

# WEST SHORE LAKE PONTCHARTRAIN, LOUISIANA FEASIBILITY STUDY Civil Works Review Board

**COL RICHARD HANSEN**

Commander

New Orleans District

Sept 16, 2014



US Army Corps of Engineers  
**BUILDING STRONG**

# ***Purpose of Briefing***

- Request for approval to release the West Shore Lake Pontchartrain Final Integrated Report/EIS for State and Agency Review

## **Presentation Outline:**

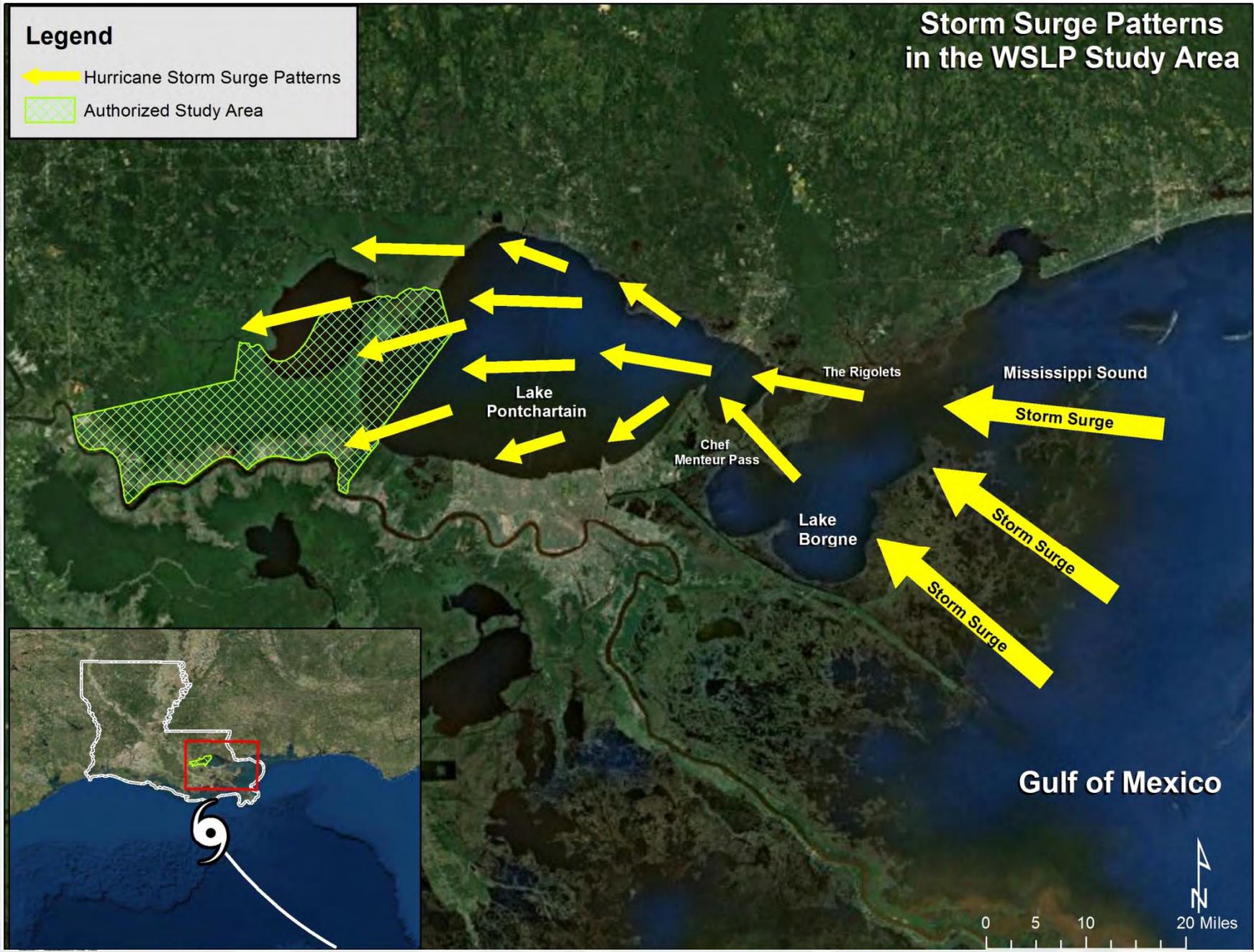
- I. Bottom Line Up Front
- II. Background & Context
- III. Study Specifics
- IV. Recommendation
- V. Oversight & Compliance
- VI. Summary

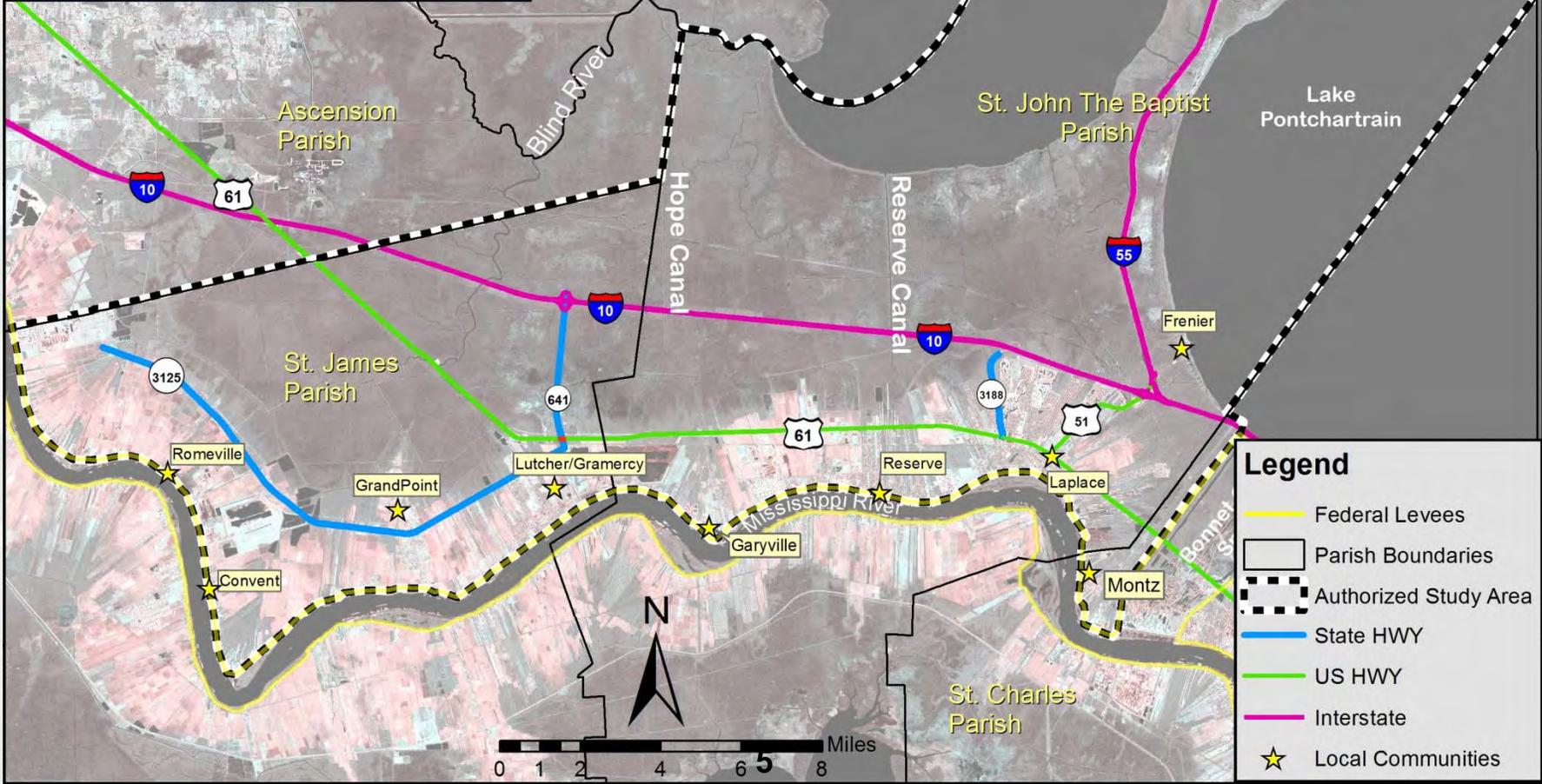
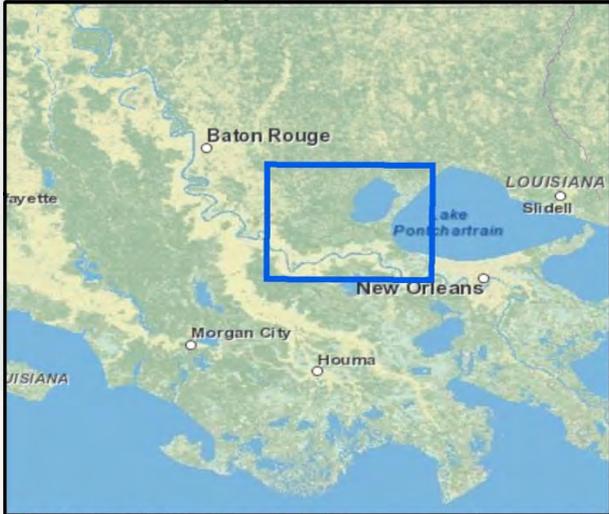


