

**LOUISIANA COASTAL PROTECTION AND RESTORATION  
FINAL TECHNICAL REPORT**

**EVALUATION RESULTS APPENDIX**

June 2009



**U. S. Army Corps of Engineers  
New Orleans District  
Mississippi Valley Division**

## Purpose

The Louisiana Coastal Protection and Restoration (LACPR) Technical Report has been developed by the United States Army Corps of Engineers (USACE) in response to Public Laws 109-103 and 109-148. Under these laws, Congress and the President directed the Secretary of the Army, acting through the Chief of Engineers, to:

- Conduct a comprehensive hurricane protection analysis and design in close coordination with the State of Louisiana and its appropriate agencies;
- Develop and present a full range of flood control, coastal restoration, and hurricane protection measures exclusive of normal policy considerations for South Louisiana;
- Consider providing protection for a storm surge equivalent to a Category 5 hurricane; and
- Submit preliminary and final technical reports.

The purpose of this appendix is to provide a detailed and uniform presentation of evaluation results for the LACPR alternatives in the form of maps and tables as well as hurricane surge inundation maps by planning unit. The base and future conditions for LACPR are described in the main report. This appendix does not address the potential impacts to the Mississippi coast, which is included in the main report and the *Regional Considerations for LACPR and MsCIP Appendix*.

## Water Surface Elevation and Depth Maps

In order to identify the extent of hurricane surge inundation, water surface elevation, water depth, and/or change in depth of flooding maps are included for the 100-year, 400-year, and 1000-year frequency events for the following conditions:

- **Base/Existing Conditions**
- **Future Conditions**
  - No Action/Degraded Coast
  - Maintain Coast
- **Comparison of Base and Future Conditions** (Planning Units 1 and 2 only)
  - Base vs. Future No Action
  - Future No Action vs. Maintain Coast

In Planning Units 1 and 2, a comparison of basic alternative performance (changes in depth of flooding) of primary structural alternatives is also presented through a series of maps (e.g., comparison of weir-barrier plan in Planning Unit 1 to high level plan; comparison of GIWW weir-barrier in Planning Unit 2 to ridge alternative).

In addition to developing the maps described above, the hydraulic analysis plays a key role in the evaluation of the LACPR alternatives. Each levee alternative affects the surge and the waves during a storm in a different way which leads to different residual risk/damages. For details on the methodology and results of the hydraulic analysis refer to Volumes I and II of the Hydraulics and Hydrology Appendix.

## Performance Results by Alternative

As described in the main report, each LACPR alternative is evaluated on the basis of informed metrics and risk reduction performance. In order to display these results, the following maps and tables are provided by alternative:

- **Metric/Data Table** – provides a “thumbnail sketch” of each alternative’s performance; includes results for each of the metrics across four future scenarios and as well as other performance data.
- **Alternative Map** – an aerial photograph providing the geographic location of features included in the alternative, e.g. structural levee alignments, coastal restoration diversions, nonstructural velocity zones, etc.
- **Water Surface Elevation Table** – shows the alternative’s performance in reducing water surface elevations for selected planning subunits for the with and without project baseline and future conditions.
- **Planning Subunit Key Map** – corresponds with the water surface elevation table described above; also shows levee design heights for structural measures.

The appendix is organized so that when printed double-sided the metric/data table for a particular alternative can be viewed at the same time as the map of that alternative and the water surface evaluation table can be viewed at the same time as the planning subunit key map (when applicable).

### ***Metric/Data Tables and Alternative Maps***

Each **metric/data table** is organized in four sections as follows (from top to bottom): alternative description, results by scenario with uncertainty bands, other results, and residual risk/damages by frequency.

### **General Alternative Information**

The top section provides the following general information about the alternative:

- Planning Unit
- Alternative Number, e.g. PU1-NS-100
- Category, e.g. coastal restoration + nonstructural measures
- Alternative Description
- Coastal Component, e.g. R2
- Nonstructural Component, e.g. 1000-year stand alone measures
- Structural Component, e.g. No new levees or increases in risk reduction for existing levees.

