



2015

THE PONTCHARTRAIN LEVEE DISTRICT
PROGRESS REPORT



- WEST SHORE-LAKE PONTCHARTRAIN, LA HURRICANE PROTECTION PROJECT
- BAYOU CONWAY & PANAMA CANAL DRAINAGE IMPROVEMENT PROJECT
- LAUREL RIDGE LEVEE EXTENSION
- LAKE PONTCHARTRAIN AND VICINITY, LOUISIANA PROJECT NORTH OF AIRLINE HIGHWAY, ST. CHARLES PARISH 100 YEAR HURRICANE PROTECTION
- ST. CHARLES PARISH EAST BANK URBAN FLOOD CONTROL FEASIBILITY STUDY
- ST. CHARLES PARISH HURRICANE PROTECTION LEVEE SHORELINE ENHANCEMENT AND LABRANCHE WETLANDS RESTORATION
- ST. CHARLES PARISH HYDRODYNAMIC AND WATER QUALITY MODEL OF THE LABRANCHE WETLANDS
- ST. CHARLES PARISH LABRANCHE WETLANDS RESTORATION FRESH WATER DIVERSION
- ST. CHARLES PARISH LABRANCHE WETLANDS RESTORATION SALINITY CONTROL STRUCTURE

March, 2015

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Pontchartrain Levee District Board of Commissioners

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At-Large

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Representing Illinois Central Railroad

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Representing Illinois Central Railroad

Jerry Savoy
Representing Ascension Parish

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Representing Iberville Parish

Monica T. Salins
Executive Director



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2204 Albert Street
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Mission

- To maintain the existing levee systems in a condition that will ensure their integrity and capability to withstand river stages and hurricane tidal surges, as anticipated by their design and condition;
- To improve, by construction or supporting construction by others, of new or enhanced levels of protection as design parameters change or higher levels of protection are authorized; and
- To anticipate weaknesses in the system as and before they develop, and to respond actively with necessary emergency measures when the levees are being subjected to river stages or hurricanes tidal surges that would cause flooding within the jurisdiction of the Pontchartrain Levee District



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Pontchartrain Levee District

History of the Pontchartrain Levee District



The Pontchartrain Levee District (PLD) was created by the legislature in 1895. At that time it also included the Baton Rouge Front Levee, and until 1979 it encompassed what is now the East Jefferson Levee District. The PLD headquarters is in Litcher, and the maintenance shop is located at 9620 Highway 44, in the community of Union, two miles downstream from the Sunshine Bridge across the Mississippi. Within the Pontchartrain Levee District today are 115 miles of levee along the east bank of Mississippi River, and 10 miles of hurricane protection levee in St. Charles Parish. The Pontchartrain Levee District extends from Baton Rouge to Kenner, La., at the Jefferson Parish line, and runs north from the Mississippi River to reach the Amite River and Lakes Pontchartrain and Maurepas. Portions of six parishes on the east bank of the Mississippi River are included in the Pontchartrain Levee District: East Baton Rouge, Iberville, Ascension, St. James, St. John the Baptist, and St. Charles Parishes.

The Board of Commissioners of the Pontchartrain Levee District is currently comprised of nine (9) board members, consisting normally of one member from each of the six parishes, two additional board members representing the Illinois Central Railroad Council, and an at-large member.

The PLD works closely with the Louisiana Coastal Protection and Restoration Authority (CPRA), the U.S. Army Corps of Engineers (Corps) and formerly with Louisiana Department of Transportation and Development (DOTD) to promote and support industrial action and expansion through a program that grants a “no objection” statement to proposed operations that may have an effect on the integrity of the levee system and are compatible with flood control such as the construction of structures, roadways, and pipelines.

The Board of Commissioners is vested with the control and responsibility for assuring the proper monitoring of levees, structures, canals, and related improvements throughout the district. The Commissioners attend one regular monthly meeting, along with various special and committee meetings.

The Pontchartrain Levee District, under the direction of the CPRA and the Corps and acting as its local agent, is responsible for the performance of ordinary maintenance and repair of the levee system, policing to guard against damages to the levee and related structures, and to ensure the integrity of the levee system. The PLD keeps an accurate account of the finances, periodically examines and reviews financial transactions before approving expenditures, and adopts an operating budget. During all times, the PLD patrols the levee system and interrupts operations on or near levees which may be detrimental to the integrity of the flood protection levee.

The entire levee system within the Pontchartrain Levee District was designed and built by the U.S. Army Corps of Engineers. The Pontchartrain Levee District, in its authority to maintain the integrity of the levee, cannot allow any work, any activity, or any alteration to the design of said levees without the approval and consent from the CPRA, DOTD and U.S. Army Corps of Engineers. DOTD is consulted because of the highways that run along the levee and specific DOTD right-of-ways, and the Corps is consulted because as designers and constructors of the levees, they have the ultimate authority over such a system.