# ***Bottom Line Up Front***

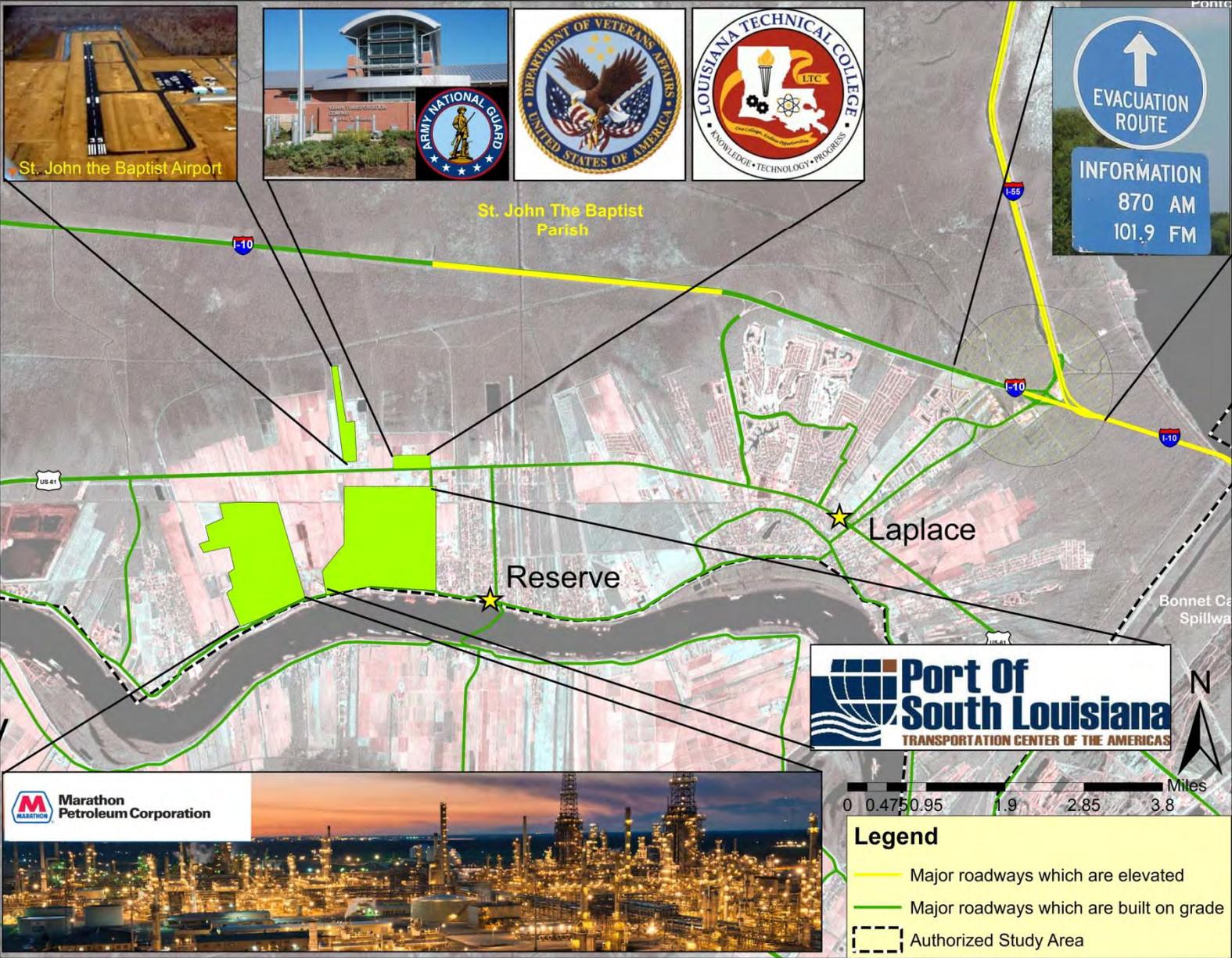
- Recommend comprehensive risk reduction system in SE LA:
  - ▶ Levee system in St. Charles and St. John Parishes
  - ▶ Localized risk reduction measures in St. James Parish in SE LA
- Total project first cost of \$718.1 M
- BCR of 2.81:1 @ 3.5%







# Critical Infrastructure at Risk



# *Hurricane Isaac (August 2012) Impacts and President's Visit*



## Problems

- Storm surge flooding of approximately 7,700 structures (6-8 feet in some areas)
- Major hurricane evacuation routes and emergency response vehicle access, become impassable and are damaged by storm surge

## Study Purpose

- Provide an economically justified and environmentally compliant recommendation for Federal participation in hurricane storm damage risk reduction for St. Charles, St. John the Baptist and St. James Parishes

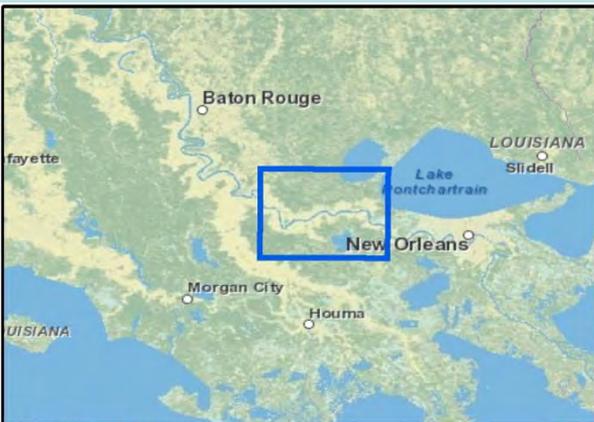


# Study Authorities and Timeline

<u>Authority</u>	<u>Timeline</u>
<p>1971 – Resolved by the committee on public works of the House of Representatives: "...with particular reference to providing additional levees for hurricane protection and flood control in St. John the Baptist Parish and that part of St. Charles Parish west of the Bonnet Carre' Spillway"</p>	<p><u>1980</u> First Federal funding received</p> <p><u>1997</u> Favorable Reconnaissance report</p> <p><u>1998</u> Feasibility Cost Share Agreement signed by PLD</p> <p><u>2003</u> Project inactivated due to disagreement over a preferred alignment</p> <p><u>2008</u> Study resumes after Hurricane Katrina</p>
<p>1974 – Resolved by the committee on public works of the United States Senate: "...with a view to determining whether modifications to the recommendations contained therein are advisable at this time, for hurricane protection and flood control in St. James Parish."</p>	<p><u>2012</u> <b>SMART Planning transition</b></p> <p>Hurricane Isaac significantly impacts the WSLP study area.</p> <p><u>2013</u> Tentatively Selected Plan identified.</p> <p><u>2014</u> Final Report submitted for approval</p>

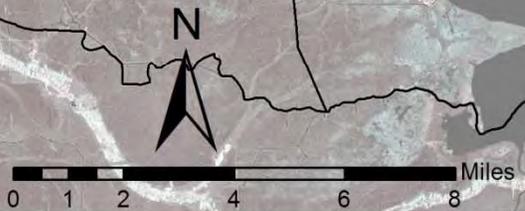


Structures Impacted in Modeled 100 yr (1%) AEP Still Water Stages in Base Year (2020)  
Similar impacts under Hurricane Isaac