### **Results by Scenario with Uncertainty Bands**

The section below the general alternative information provides the results by scenario with uncertainty bands for seven of the LACPR metrics:

- Life Cycle Cost
- Population Impacted
- Residual Damages

## Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report Evaluation Results Appendix

- Employment Impacted
- Archeological Sites Protected
- Historic Properties Protected
- Historic Districts Protected

Additional data is provided on impacts to the regional economy, i.e. gross regional output and earned income impacted.

The four scenarios represent two conditions of relative sea level rise (low and high) and two conditions of population growth (high employment/dispersed population growth and business-as-usual employment/compact population growth). Additional information on the four scenarios can be found in the main report.

The three levels of uncertainty—high, mid, low—represent relative high uncertainty, moderate uncertainty, and low uncertainty. For the economic metrics, these uncertainty levels correspond to the 10%, 50%, and 90% water levels. For example, the 90% water levels should only be exceeded in 10% of the cases, which indicates a low uncertainty (or high confidence) in the economic metric values. Alternatively, the 10% water levels may be exceeded 90% of the time, which indicates a high uncertainty (or low confidence).

The metric values represent the performance of each alternative over the period of analysis. Development of metric values required a statistical analysis of a range of storm surges to measure relative impacts of alternatives considered. This range of surges was applied equally to each alternative.

Note: Annual equivalent metric values shown for economic and cost metrics presented in this section are calculated for the period from 2010 to 2075 at the common base year 2025 using a 4 7/8% Federal discount rate. All dollar metrics are based on 2007 price levels.

### **Other Results**

In the next section of the table, results are provided for the other three LACPR metrics:

- Construction Time
- Direct Wetland Impacts
- Indirect Environmental Impacts

In addition, information is provided on Federal and non-Federal cost components, spatial integrity (or landscape stability) of coastal restoration plans, and the percentage of wetlands predicted to remain after 50 and 100 years.

The coastal, nonstructural, and structural plan component costs are provided in this section as present values of life cycle costs rather than annual equivalents; the present value costs are calculated over the same period and for the same base year as described in the note above. The non-Federal share of costs is also provided (35% or more of the total cost). The color coding links all costs by scenario (yellow = scenario 1; green = scenario 2; blue = scenario 3; orange = scenario 4).

## **Residual Risk/Damages by Frequency Event**

The bottom section of the table expresses residual risk as residual damages at year 2075 for the storm frequencies addressed in the economic analysis (10-, 100-, 400-, 1000-, and 2000-year). Low uncertainty values are provided for the four scenarios for both no action and with the alternative projects in place.

The square in the bottom right of the table contains a quick reference to the planning unit, type of alternative, and design level (level of risk reduction provided). The corresponding **alternative map** appears on the next page facing the metric/data table.

## ***Planning Subunit Key Map and Water Surface Elevation Table***

The **planning subunit key map** provides the location and designators for selected planning subunits within a planning unit for which sample performance data related to change in water surface elevations are provided. The planning subunits shown represent only a small subset of the over 900 planning subunits used in the overall analysis. This map is the key to the subunits listed in the water surface elevation table on the facing page. The planning subunit key map also specifies the levee heights by reach for each of the structural alternatives.

The **water surface elevation table** presents the base and future conditions for the 100-, 400-, and 1000-year frequency events for both with and without the alternative project in place. The two rows at the bottom of the table provide the basic assumptions that relate to the water surface results. These assumptions are the same for every water surface elevation table included in this appendix. The 90% confidence level is a statistically derived probability of the surge elevations. As previously explained, the 90% values denote a high confidence or low uncertainty. A “high” relative sea level rise rate was assumed and used in the calculations. The levee design and overtopping boxes capture the friction conditions used in the surge generating model, i.e. no friction waves.

## **Table of Contents by Planning Units**

The following tables present the order of maps and tables in this appendix which are organized by planning unit.