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Facts and Statistics



The Pontchartrain Levee District's current budget is derived principally from a 3.47 mils ad valorem tax on the six-parish area, and from a limited amount of interest and royalties. Of the PLD's projected expenditures for FY 2014-2015, a total of 75% is spent on levee maintenance. Construction costs today for the 115 miles of levee in the district are estimated to be in excess of \$300 million. There are 51 classified employees, an executive director, and a board secretary employed by the PLD.

The Pontchartrain Levee District conservatively estimates that its levees protect \$1.2 to \$1.5 billion in assessed taxable property and improvements, as well as highways, bridges, airports, schools, courthouses, and parks. The PLD protects an estimated 500,000 people within its six-parish jurisdiction, and incorporates the primary evacuation routes for 1.1 million people from the southeast (greater New Orleans), and an additional 300,000 people from the southwest via routes U.S. 61, U.S. 90, and Interstates 10 and 310.

The U.S. Army Corps of Engineers is responsible for levee construction and related works under the federal Mississippi River & Tributaries Flood Control Project (MR&T). The Pontchartrain Levee District, as a local assuring agency, works with the Corps to furnish rights-of-way and maintain levees, canals and caving banks. The New Orleans District of the Corps of Engineers continues to work toward completion of the MR&T Project by letting contracts for slope pavement and levee enlargements. These projects are financed through federal appropriations and are completed as part of a total upgrading of the levee system. Bank caving is being solved by a sophisticated "revetment program." Completion of the MR&T Project, which began in 1928, depends solely on availability of federal funds appropriated in the yearly federal budget.

The Pontchartrain Levee District (PLD) is the local sponsor for the projects referenced herein. Currently, there are projects in each of the six parishes comprising the PLD's jurisdiction. As presented in more detail throughout this report, ongoing feasibility studies are underway for many projects, some of which are federally authorized, and many where the PLD has assumed full responsibility at the local level. Additionally, several projects are currently under construction, which when completed, will provide the East Bank community of St. Charles Parish with increased protection from storm induced flooding and rainfall events.

The total cost of these projects is estimated to be \$750,000,000. The PLD is confident that the findings and recommendations in the ongoing studies will establish the forward path for future construction of critical drainage, coastal restoration and hurricane protection projects. An integral part of several of the local studies includes the incorporation of recreational features which provide economic opportunities and a better quality of life for the citizens residing on the east side of the Mississippi River in the Parishes of St. Charles, St. John the Baptist, St. James, Ascension, Iberville and East Baton Rouge. The PLD appreciates the interest and support of the Congressional Delegation, the U.S. Army Corps of Engineers (Corps) and state and local government with regard to these projects.



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Ongoing Feasibility Studies (Federal Participation)

- St. Charles Parish East Bank Urban Flood Control Project
- West Shore – Lake Pontchartrain, LA Hurricane Protection Project

Ongoing Section 211 Study (Water Resources Development Act of 1996)

- Amite River and Tributaries, Bayou Manchac Project

Ongoing Feasibility Studies (Local Participation)

- Laurel Ridge Levee Extension Project
- Bayou Conway/Panama Canal Drainage Improvements Project
- LaBranche Wetlands Restoration and Shoreline Protection Project

Projects Currently under Construction (Federally Authorized)

- Lake Pontchartrain and Vicinity Hurricane Protection Project, St. Charles Parish (100 year hurricane protection)

Project Construction Complete

(Local Funds pending completion of the East Bank Urban Flood Control Study)

- Cross Bayou Pump Station, St. Charles Parish

The Cross Bayou Pump Station is the 2nd of 4 or 5 pumps to be constructed with local funding while being evaluated in the East Bank Urban Flood Control Study. In 2004, construction of the Bayou Trepagnier Pump along the Lake Pontchartrain Hurricane Protection Project in St. Charles Parish was completed at a cost of \$8,500,000. The Cross Bayou Pump, at a cost of \$18,800,000, has been constructed with local funds. Following the feasibility study, the PLD will pursue federal authorization for this project along with Corps credit for the 2 pumps constructed with local funds.

While the PLD is embarking on projects totaling \$750,000,000, there are continuous efforts associated with levee maintenance, levee drainage, borrow-pit drainage, and the maintenance and clearing of rights-of-way along the mainline Mississippi River levee and a ten-mile hurricane protection levee located on the East Bank of St. Charles Parish. All of the appurtenances within the St. Charles Parish Hurricane Protection Levee including flood control structures, floodwalls and the Bayou Trepagnier Pump Station are maintained and operated by St. Charles Parish. The PLD does not have the manpower or finances to assume this responsibility.