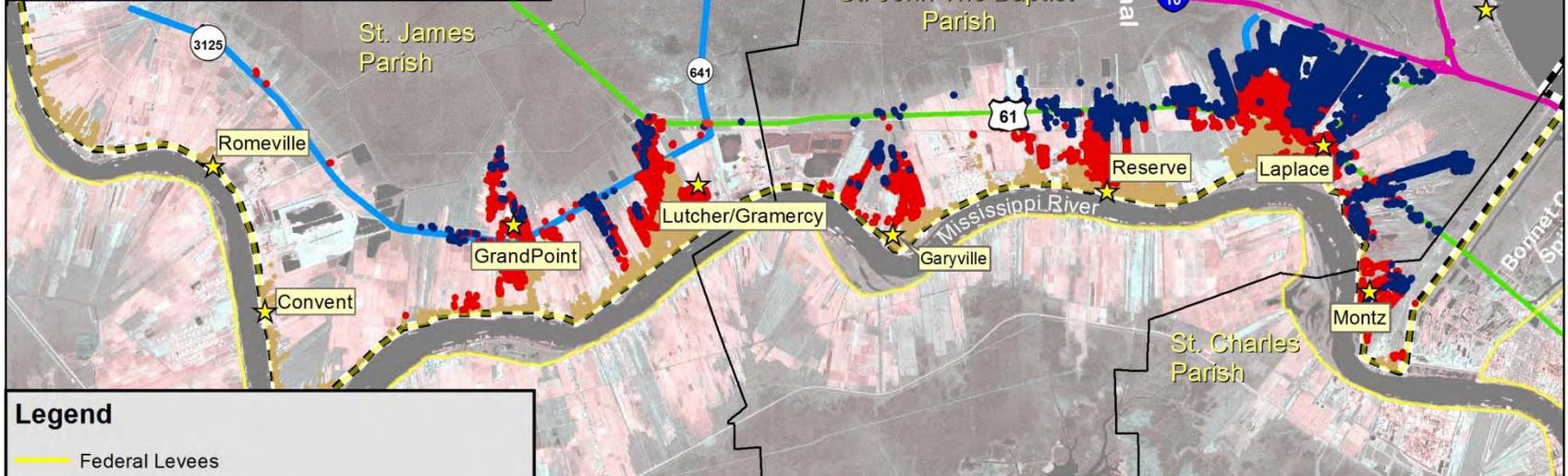
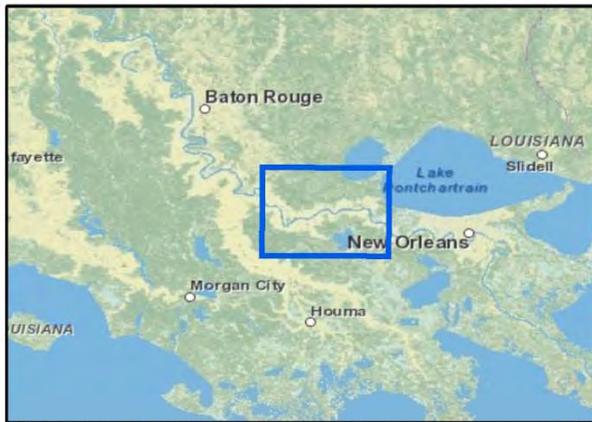


**~7,700 structures impacted**  
**~22,000 structures in study area**

- Legend**
- Federal Levees
  - ▭ Parish Boundaries
  - - - Authorized Study Area
  - State HWY
  - US HWY
  - Interstate
  - ★ Local Communities
  - Structure's 1st Floor Below Surge Elevation
  - Structure's 1st Floor Above Surge Elevation



Structures Impacted in Modeled 100 yr (1%) AEP Still Water Stages in 2070  
Intermediate Relative Sea Level Rise Scenario



**Legend**

- Federal Levees
- Parish Boundaries
- Authorized Study Area
- State HWY
- US HWY
- Interstate
- ★ Local Communities

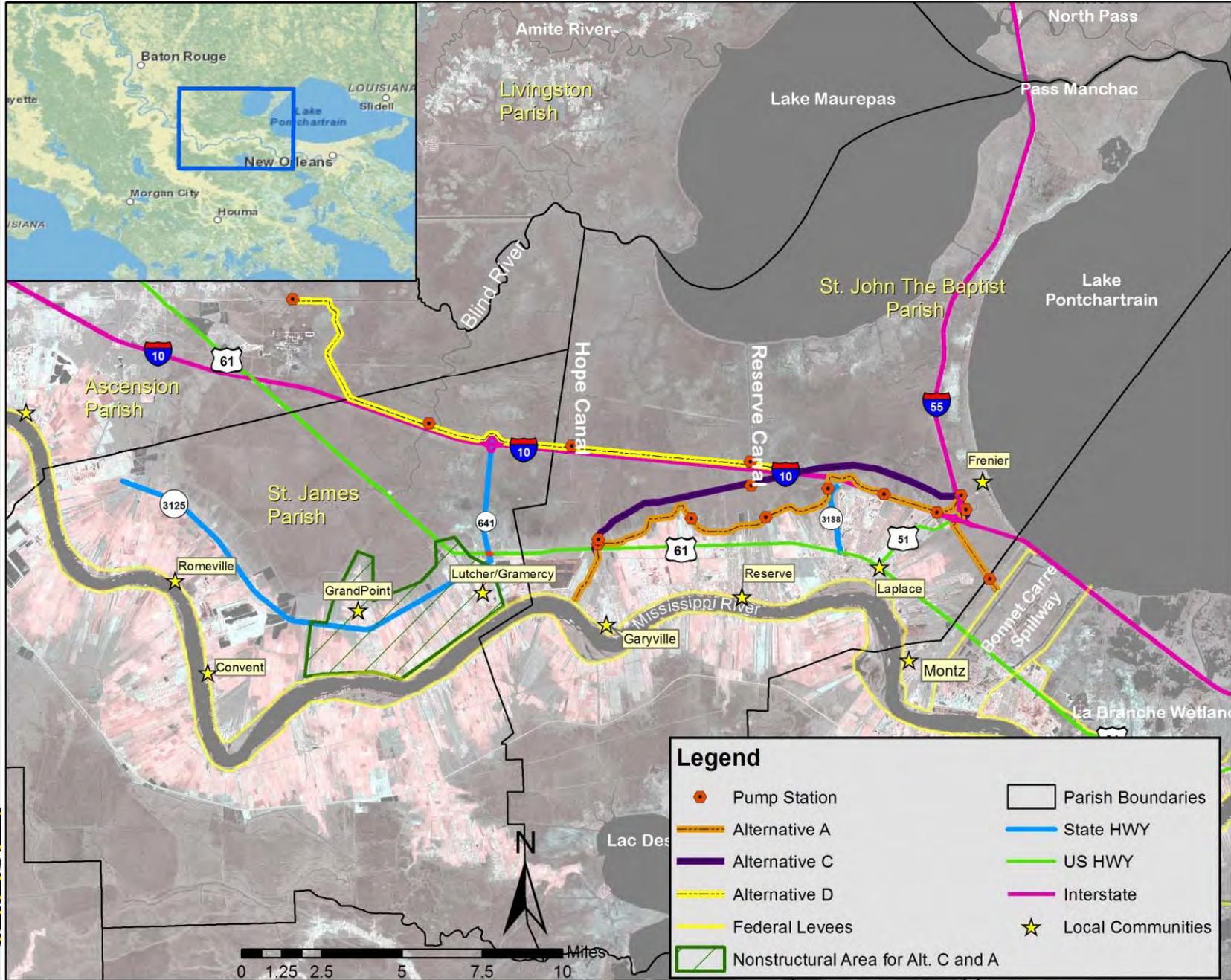
**First Floor Evaluations**

- Structure's 1st Floor Below 2070 Surge Elevation
- Structure's 1st Floor Below 2020 Surge Elevation
- Structure's 1st Floor Above Surge Elevation

**~ 14,700 structures impacted**  
**~22,000 structures in study area**



# Final Array Overview



# SMART Planning

## Comparing and Screening Plans – Draft Report

### Alternative A:

- Impacts drainage and 70 pipeline crossings
- Requires 8 pump stations
- Higher O&M
- Immediate Inundation of developed areas if levee is overtopped

### Alternative C

- Crosses 36 pipelines
- Requires 4 pump stations
- Maintains hydrology

### Alternative D:

- Includes 14 pipeline crossings
- Requires 6 pump stations
- More expensive to maintain hydrology over a much larger enclosed area

Alternative 100-year Level of Risk Reduction	Present Value cost to Implement (\$ millions)	Equivalent Annual Benefits (\$ millions)	Annual Costs (\$ millions)	Benefit-to- Cost Ratio	Annual Net Benefits (\$ millions)
A	909.4	59.9	40.5	1.48	19.4
C (TSP)	826.0	59.9	36.8	1.63	23.0
D	1,047.1	59.9	46.7	1.28	13.2