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 1 Water Surface Elevation and Depth Maps</b>		<b>Page</b>
Planning Unit 1 Title Page		1
Base/Existing Conditions	Water Surface Elevations - 100-year Event - 2010 Base Conditions	2
	Water Depths - 100-year Event - 2010 Base Conditions	3
	Water Surface Elevations - 400-year Event - 2010 Base Conditions	4
	Water Depths - 400-year Event - 2010 Base Conditions	5
	Water Surface Elevations - 1000-year Event - 2010 Base Conditions	6
	Water Depths - 1000-year Event - 2010 Base Conditions	7
Future Conditions (No Action/Degraded Coast)	Water Surface Elevations - 100-year Event - 2060 No Action	8
	Water Depths - 100-year Event - 2060 No Action	9
	Water Surface Elevations - 400-year Event - 2060 No Action	10
	Water Depths - 400-year Event - 2060 No Action	11
	Water Surface Elevations - 1000-year Event - 2060 No Action	12
	Water Depths - 1000-year Event - 2060 No Action	13
Base vs. Future No Action	Change in Depth of Flooding -100-year Event-2010 Base vs. 2060 Future Degraded	14
	Change in Depth of Flooding -400-year Event-2010 Base vs. 2060 Future Degraded	15
	Change in Depth of Flooding -1000-year Event-2010 Base vs. 2060 Future Degraded	16
Future Maintain Coast	Water Surface Elevations -100-year Event-2060 Maintain	17
	Water Surface Elevations -400-year Event-2060 Maintain	18
	Water Surface Elevations -1000-year Event-2060 Maintain	19
Future No Action vs. Future Maintain Coast	Change in Depth of Flooding -100-year Event-2060 No Action vs. Maintain	20
	Change in Depth of Flooding -400-year Event-2060 No Action vs. Maintain	21
	Change in Depth of Flooding -1000-year Event-2060 No Action vs. Maintain	22
Comparison of Weir vs. High Level Plan Options	Change in Depth of Flooding -100-Year Event – Lake Pontchartrain Surge Reduction Weir vs. High Level Plan (HLP) Base	23
	Change in Depth of Flooding - 400-Year Event – Lake Pontchartrain Surge Reduction Weir vs. High Level Plan (HLP) Base	24
	Change in Depth of Flooding - 1000-Year Event – Lake Pontchartrain Surge Reduction Weir vs. High Level Plan (HLP) Base	25

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 1 Performance Results by Alternative</b>			<b>Page</b>	
PU1-0	No Action (Degraded)	Metric/Data Table	26	
		Alternative Map	27	
		Planning Subunit Key Map	28	
		Water Surface Elevation Table	29	
PU1-R1	Coastal Restoration Plan	Metric/Data Table	30	
		Alternative Map	31	
PU1-R2	Coastal Restoration Plan	Metric/Data Table	32	
		Alternative Map	33	
PU1-R3	Coastal Restoration Plan	Metric/Data Table	34	
		Alternative Map	35	
R1/R2/R3	Coastal Restoration Plans	Planning Subunit Key Map	36	
		Water Surface Elevation Table	37	
PU1-NS-100	Nonstructural Stand Alone Plans (water levels same as base maps)	Metric/Data Table	38	
		Alternative Map	39	
PU1-NS-400		Metric/Data Table	40	
		Alternative Map	41	
PU1-NS-1000		Metric/Data Table	42	
		Alternative Map	43	
PU1-HL-a-100-2		High Level Plan	Metric/Data Table	44
			Alternative Map	45
	Planning Subunit Key Map		46	
	Water Surface Elevation Table		47	
PU1-HL-a-100-3	High Level Plan	Metric/Data Table	48	
		Alternative Map	49	
		Planning Subunit Key Map	50	
		Water Surface Elevation Table	51	
PU1-HL-b-400-2	High Level Plan	Metric/Data Table	52	
		Alternative Map	53	
		Planning Subunit Key Map	54	
		Water Surface Elevation Table	55	
PU1-HL-b-400-3	High Level Plan	Metric/Data Table	56	

