A D = 176,353. E = \$5,307,000. F = TBD Total: \$5,483,353.	A = N/A B = N/A C = N/A D = \$14,088. E = TBD F = TBD Total: \$14,088.	D = Assumes no unmarked cemeteries.
9	No Action						Total: \$0	No wetland mitigation required.			

Fourth Iteration Measures Environmental Mitigation Requirements and Costs Assumptions

Atchafalaya Riverine Levees Segments Ex- 22, 21, and 19 Wetland Impact Assumptions(Rev 09/11)

Segment	Wetland type	linear feet	width	feet in an acre	cost per mitigation type per acre	cost
Morgan City Youngs St Gap		0				
Morgan City Lakeside I wall		0				
EX - 22		0				

Franklin to Garden City EX-1

Segment	Wetland type	linear feet	width	feet in an acre	cost per mitigation type per acre	cost
EX - 1	PF	297	300	43560	\$ 232,000.00	\$ 474,545.45
	FE	776	300	43560	84,000	\$ 448,925.62
						\$ 923,471.07

Ring Levees

Segment	Wetland type	linear feet	width	feet in an acre	cost per mitigation type per acre	cost
Ring Levee 1 & 2	PSS	2180	300	43560	\$ 232,000.00	\$ 3,483,195.59
	FE	2173	300	43560	\$ 84,000.00	\$ 1,257,107.44
	FE	1837	300	43560	\$ 84,000.00	\$ 1,062,727.27
	FE	1009	300	43560	\$ 84,000.00	\$ 583,719.01
	FE	2076	300	43560	\$ 84,000.00	\$ 1,200,991.74
	Estuary/Marine	5174	300	43560	\$ 84,000.00	\$ 2,993,223.14

South Central Coast Louisiana
Appendix A-2 – Wetland and Cultural Costs and Assumptions

	FE	5979	300	43560	\$ 84,000.00	\$ 3,458,925.62
	PF	904	300	43560	\$ 232,000.00	\$ 1,444,407.71
	PF	516	300	43560	\$ 232,000.00	\$ 824,462.81
						\$ 16,308,760.33

Ring Levee 2	PF	780	300	43560	\$ 232,000.00	\$ 1,246,280.99	
	PF	413	300	43560	\$ 232,000.00	\$ 659,889.81	
	FreshwEmer/PF	3170	300	43560	\$ 84,000.00	\$ 1,833,884.30	
	PF	1227	300	43560	\$ 232,000.00	\$ 1,960,495.87	
	FE	2173	300	43560	\$ 84,000.00	\$ 1,257,107.44	
	FE	1837	300	43560	\$ 84,000.00	\$ 1,062,727.27	
	FE	1009	300	43560	\$ 84,000.00	\$ 583,719.01	
	FE	2076	300	43560	\$ 84,000.00	\$ 1,200,991.74	
	Estuary/Marine	5174	300	43560	\$ 84,000.00	\$ 2,993,223.14	
	FE	5979	300	43560	\$ 84,000.00	\$ 3,458,925.62	
	PF	904	300	43560	\$ 232,000.00	\$ 1,444,407.71	
	PF	516	300	43560	\$ 232,000.00	\$ 824,462.81	
							\$ 18,526,115.70

Wave Attenuation Structures

Segment	Wetland type	linear feet	width	feet in an acre	cost per mitigation type per acre	cost
Ring Levee 1		unknown				
Ring Levee 2		unknown				
Ex-1		unknown				
Ex-16		0				
Ex-19		0				
Ex-20		0				
Ex-21		0				

Fourth Iteration Measures Environmental Mitigation Requirements and Costs Assumptions

Ex-22	0
Nonstructural	0

	Wetland type	acre	cost per mitigation type per acre	cost
Existing Levee Improvements	PF	14	\$ 232,000.00	\$ 3,248,000.00
	EW	14	\$ 84,000.00	\$ 1,176,000.00
				\$ 4,424,000.00
State Alignment (A) ag	PF	308.7	\$ 232,000.00	\$ 71,618,400.00
	EW	252	\$ 84,000.00	\$ 21,168,000.00
				\$ 92,786,400.00
State Alignment (B) wetland	PF	343	\$ 232,000.00	\$ 79,576,000.00
	EW	280	\$ 84,000.00	\$ 23,520,000.00
				\$ 103,096,000.00

assume 10% less wetland impact than Alignment B

- PSS Palustrine shrub scrub
- PFO1AdPalustrine forest broad-leaved, temp flooded, partially drained
- PFO1C Palustrine forest broad-leaved, seasonally flooded
- AQF lake Aquatic freshwater lake
- EW Emergent Wetland
- PF Palustrine forest wetland (unidentified type)