# ***Recommended Plan – Final Report***

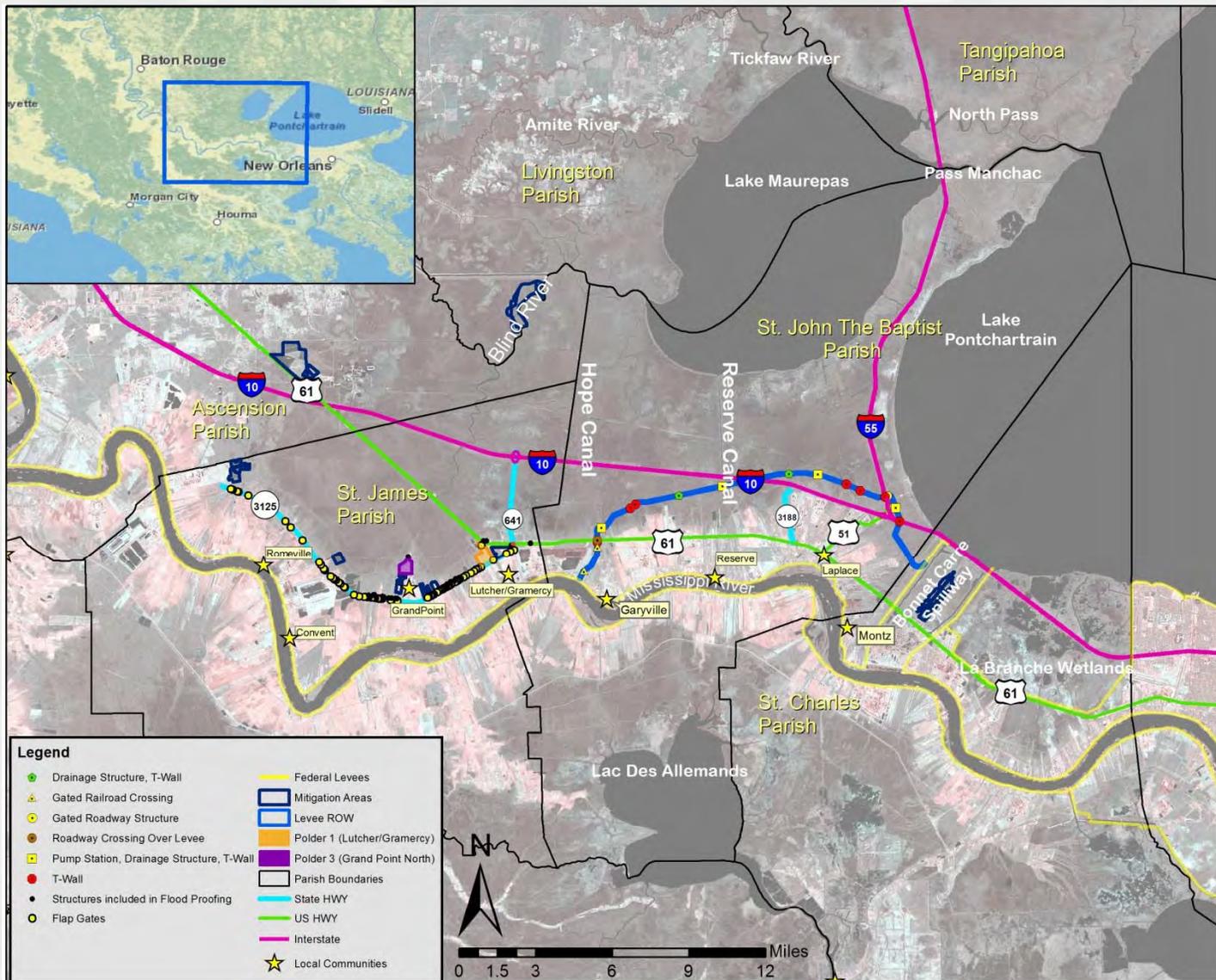
- Alternative C – 18.27 Miles of earthen levee with 4 pump stations/drainage structures and localized risk reduction measures in St. James Parish
- Estimated First Cost \$718,091,000
- NED Net Benefits \$62,637,000
- Benefit to Cost Ratio of 2.81:1 @ 3.5%
- Benefit to Cost Ratio of 1.49:1 @ 7.0%



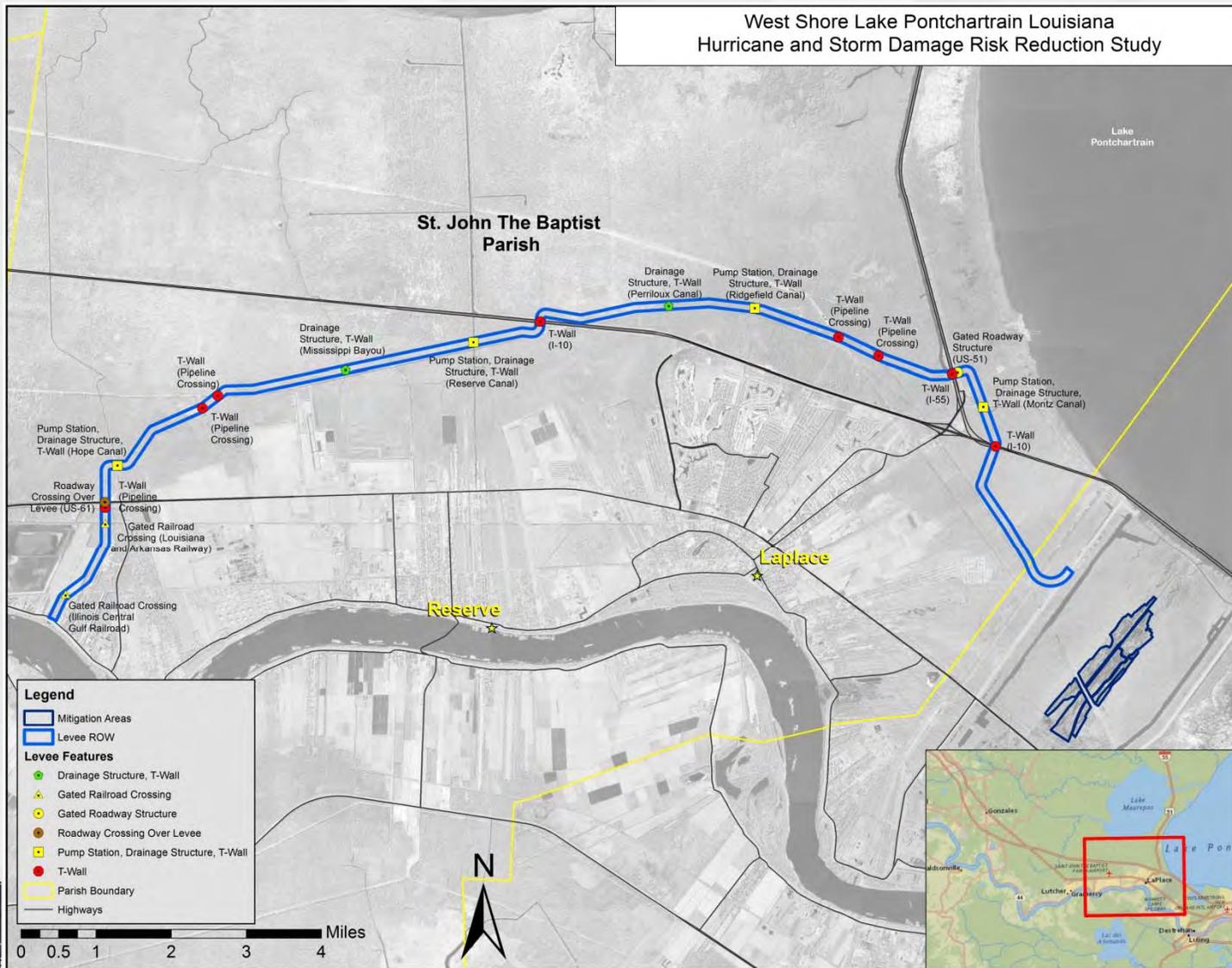
\$5,023,000 Annual O&M



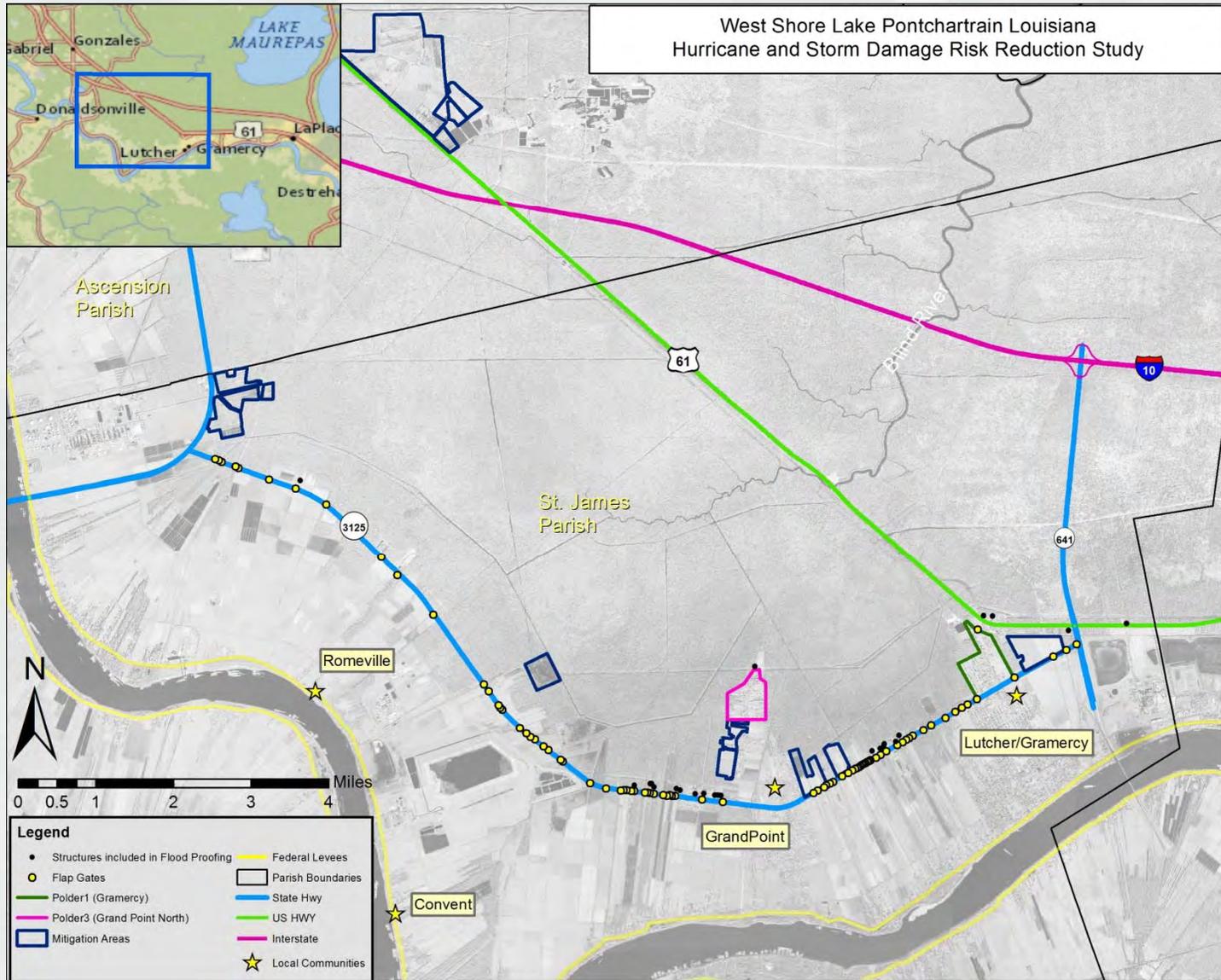
# West Shore Recommended Plan General Overview