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 1 Performance Results by Alternative</b>			<b>Page</b>
		Alternative Map	57
		Planning Subunit Key Map	58
		Water Surface Elevation Table	59
PU1-LP-a-100-1	Lake Pontchartrain Surge Reduction Plan	Metric/Data Table	60
		Alternative Map	61
		Planning Subunit Key Map	62
		Water Surface Elevation Table	63
PU1-LP-a-100-2	Lake Pontchartrain Surge Reduction Plan	Metric/Data Table	64
		Alternative Map	65
		Planning Subunit Key Map	66
		Water Surface Elevation Table	67
PU1-LP-a-100-3	Lake Pontchartrain Surge Reduction Plan	Metric/Data Table	68
		Alternative Map	69
		Planning Subunit Key Map	70
		Water Surface Elevation Table	71
PU1-LP-b-400-1	Lake Pontchartrain Surge Reduction Plan	Metric/Data Table	72
		Alternative Map	73
		Planning Subunit Key Map	74
		Water Surface Elevation Table	75
PU1-LP-b-400-3	Lake Pontchartrain Surge Reduction Plan	Metric/Data Table	76
		Alternative Map	77
		Planning Subunit Key Map	78
		Water Surface Elevation Table	79
PU1-LP-b-1000-1	Lake Pontchartrain Surge Reduction Plan	Metric/Data Table	80
		Alternative Map	81
		Planning Subunit Key Map	82
		Water Surface Elevation Table	83
PU1-LP-b-1000-2	Lake Pontchartrain Surge Reduction Plan	Metric/Data Table	84
		Alternative Map	85
		Planning Subunit Key Map	86
		Water Surface Elevation Table	87



Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 1 Performance Results by Alternative</b>			<b>Page</b>
PU1-C-HL-a-100-2	Comprehensive Plans (water levels same as corresponding structural plans)	Metric/Data Table	88
		Alternative Map	89
PU1-C-HL-a-100-3		Metric/Data Table	90
		Alternative Map	91
PU1-C-HL-b-400-2		Metric/Data Table	92
		Alternative Map	93
PU1-C-HL-b-400-3		Metric/Data Table	94
		Alternative Map	95
PU1-C-LP-a-100-1		Metric/Data Table	96
		Alternative Map	97
PU1-C-LP-a-100-2		Metric/Data Table	98
		Alternative Map	99
PU1-C-LP-a-100-3		Metric/Data Table	100
		Alternative Map	101
PU1-C-LP-b-400-1		Metric/Data Table	102
		Alternative Map	103
PU1-C-LP-b-400-3	Metric/Data Table	104	
	Alternative Map	105	
PU1-C-LP-b-1000-1	Metric/Data Table	106	
	Alternative Map	107	
PU1-C-LP-b-1000-2	Metric/Data Table	108	
	Alternative Map	109	

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 2 Water Surface Elevation and Depth Maps</b>		<b>Page</b>
Planning Unit 2 Title Page		1
Base/Existing Conditions	Water Surface Elevations - 100-year Event - 2010 Base Conditions	2
	Water Depths - 100-year Event - 2010 Base Conditions	3
	Water Surface Elevations - 400-year Event - 2010 Base Conditions	4
	Water Depths - 400-year Event - 2010 Base Conditions	5
	Water Surface Elevations - 1000-year Event - 2010 Base Conditions	6
	Water Depths - 1000-year Event - 2010 Base Conditions	7
Future Conditions (No Action/Degraded Coast)	Water Surface Elevations - 100-year Event - 2060 No Action	8
	Water Depths - 100-year Event - 2060 No Action	9
	Water Surface Elevations - 400-year Event - 2060 No Action	10
	Water Depths - 400-year Event - 2060 No Action	11
	Water Surface Elevations - 1000-year Event - 2060 No Action	12
	Water Depths - 1000-year Event - 2060 No Action	13
Base vs. Future No Action	Change in Depth of Flooding -100-year Event-2010 Base vs. 2060 Future Degraded	14
	Change in Depth of Flooding -400-year Event-2010 Base vs. 2060 Future Degraded	15
	Change in Depth of Flooding -1000-year Event-2010 Base vs. 2060 Future Degraded	16
Future Maintain Coast	Water Surface Elevations - 100-year Event-2060 Maintain	17
	Water Surface Elevations - 400-year Event-2060 Maintain	18
	Water Surface Elevations - 1000-year Event-2060 Maintain	19
Future No Action vs. Future Maintain Coast	Change in Depth of Flooding -100-year Event-2060 No Action vs. Maintain	20
	Change in Depth of Flooding -400-year Event-2060 No Action vs. Maintain	21
	Change in Depth of Flooding -1000-year Event-2060 No Action vs. Maintain	22
Comparison of GIWW Weir vs. Ridge Option	Change in Depth of Flooding between GIWW Weir and Ridge Option 100-Year Event 2010 Base Condition	23
	Change in Depth of Flooding between GIWW Weir and Ridge Option 400-Year Event 2010 Base Condition	24
	Change in Depth of Flooding between GIWW Weir and Ridge Option 1000-Year Event 2010 Base Condition	25