# West Shore Recommended Plan Levee System Overview



# West Shore Recommended Plan Overview of St. James Parish



# Recommended Plan Costs

Cost Item	Total Costs
Construction	\$503,455,000
Engineering & Design (E&D)	\$50,717,000
Supervision/Administration (S&A)	\$42,986,000
Environmental	\$111,238,000
Real Estate	\$9,695,000
<b>Total</b>	<b>\$718,091,000</b>



# Relative Sea Level Rise

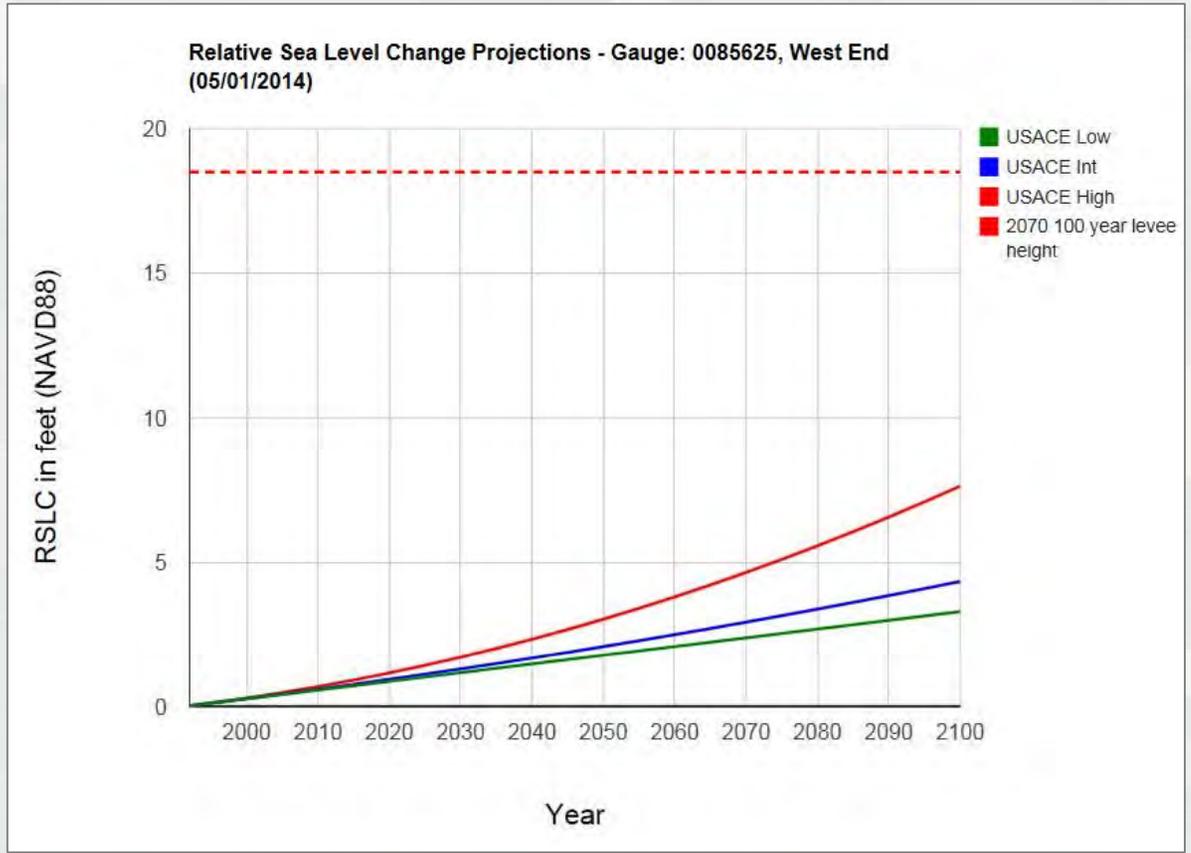
	Low	Intermediate	High
2070 Relative Sea Level Rise (RSLR) Estimated initial water surface elevations	1.81 ft (NAVD88)	2.32 ft (NAVD88)	3.95 ft (NAVD88)
Equiv Annual W/O Project Damages (2020-2070)	\$151.0M	\$190.3M	\$348.4M

- Evaluated in accordance with ER 1100-2-8162
- Showed that various levels of RSLR would still lead to an economic justification of the recommended plan.
- Detailed analysis was performed on intermediate with sensitivity to low and high levels of sea level rise
- Coordinated SLC with Climate Preparedness and Resilience (CPR) CoP



# ETL 1100-2-1 (PROCEDURES TO EVALUATE SEA LEVEL CHANGE: IMPACTS, RESPONSES, AND ADAPTATION)

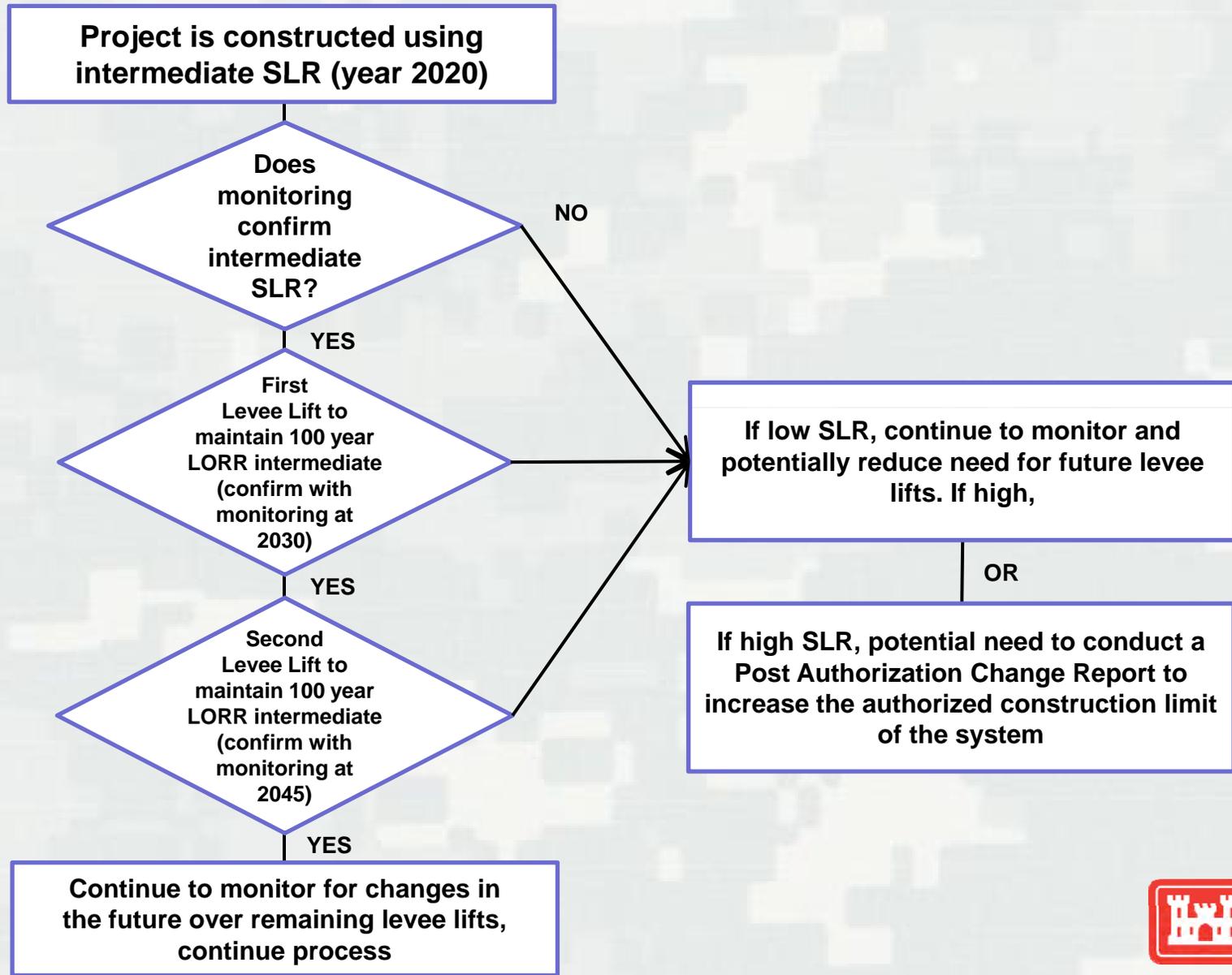
Year	USACE Low	USACE Int	USACE High
1992	0.033	0.033	0.033
1995	0.124	0.124	0.127
2000	0.274	0.280	0.298
2005	0.425	0.440	0.488
2010	0.576	0.605	0.696
2015	0.727	0.774	0.923
2020	0.878	0.948	1.169
2025	1.029	1.126	1.433
2030	1.180	1.308	1.715
2035	1.331	1.495	2.016
2040	1.482	1.687	2.336
2045	1.633	1.882	2.674
2050	1.784	2.083	3.031
2055	1.935	2.287	3.406
2060	2.085	2.497	3.800
2065	2.236	2.710	4.212
2070	2.387	2.928	4.643
2075	2.538	3.151	5.092
2080	2.689	3.378	5.560
2085	2.840	3.609	6.047
2090	2.991	3.845	6.552
2095	3.142	4.085	7.075
2100	3.293	4.330	7.617



- Graphs created using [CESL](#) tool (Beta)
- Datum used was NAVD 88 2004.65



# Adaptation of the Levee System Over Time



# West Shore Levee Lifts – Intermediate SLR Cost breakdown

\*\*\*\* TOTAL PROJECT COST SUMMARY \*\*\*\*

Printed: 7/3/2014  
Page 4 of 6

\*\*\*\* CONTRACT COST SUMMARY \*\*\*\*

PROJECT: West Shore Lake Pontchartrain Study  
LOCATION: St. John The Baptist and St. Charles Parishes, LA  
This Estimate reflects the scope and schedule in report: West Shore Lake Pontchartrain Study Report 2014

DISTRICT: MVN New Orleans District  
POC: CHIEF, COST ENGINEERING, THOMAS D. MURPHY, P.E.  
PREPARED: 6/27/2014

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 23-Apr-14		Program Year (Budget EO): 2015		Effective Price Level: 1-Oct-13		Effective Price Level Date: 1 OCT 14						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	RISK BASED				ESC (%)	COST (\$K)	CNTG (%)	TOTAL (\$K)	Mid-Point Date	ESC (%)	COST (\$K)	CNTG (%)	FULL (\$K)
		COST (\$K)	CNTG (%)	TOTAL (\$K)										

WBS NUMBER	Civil Works Feature & Sub-Feature Description
A	B
02	2080 LIFT RELOCATIONS
06	FISH & WILDLIFE FACILITIES
11	LEVEES & FLOODWALLS
13	PUMPING PLANT

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		Estimate Prepared: 23-Apr-14		Program Year (Budget EO): 2015		Effective Price Level: 1-Oct-13		Effective Price Level Date: 1 OCT 14						

CONSTRUCTION ESTIMATE

2020 lifts - \$613M

2030 lift - \$34M

2045 lift - \$39M

2060 lift - \$32M

WBS NUMBER	Civil Works Feature & Sub-Feature Description
A	B
02	2045 LIFT RELOCATIONS
06	FISH & WILDLIFE FACILITIES
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		COST (\$K)	CNTG (%)	TOTAL (\$K)										
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
02	2080 LIFT RELOCATIONS	\$0	\$0	30.0%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
06	FISH & WILDLIFE FACILITIES	\$0	\$0	30.0%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
11	LEVEES & FLOODWALLS	\$20,430	\$6,129	30.0%	\$26,559	1.6%	\$20,748	\$6,234	\$26,972	2060Q2	154.5%	\$52,803	\$15,840	\$68,643
13	PUMPING PLANT	\$0	\$0	30.0%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
CONSTRUCTION ESTIMATE TOTALS:		\$20,430	\$6,129	30.0%	\$26,568		\$20,748	\$6,234	\$26,972			\$52,803	\$15,840	\$68,643
01	LANDS AND DAMAGES	\$0	\$0	25.0%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
30	PLANNING, ENGINEERING & DESIGN													
0.0%	Project Management	\$184	\$55	30.0%	\$239	2.2%	\$188	\$56	\$244	2060Q1	698.2%	\$1,501	\$447	\$1,948
0.4%	Planning & Environmental Compliance	\$92	\$25	30.0%	\$107	2.2%	\$84	\$26	\$110	2060Q1	698.2%	\$670	\$208	\$878
6.6%	Engineering & Design	\$1,124	\$337	30.0%	\$1,461	2.2%	\$1,148	\$344	\$1,492	2060Q1	698.2%	\$9,163	\$2,746	\$11,909
0.4%	Reviews, ATRs, IEPs, VE	\$92	\$25	30.0%	\$107	2.2%	\$84	\$26	\$110	2060Q1	698.2%	\$670	\$208	\$878
0.4%	Life Cycle Updates (cost, schedule, risks)	\$92	\$25	30.0%	\$107	2.2%	\$84	\$26	\$110	2060Q1	698.2%	\$670	\$208	\$878
0.3%	Contracting & Reographics	\$61	\$18	30.0%	\$79	2.2%	\$62	\$18	\$80	2060Q1	698.2%	\$495	\$144	\$639
1.0%	Engineering During Construction	\$204	\$61	30.0%	\$265	2.2%	\$208	\$62	\$270	2060Q1	698.2%	\$1,660	\$495	\$2,155
0.7%	Planning During Construction	\$143	\$43	30.0%	\$186	2.2%	\$146	\$44	\$190	2060Q1	698.2%	\$1,165	\$351	\$1,516
0.4%	Project Operations	\$92	\$25	30.0%	\$107	2.2%	\$84	\$26	\$110	2060Q1	698.2%	\$670	\$208	\$878
31	CONSTRUCTION MANAGEMENT													
6.6%	Construction Management	\$1,124	\$337	30.0%	\$1,461	2.2%	\$1,148	\$344	\$1,492	2062Q2	792.0%	\$10,241	\$3,069	\$13,310
1.1%	Project Operation:	\$235	\$68	30.0%	\$303	2.2%	\$230	\$69	\$299	2060Q1	792.0%	\$2,052	\$616	\$2,668
1.4%	Project Management	\$286	\$86	30.0%	\$372	2.2%	\$292	\$88	\$380	2060Q1	792.0%	\$2,605	\$785	\$3,390
CONTRACT COST TOTALS:		\$24,109	\$7,234		\$31,343		\$24,506	\$7,353	\$31,859			\$84,355	\$25,325	\$109,680



# ***Environmentally Compliant***

- ✓ Public Review of Draft EIS: August – October 2013
- ✓ Coastal Zone Management Act: May 15, 2014
- ✓ Endangered Species Act: May 7, 2014
- ✓ Clean Water Act
  - ✓ Section 404(B)(1): May 5, 2014
  - ✓ Section 401 Water Quality Certificate: May 20, 2014
- ✓ National Historic Preservation Act: May 16, 2014
- ✓ Fish & Wildlife Coordination Act: August 28, 2014



# Reviews

- **Agency Technical Review**

- ▶ Review managed by CSDR-PCX, led by New England District
- ▶ All ATR comments closed
- ▶ Certification completed 28 April 2014
- ▶ Cost DX Certification received on 29 May 2014

- **Independent External Peer Review**

- ▶ Final IEPR report received 28 October 2013

- **Model Review and Approval for Use**

- Wetland Value Assessment (WVA) Community Models (Swamp, BLH)
- ADvanced CIRCulation (ADCIRC) model
- HEC-FDA, HEC-RAS/HMS



# ***Public Involvement***

- Public Meetings held to identify any public concern during development of feasibility study and EIS
  
- Agency coordination
  - ▶ LA Department of Wildlife and Fisheries
  - ▶ LA Department of Natural Resources
  - ▶ LA Department of Transportation and Development
  - ▶ LA Department of Environmental Quality
  - ▶ State Historic Preservation Office
  - ▶ Advisory Council on Historic Preservation
  - ▶ Federal Emergency Management Agency
  - ▶ US Fish and Wildlife Service
  - ▶ National Oceanic and Atmospheric Administration
  - ▶ US Environmental Protection Agency
  - ▶ USDA Natural Resource Conservation Service
  - ▶ Federal Highway Administration