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 2 Performance Results by Alternative</b>			<b>Page</b>	
PU2-0	No Action Alternative (Future Degraded)	Metric/Data Table	26	
		Alternative Map	27	
		Planning Subunit Key Map	28	
		Water Surface Elevation Table	29	
PU2-R1	Coastal Restoration Plan	Metric/Data Table	30	
		Alternative Map	31	
PU2-R2	Coastal Restoration Plan	Metric/Data Table	32	
		Alternative Map	33	
PU2-R3	Coastal Restoration Plan	Metric/Data Table	34	
		Alternative Map	35	
R1/R2/R3	Coastal Restoration Plans	Planning Subunit Key Map	36	
		Water Surface Elevation Table	37	
PU2-NS-100	Nonstructural Stand Alone Plans (water levels same as base maps)	Metric/Data Table	38	
		Alternative Map	39	
PU2-NS-400		Metric/Data Table	40	
		Alternative Map	41	
PU2-NS-1000		Metric/Data Table	42	
		Alternative Map	43	
PU2-WBI-100-1		West Bank Interior Plan	Metric/Data Table	44
			Alternative Map	45
			Planning Subunit Key Map	46
			Water Surface Elevation Table	47
PU2-WBI-400-1	West Bank Interior Plan	Metric/Data Table	48	
		Alternative Map	49	
		Planning Subunit Key Map	50	
		Water Surface Elevation Table	51	
PU2-R-100-2	Ridge Plan	Metric/Data Table	52	
		Alternative Map	53	
		Planning Subunit Key Map	54	
		Water Surface Elevation Table	55	
PU2-R-400-2	Ridge Plan	Metric/Data Table	56	
		Alternative Map	57	

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 2 Performance Results by Alternative</b>			<b>Page</b>
		Planning Subunit Key Map	58
		Water Surface Elevation Table	59
PU2-R-100-3	Ridge Plan	Metric/Data Table	60
		Alternative Map	61
		Planning Subunit Key Map	62
		Water Surface Elevation Table	63
PU2-R-400-3	Ridge Plan	Metric/Data Table	64
		Alternative Map	65
		Planning Subunit Key Map	66
		Water Surface Elevation Table	67
PU2-R-100-4	Ridge Plan	Metric/Data Table	68
		Alternative Map	69
		Planning Subunit Key Map	70
		Water Surface Elevation Table	71
PU2-R-400-4	Ridge Plan	Metric/Data Table	72
		Alternative Map	73
		Planning Subunit Key Map	74
		Water Surface Elevation Table	75
PU2-R-1000-4	Ridge Plan	Metric/Data Table	76
		Alternative Map	77
		Planning Subunit Key Map	78
		Water Surface Elevation Table	79
PU2-G-100-1	GIWW Plan	Metric/Data Table	80
		Alternative Map	81
		Planning Subunit Key Map	82
		Water Surface Elevation Table	83
PU2-G-100-4	GIWW Plan	Metric/Data Table	84
		Alternative Map	85
		Planning Subunit Key Map	86
		Water Surface Elevation Table	87
PU2-G-400-4	GIWW Plan	Metric/Data Table	88
		Alternative Map	89
		Planning Subunit Key Map	90

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 2 Performance Results by Alternative</b>			<b>Page</b>
		Water Surface Elevation Table	91
PU2-G-1000-4	GIWW Plan	Metric/Data Table	92
		Alternative Map	93
		Planning Subunit Key Map	94
		Water Surface Elevation Table	95
		Metric/Data Table	96
PU2-C-WBI-100-1	Same titles as corresponding structural plans but with "Comprehensive" on the line above the structural title.	Alternative Map	97
PU2-C-WBI-400-1		Metric/Data Table	98
		Alternative Map	99
PU2-C-R-100-2		Metric/Data Table	100
		Alternative Map	101
PU2-C-R-400-2		Metric/Data Table	102
		Alternative Map	103
PU2-C-R-100-3		Metric/Data Table	104
		Alternative Map	105
PU2-C-R-400-3		Metric/Data Table	106
		Alternative Map	107
PU2-C-R-100-4		Metric/Data Table	108
		Alternative Map	109
PU2-C-R-400-4		Metric/Data Table	110
		Alternative Map	111
PU2-C-R-1000-4		Metric/Data Table	112
		Alternative Map	113
PU2-C-G-100-1		Metric/Data Table	114
		Alternative Map	115
PU2-C-G-100-4		Metric/Data Table	116
		Alternative Map	117
PU2-C-G-400-4		Metric/Data Table	118
		Alternative Map	119
PU2-C-G-1000-4		Metric/Data Table	120
	Alternative Map	121	

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 3a Water Surface Elevation and Depth Maps</b>		<b>Page</b>
	Planning Unit 3a Title Page	1
Base/Existing Conditions	Water Surface Elevations- 100-year Event - 2010 Base Conditions	2
	Water Depths - 100-year Event - 2010 Base Conditions	3
	Water Surface Elevations- 400-year Event - 2010 Base Conditions	4
	Water Depths - 400-year Event - 2010 Base Conditions	5
	Water Surface Elevations- 1000-year Event - 2010 Base Conditions	6
	Water Depths - 1000-year Event - 2010 Base Conditions	7
Future Conditions (No Action/Degraded Coast)	Water Surface Elevations - 100-year Event - 2060 No Action	8
	Water Surface Elevations - 400-year Event - 2060 No Action	9
	Water Surface Elevations - 1000-year Event - 2060 No Action	10
Future Maintain Coast	Water Surface Elevations -100-year Event-2060 Maintain	11
	Water Surface Elevations -400-year Event-2060 Maintain	12
	Water Surface Elevations -1000-year Event-2060 Maintain	13

<b>PLANNING UNIT 3a Performance Results by Alternative</b>		<b>Page</b>	
PU3a-0	No Action Alternative (Future Degraded)	Metric/Data Table	14
		Alternative Map	15
		Planning Subunit Key Map	16
		Water Surface Elevation Table	17
PU3a-R1	Coastal Restoration Plan	Metric/Data Table	18
		Alternative Map	19
		Planning Subunit Key Map	20
		Water Surface Elevation Table	21
PU3a-NS-100	Nonstructural Stand Alone Plans (water levels same as base maps)	Metric/Data Table	22
		Alternative Map	23
PU3a-NS-400		Metric/Data Table	24
		Alternative Map	25
PU3a-NS-1000		Metric/Data Table	26
		Alternative Map	27

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 3a Performance Results by Alternative</b>			<b>Page</b>
PU3a-M-100-1	Morganza Plan	Metric/Data Table	28
		Alternative Map	29
		Planning Subunit Key Map	30
		Water Surface Elevation Table	31
PU3a-M-100-2	Morganza/Ring Levee Plan	Metric/Data Table	32
		Alternative Map	33
		Planning Subunit Key Map	34
		Water Surface Elevation Table	35
PU3a-G-400-2	GIWW/Morganza/Ring Levee Plan	Metric/Data Table	36
		Alternative Map	37
		Planning Subunit Key Map	38
		Water Surface Elevation Table	39
PU3a-G-1000-2	GIWW/Morganza/Ring Levee Plan	Metric/Data Table	40
		Alternative Map	41
		Planning Subunit Key Map	42
		Water Surface Elevation Table	43
PU3a-C-M-100-1	Same titles as corresponding structural plans but with "Comprehensive" on the line above the structural title.	Metric/Data Table	44
		Alternative Map	45
PU3a-C-M-100-2		Metric/Data Table	46
		Alternative Map	47
PU3a-C-G-400-2		Metric/Data Table	48
		Alternative Map	49
PU3a-C-G-1000-2		Metric/Data Table	50
		Alternative Map	51