# Schedule

- Begin State & Agency Review 03 Oct 2014
- End State & Agency Review 08 Nov 2014
- Chief's Report December 2014
- Design Start TBD
- Construction Start TBD



# ***Recommendation***

Approve release of the West Shore Lake Pontchartrain Final Integrated Feasibility Report and Integrated Environmental Impact Statement for State and Agency Review



# Questions?



**West Shore – Lake Pontchartrain, Louisiana  
Hurricane and Storm Damage Risk Reduction  
Project**

**Civil Works Review Board  
Local Sponsor Support  
September 16, 2014**



**West Shore – Lake Pontchartrain, Louisiana**  
**Hurricane and Storm Damage Risk Reduction**  
**Project**

**Project Sponsors**

U.S. Army Corps of Engineers, New Orleans District

Coastal Restoration and Protection Authority of Louisiana  
Pontchartrain Levee District

St. Charles Parish  
St. John the Baptist Parish  
St James Parish

# West Shore – Lake Pontchartrain, Louisiana Hurricane and Storm Damage Risk Reduction Project

## Project Support

Presidential Support

Gubernatorial Support

Bi-Partisan Support from the Congressional Delegation

State / Regional / Local Support



# West Shore – Lake Pontchartrain, Louisiana Hurricane and Storm Damage Risk Reduction Project

## Historical Hurricanes

- Hurricane Betsy - 1965
- Hurricane Juan - 1985
- Hurricane Andrew – 1992
- Hurricane Georges – 1998
- Hurricane Ivan – 2004
- Hurricane Katrina – 2005
- Hurricane Gustav – 2008
- Hurricane Isaac - 2012

# West Shore – Lake Pontchartrain, Louisiana Hurricane and Storm Damage Risk Reduction Project

## Tropical Storm Frances – 1998



**West Shore – Lake Pontchartrain, Louisiana**  
**Hurricane and Storm Damage Risk Reduction**  
**Project**  
**Tropical Storm Rita – 2005**



**West Shore – Lake Pontchartrain, Louisiana**  
**Hurricane and Storm Damage Risk Reduction**  
**Project**  
**Hurricane Gustav– 2008**



**West Shore – Lake Pontchartrain, Louisiana**  
**Hurricane and Storm Damage Risk Reduction**  
**Project**  
Hurricane Isaac– 2012



**West Shore – Lake Pontchartrain, Louisiana**  
**Hurricane and Storm Damage Risk Reduction**  
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**West Shore – Lake Pontchartrain, Louisiana**  
**Hurricane and Storm Damage Risk Reduction**  
**Project**  
**Hurricane Isaac– 2012**



# West Shore – Lake Pontchartrain, Louisiana Hurricane and Storm Damage Risk Reduction Project

## Documented Isaac Impacts

- St John the Baptist Parish
  - Over 7,000 buildings flooded
  - High water elevation – 6.5 NAVD88
- St James Parish
  - Over 100 buildings flooded (Over 300 additional sand bagged)
  - High water elevation – 4.6 NAVD88
- Hurricane Isaac Damages of approximately \$2.0 Billion
- 1% Probability Storm
  - St John the Baptist Parish – 11.1 NAVD88
  - St James Parish – 5.6 NAVD88

# West Shore – Lake Pontchartrain, Louisiana Hurricane and Storm Damage Risk Reduction Project Summary

- Coastal Protection and Restoration Authority of Louisiana, Pontchartrain Levee District, and St Charles, St John the Baptist, and St James Parishes support the Project.
- Project has a viable benefit to cost ratio of 2.81:1.
- Documented need for the project based on historic damages.
- Local Sponsors request approval of the project for State and Agency Review.
- Local Sponsors request Chief's Report be sent to Congress by December 2014.



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*Presentation to the*

# *Civil Works Review Board*

West Shore Lake Pontchartrian,  
Louisiana  
Feasibility Study

*by*

*Mr. Edward E. Belk, Jr SES  
Director of Programs  
Mississippi Valley Division*

*September 16, 2014*



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# MVD Command Endorsement

- Concur with MVN Commander's findings and recommendations for West Shore Lake Pontchartrain, LA
- Report complies with all applicable policies and laws in place at this time.
- Anticipate a favorable response to the draft Chief's Report
- Plan supported by sponsor and congressional delegation



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# MVD Command Endorsement (cont)

- Consistent with the Environmental Operating Procedures
- Cost estimates certified by Cost Directory of Expertise at Walla Walla
- 2.81 to 1 BCR



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16 April 2014

# Certification of Legal and Policy Compliance

- District Counsel's legal certification of final report on 9 July 2014
- Technical and Policy Compliance:
  - ATR managed by CSDR-PCX, led by New England District
  - ATR Certification on 28 April 2014
  - Cost Certification completed 29 May 2014
  - Vertical Team alignment; policy reviews completed and all issues resolved



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16 April 2014

# Quality Assurance Activities

- Vertical team coordination throughout the SMART Planning process to ensure technical and policy compliance
- PCX coordination to ensure ATR complete and compliant
- Vertical team coordination to resolve all review comments/issues during various phases of study
- Review Plan for Feasibility Study approved by MSC on 28 Jan 2011
- MVD concurs that project is technically and policy complaint



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# MVD Recommendation

- Approve Final Report
- Release report for State and Agency Review
- Complete Chief's Report by 31 December 2014



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16 April 2014

# WEST SHORE LAKE PONTCHARTRAIN, LOUISIANA, FEASIBILITY STUDY

Civil Works Review Board  
Agency Technical Review (ATR)

Ms. Barbara Blumeris, ATR Lead

National Planning Center  
of Expertise for Coastal  
Storm Risk Management



September 16, 2014



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# ATR TEAM

Team Member	ATR Role	Corps of Engineers Office Symbol
Barbara Blumeris	ATR Team Lead/ Plan Formulation	CENAE-EP-PS
Edmund O'Leary	Economics	CENAE-EP-VC
Barbara Conlin	Environmental/NEPA	CENAP-PL-E
Michael Wutowski John Winkelman	Coastal Engineering	CESAW-ECP CENAE-EP-WM
Michael Wielputz	Geotechnical Engineering	CESAS-EN-GSE
Townsend Barker	Hydrology and Hydraulics	CENAE-EP-WM
Jim Neubauer Matthew Bray	Cost Engineering	CENWW-EC-X CEMVP-EC-D
Heather Sachs	Real Estate	CENAB-RE-C



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# ATR Scope/Charge

ATRs completed for:

- **Feasibility Scoping Meeting documentation plus the Storm Surge and Wave Analysis. 60 comments, March 2012.**
- **Draft Integrated Feasibility Report and Environmental Assessment (pre-ADM) comments requested clarification and revisions to information concerning economic calculations and CSRA for cost estimates. 61 comments, November 2013.**
- **Final Integrated Feasibility Report and Environmental Assessment. 49 comments, May 2014 and Plan Formulation for Compensatory Mitigation for Environmental Impacts to Wetlands, Annex S, 10 comments, July 2014. Comments requested clarification on optimization analysis and the cost for the 200-year LORR levee.**



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# ATR Notable Comments

- **The concern was that the optimization analysis relied on comparative benefits estimates (calculated outside of HEC-FDA) and may contain a significant amount of inaccuracy. This concern was addressed by estimating the benefits with HEC-FDA for the 50, 100, and 200 year level or risk reduction (LORR).**
- **The concern was that the first cost for the 200-year LORR levee used in the optimization analysis was significantly higher than the 100-year levee first cost. This concern was resolved by documenting the 200-year levee items that resulted in the increased cost.**



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# ATR Completion

- **All DrChecks Comments for the West Shore Lake Ponchatrain, HSDR, Integrated Feasibility Study and EIS Have Been Resolved and Closed.**
- **MCX Cost Review and Cost Certification of estimated total project cost, April 2014**
- **The Agency Technical Review was completed July 2014 and certified in accordance with EC 1165-2-214.**



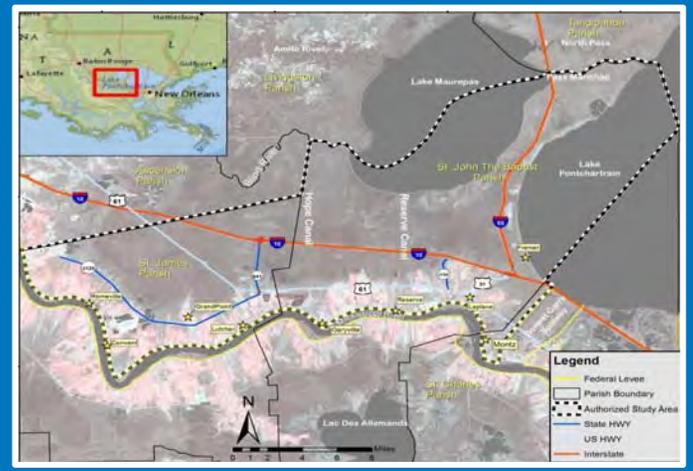
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# Independent External Peer Review (IEPR) West Shore-Lake Pontchartrain, Louisiana Hurricane Protection St. Charles, St. John the Baptist, and St. James Parishes, Louisiana Integrated Feasibility Report/Environmental Impact Statement

Presented to the USACE CWRB on September 16, 2014

Karen Johnson-Young, PMP  
*Program Manager*

Julian DiGialleonardo  
*Project Manager*



# IEPR - Panel and Schedule

- The IEPR was completed following the Louisiana Water Resources Council (LWRC) Charter and is in compliance with WRDA 2007, Section 7009
- Completed by members of the LWRC Primary Panel<sup>1</sup> and LWRC Candidate Pool<sup>2</sup>

WSLP Panel Members	Panel Discipline
Michelle Orr, P.E. <sup>1</sup> .	Hydrologic and Hydraulic Engineering
Ken Casavant, Ph.D. <sup>1</sup> .	Civil Works Planning
John Loomis, Ph.D. <sup>1</sup> .	Economics
Kay Crouch <sup>1</sup>	Biology/Ecology
Doug Spaulding, P.E. <sup>2</sup> .	Geotechnical/Structural Engineering
Ralph Ellis, P.E., Ph.D. <sup>1</sup> .	Civil/Mechanical Engineering

**WSLP IEPR was conducted August – December 2013**

- The Panel reviewed the September 2013 version of the review documents.

# IEPR Bottom Line Up Front

The Panel agreed with the actions presented by the PDT to address the Final Panel Comments.

# IEPR - Results

Final WSLP IEPR Report submitted on October 28, 2013

- 19 Final Panel Comments
  - 12 medium significance
  - 7 low significance

Post-Final Panel Comments/Response Results documented on December 11, 2013

- PDT Evaluator Responses to Final Panel Comments
  - 14 concurs, 5 non-concurs
- Panel BackCheck Responses to the PDT Responses
  - 19 concurs

# IEPR - Notable Findings

- A plan for disposal of the large volume of excavated fill materials from the drainage channel is not incorporated into the proposed design, and the many factors associated with the disposal of excavated material that could increase project costs and environmental impacts are not addressed.
- The process for verifying key assumptions and the potential effects of this process on the future development of the Tentatively Selected Plan (TSP) are not explained.
- The separable non-structural elements of Alternatives A and C have not been shown to be economically feasible.
- The assumption that the benefits are equivalent for Alternatives A, C, and D is not supported due to the potential differences in risk reduction across alternatives arising from the uncertainty of the implementation of non-structural measures.
- The residual risk to life (e.g., from levee overtopping or levee failure) and infrastructure of the alternatives has not been quantified.

# HQUSACE POLICY REVIEW CONCERNS

## Civil Works Review Board

### West Shore Lake Pontchartrain, Louisiana Feasibility Study

Jeremy LaDart  
Office of Water Project Review  
Planning and Policy Division  
Washington, DC – 16 September 2014



## HQUSACE Team Reviews:

- TSP Briefing- 3 July 2013.
- Draft Report Review– August 2013
- ADM Briefing – 21 November 2013
- Final Feasibility Report/EIS - HQUSACE began review of initial submittal in May 2014 and a revised version on 24 July 2014. The review of the report is now complete.

## HQUSACE Team Members:

Mark Matusiak

Scott Murphy

Mayely Boyce

John Cline

Gary Hardesty

Jeff Strahan

Chandra Pathak

Eddie Douglass



# Policy Issues from Draft and Final Report Reviews

- ❑ **Plan Formulation - Nonstructural**
- ❑ Discount Rate
- ❑ Economic Damage Relationships
- ❑ **Economic Optimization**
- ❑ **Executive Order 11988**
- ❑ OMRR&R Costs
- ❑ Cumulative Impacts
- ❑ Mitigation
- ❑ **Adaptive Management Cost**
- ❑ **Cost Sharing**
- ❑ Letter of Intent and Financial Certification
- ❑ Purpose and Need Statement
- ❑ **Clean Water Act**
- ❑ Utility Relocations
- ❑ LERRD Requirements
- ❑ Wetland Real Estate Interests
- ❑ **Relocation Assistance**
- ❑ Cost Inconsistencies



# Plan Formulation - Nonstructural

**CONCERN:** The recommendation for St. James Parish was nonstructural berms; totaling: ~20,500 feet in length, 2 pump stations, 3 flood gates, and ~145 flap gates for HWY 3125.

**BASIS:** The PGN (ER 1105-2-100) states, “Nonstructural measures reduce flood damages without significantly altering the nature or extent of flooding.” However, no formal guidance defines significant alteration. For some authorities, a nonstructural designation can have cost share implications.

**RESOLUTION:** Revise the report to remove the title nonstructural berms. A multidisciplinary HQ team has been established to develop clearer guidance for USACE participation in nonstructural risk reduction measures.

**RESOLUTION IMPACT:** Concern is resolved. New guidance will need to be issued.



# Economic Optimization

**CONCERN:** An unresolved ATR comment questioning the economic optimization was elevated to HQ. Specifically, the validity of an unapproved/certified spreadsheet was used to bracket the NED Plan was questioned.

**BASIS:** ER 1105-2-100 requires that the NED plan be bracketed and identified based on reasonably maximizing net benefits. EC 1105-2-412 requires the approved or certified models be used.

**RESOLUTION:** HQ worked with the district to use the available information and the certified HEC-FDA model. The benefits of all the scales (2%, 1%, and 0.5%) were recalculated and the cost for the 0.5% chance scale was revised. The changes in benefits and costs validated the 1% as the NED Plan.

**RESOLUTION IMPACT:** Concern is resolved.



# Adaptive Management Costs

**CONCERN:** The cost for the adaptive management component of the mitigation plan was not specifically identified.

**BASIS:** The costs of the adaptive management plan must be provided pursuant to paragraph 5(d) of the implementation guidance for Section 2036 WRDA 2007.

**RESOLUTION:** Revise the report and Chief's Report to correctly identify the cost of adaptive management for the mitigation plan.

**RESOLUTION IMPACT:** Concern is resolved.



# Executive Order 11988

**CONCERN:** The risk reduction system has a 1% level of performance, causing a concern about inducing development in the base ('100-year') floodplain behind the proposed project. Information was included in the final report, but was not sufficiently documented.

**BASIS:** ER 1165-2-26 outlines an 8 step process to analyze and document compliance with EO 11988. The report needed additional information to meet the policy requirements and document that the project would not induce development over the future without project condition.

**RESOLUTION:** Revise the report to more clearly document compliance.

**RESOLUTION IMPACT:** Concern is resolved.



# Clean Water Act

**CONCERN:** The report did not include a clear identification of Alternative C, the recommended plan, as the Least Environmentally Damaging Practicable Alternative (LEDPA).

**BASIS:** Army Corps Civil Works projects must comply with the Section 404(b)(1) guidelines under the Clean Water Act, including the requirement to avoid any plan to discharge dredged or fill material if there is a practicable alternative with less adverse impact on the aquatic ecosystem.

**RESOLUTION:** Revise the report to more clearly explain the basis for the selection of Alternative C as the LEDPA.

**RESOLUTION IMPACT:** Concern is resolved.



# Relocation Assistance Costs

**CONCERN:** The final report recommends voluntary elevation of 14 residential and 4 commercial structures. In order to attain a better participation rate, the sponsor asked the USACE to ask that Congress specifically authorize Uniform Relocation Act (PL 91-646) benefits be paid to persons or businesses temporarily displaced by this project.

**BASIS:** Although the amount of such benefits that would be paid for this project is relatively small, USACE requesting such an exception for this project would set a precedent and raise concerns of fair and equitable treatment on other projects. It is also contrary to policy and practice on past projects.

**RESOLUTION:** A policy decision was made that USACE would not request relocation assistance costs be authorized for voluntary nonstructural implementation. Revise the report and proposed Chief's Report accordingly.

**RESOLUTION IMPACT:** Concern is resolved.



# **HQUSACE POLICY REVIEW TEAM RECOMMENDATION**

**Release the Draft Chief's Report for State  
& Agency Review Subject to HQUSACE  
Validation of Vertically Aligned  
Modifications to the Report and EIS.**



# ***After Action Report***

## ***Key Lessons Learned***

- More Robust use of Risk Register
- Documenting Decisions
- Coordinate Concurrent Review Results
- Focus on Decision to be Made
- Synchronizing Regulations and SMART Planning



# MVD Lessons Learned

- Importance of decision management.
  - Better use of decision log
  - Better management of IPRs
- Clear and concise communication with reviewers.
  - Ensure expectations for level of detail from VT are met
- Consistent engagement and participation of vertical team members
- More controlled comment/response review process.



# BACKUP SLIDES



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# ETL 1100-2-1 continued