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 3b Water Surface Elevation and Depth Maps</b>		<b>Page</b>
Planning Unit 3b Title Page		1
Base/Existing Conditions	Water Surface Elevations- 100-year Event - 2010 Base Conditions	2
	Water Depths - 100-year Event - 2010 Base Conditions	3
	Water Surface Elevations- 400-year Event - 2010 Base Conditions	4
	Water Depths - 400-year Event - 2010 Base Conditions	5
	Water Surface Elevations- 1000-year Event - 2010 Base Conditions	6
	Water Depths - 1000-year Event - 2010 Base Conditions	7
Future Conditions (No Action/Degraded Coast)	Water Surface Elevations - 100-year Event - 2060 No Action	8
	Water Surface Elevations - 400-year Event - 2060 No Action	9
	Water Surface Elevations - 1000-year Event - 2060 No Action	10
Future Maintain Coast	Water Surface Elevations -100-year Event-2060 Maintain	11
	Water Surface Elevations -400-year Event-2060 Maintain	12
	Water Surface Elevations -1000-year Event-2060 Maintain	13

<b>PLANNING UNIT 3b Performance Results by Alternative</b>		<b>Page</b>	
PU3b-0	No Action Alternative (Future Degraded)	Metric/Data Table	14
		Alternative Map	15
		Planning Subunit Key Map	16
		Water Surface Elevation Table	17
PU3b-R1	Coastal Restoration Plan	Metric/Data Table	18
		Alternative Map	19
		Planning Subunit Key Map	20
		Water Surface Elevation Table	21
PU3b-NS-100	Nonstructural Stand Alone Plans (water levels same as base maps)	Metric/Data Table	22
		Alternative Map	23
PU3b-NS-400		Metric/Data Table	24
		Alternative Map	25
PU3b-NS-1000		Metric/Data Table	26
		Alternative Map	27
PU3b-G-100-1	GIWW Plan	Metric/Data Table	28
		Alternative Map	29
		Planning Subunit Key Map	30



Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 3b Performance Results by Alternative</b>			<b>Page</b>
		Water Surface Elevation Table	31
PU3b-F-100-1	Franklin to Abbeville Plan	Metric/Data Table	32
		Alternative Map	33
		Planning Subunit Key Map	34
		Water Surface Elevation Table	35
		Metric/Data Table	36
PU3b-F-400-1	Franklin to Abbeville Plan	Alternative Map	37
		Planning Subunit Key Map	38
		Water Surface Elevation Table	39
		Metric/Data Table	40
PU3b-F-1000-1	Franklin to Abbeville Plan	Alternative Map	41
		Planning Subunit Key Map	42
		Water Surface Elevation Table	43
		Metric/Data Table	44
PU3b-RL-100-1	Ring Levee Plan	Alternative Map	45
		Planning Subunit Key Map	46
		Water Surface Elevation Table	47
		Metric/Data Table	48
PU3b-RL-400-1	Ring Levee Plan	Alternative Map	49
		Planning Subunit Key Map	50
		Water Surface Elevation Table	51
		Metric/Data Table	52
PU3b-C-G-100-1	Same titles as corresponding structural plans but with "Comprehensive" on the line above the structural title.	Alternative Map	53
PU3b-C-F-100-1		Metric/Data Table	54
PU3b-C-F-400-1		Alternative Map	55
PU3b-C-F-1000-1		Metric/Data Table	56
PU3b-C-F-1000-1		Alternative Map	57
PU3b-C-F-1000-1		Metric/Data Table	58
PU3b-C-F-1000-1		Alternative Map	59
PU3b-C-RL-100-1		Metric/Data Table	60
PU3b-C-RL-100-1		Alternative Map	61
PU3b-C-RL-400-1		Metric/Data Table	62
PU3b-C-RL-400-1		Alternative Map	63

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 4 Water Surface Elevation and Depth Maps</b>		<b>Page</b>
Planning Unit 4 Title Page		1
Base/Existing Conditions	Water Surface Elevations- 100-year Event - 2010 Base Conditions	2
	Water Depths - 100-year Event - 2010 Base Conditions	3
	Water Surface Elevations- 400-year Event - 2010 Base Conditions	4
	Water Depths - 400-year Event - 2010 Base Conditions	5
	Water Surface Elevations- 1000-year Event - 2010 Base Conditions	6
	Water Depths - 1000-year Event - 2010 Base Conditions	7
Future Conditions (No Action/Degraded Coast)	Water Surface Elevations - 100-year Event - 2060 No Action	8
	Water Surface Elevations - 400-year Event - 2060 No Action	9
	Water Surface Elevations - 1000-year Event - 2060 No Action	10
Future Maintain Coast	Water Surface Elevations -100-year Event-2060 Maintain	11
	Water Surface Elevations -400-year Event-2060 Maintain	12
	Water Surface Elevations -1000-year Event-2060 Maintain	13

<b>PLANNING UNIT 4 Performance Results by Alternative</b>			<b>Page</b>
PU4-0	No Action Alternative (Future Degraded)	Metric/Data Table	14
		Alternative Map	15
		Planning Subunit Key Map	16
		Water Surface Elevation Table	17
PU4-R1	Coastal Restoration Plan	Metric/Data Table	18
		Alternative Map	19
		Planning Subunit Key Map	20
		Water Surface Elevation Table	21
PU4-NS-100	Nonstructural Stand Alone Plans (water levels same as base maps)	Metric/Data Table	22
		Alternative Map	23
PU4-NS-400		Metric/Data Table	24
		Alternative Map	25
PU4-NS-1000		Metric/Data Table	26
		Alternative Map	27

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 4 Performance Results by Alternative</b>			<b>Page</b>
PU4-G-100-1	GIWW Plan	Metric/Data Table	28
		Alternative Map	29
		Planning Subunit Key Map	30
		Water Surface Elevation Table	31
PU4-G-100-2	GIWW Plan	Metric/Data Table	32
		Alternative Map	33
		Planning Subunit Key Map	34
		Water Surface Elevation Table	35
PU4-G-400-3	GIWW Plan (12-ft Levee)	Metric/Data Table	36
		Alternative Map	37
		Planning Subunit Key Map	38
		Water Surface Elevation Table	39
PU4-G-1000-3	GIWW Plan (12-ft Levee)	Metric/Data Table	40
		Alternative Map	41
		Planning Subunit Key Map	42
		Water Surface Elevation Table	43
PU4-RL-100-1	Ring Levee Plan	Metric/Data Table	44
		Alternative Map	45
		Planning Subunit Key Map	46
		Water Surface Elevation Table	47
PU4-RL-400-1	Ring Levee Plan	Metric/Data Table	48
		Alternative Map	49
		Planning Subunit Key Map	50
		Water Surface Elevation Table	51
PU4-RL-1000-1	Ring Levee Plan	Metric/Data Table	52
		Alternative Map	53
		Planning Subunit Key Map	54
		Water Surface Elevation Table	55
PU4-C-G-100-1	Same titles as corresponding structural plans but with "Comprehensive" on the line above the structural title.	Metric/Data Table	56
		Alternative Map	57
PU4-C-G-100-2		Metric/Data Table	58
		Alternative Map	59
PU4-C-G-400-3		Metric/Data Table	60

Louisiana Coastal Protection and Restoration (LACPR) Final Technical Report  
Evaluation Results Appendix

<b>PLANNING UNIT 4 Performance Results by Alternative</b>			<b>Page</b>
		Alternative Map	61
PU4-C-G-1000-3		Metric/Data Table	62
		Alternative Map	63
PU4-C-RL-100-1		Metric/Data Table	64
		Alternative Map	65
PU4-C-RL-400-1		Metric/Data Table	66
		Alternative Map	67
PU4-C-RL-1000-1		Metric/Data Table	68
		Alternative Map	69