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PLD supports the Corps FY 2015/2016 appropriations request for Mississippi River and Tributaries (MR&T) and Operations and Maintenance (O&M) as outlined below.

MR&T (FY 2015) **Total \$11,100,000** (Presidents budget \$5,100,000, additional work plan amount \$6,000,000).

Funding for PLD \$6,000,000 (Construction of St. Gabriel Levee Lift).

LA Congressional Districts 1, 2, 3, 5 and 6

FY 15 funding will be used to close out the Manchac Point levee constructions contract. In addition, FY 15 funding will be used to complete engineering and design, environmental investigations, and award a construction contract for the St. Gabriel Levee Enlargement.

O&M (FY 2015/2016) **\$1,900,000**

LA Congressional Districts 1, 2, 3, 4, 5, 6 and 7

Funding required for permit reviews, O&M levee inspections, Levee Safety Program and National Levee Datum support and instrumentation.

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**PONTCHARTRAIN LEVEE DISTRICT
JURISDICTIONAL BOUNDARIES**





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West Shore – Lake Pontchartrain Hurricane Protection Project

Project Description and Purpose:

In September 1965, Hurricane Betsy struck the greater New Orleans area causing severe flooding in the Lower 9th Ward of Orleans Parish and almost all of St. Bernard Parish. Congress authorized the U.S. Army Corps of Engineers (Corps) to design and construct the Lake Pontchartrain and Vicinity, Louisiana Hurricane Protection Project in the Flood Control Act of 1965 in October 1965.

In 1970, St. John the Baptist Parish (St. John) raised objections to the Lake Pontchartrain and Vicinity, Louisiana Hurricane Protection Project based upon the lack of hurricane protection levees west of the Bonnet Carré Spillway. St. John argued that the development of hurricane protection levees from Orleans Parish to St. Charles Parish would funnel the storm surge to St. John the Baptist Parish thus consequently sacrificing St. John to save others.

In July 1971, a resolution was passed in the Committee on Public Works of the House of Representatives authorizing the Corps to include the remaining portion of St. Charles Parish (from the Bonnet Carré Spillway Upper Guide Levee to the Parish line) and St. John the Baptist Parish in the Lake Pontchartrain and Vicinity, Louisiana Hurricane Protection Project. In September 1974, a resolution was passed in the Committee on Public Works of the Senate authorizing the Corps to include St. James Parish in the Lake Pontchartrain and Vicinity, Louisiana Hurricane Protection Project.

Project Location:

The West Shore – Lake Pontchartrain, Louisiana Hurricane Protection Project study area is located in a portion of St. Charles Parish, St. John the Baptist Parish, and St. James Parish. The project begins at the Upper Guide Levee of the Bonnet Carré Spillway and continues westward toward the Hope Canal providing protection to the communities of Montz, LaPlace, Reserve, Garyville, Mount Airy, Gramercy, Litcher, and Grand Point. Please see attached maps.

Status of Work:

The work on the Feasibility Study Report was split evenly between the USACE and the PLD. The Feasibility Study has been advanced to a final format stage. There were three alignments being reviewed; one that followed the wet-dry interface with the wetlands from the Upper Guide Levee to Hope Canal (Environmentally Preferred Alignment); one that followed the petroleum pipeline right-of-way from the Upper Guide Levee to Hope Canal then turning south toward the Mississippi River (Pipeline Avoidance and Storage Capacity Alignment); and one that followed the Interstate-10 route from the Upper Guide Levee to the Marvin Braud Pump Station in Ascension Parish (Locally Preferred Alignment). The Environmentally Preferred and Pipeline Avoidance and Storage Capacity Alignments were considering protection for the St. James Parish communities via non-structural methods such as ring levees, property elevations, etc. The Locally Preferred Alignment was the only one that protected the entire study area and all critical infrastructure (including I-10, US Hwy 61, refineries, petrochemical plants, Port of South Louisiana, etc.) The Pipeline Avoidance and Storage Capacity Alignment was recommended as the Tentatively Selected Plan in June 2013. The Pipeline Avoidance and Storage Capacity Alignment (Alignment C) was approved as the Tentatively Selected Plan during the Agency Decision Milestone Meeting in November

2013. The USACE and PLD have prepared the Feasibility Study Report and Appendices and submitted it for Division and Headquarters review in September 2014. The Feasibility Study Report was approved by the Civil Works Review Board in December 2014 and distributed to the State of Louisiana and Federal Agencies for review in January 2015. It is anticipated that Comment resolution will be completed in March 2015 and have an approved Chief's Report in May 2015.

Funding Requirements for FY 2016:

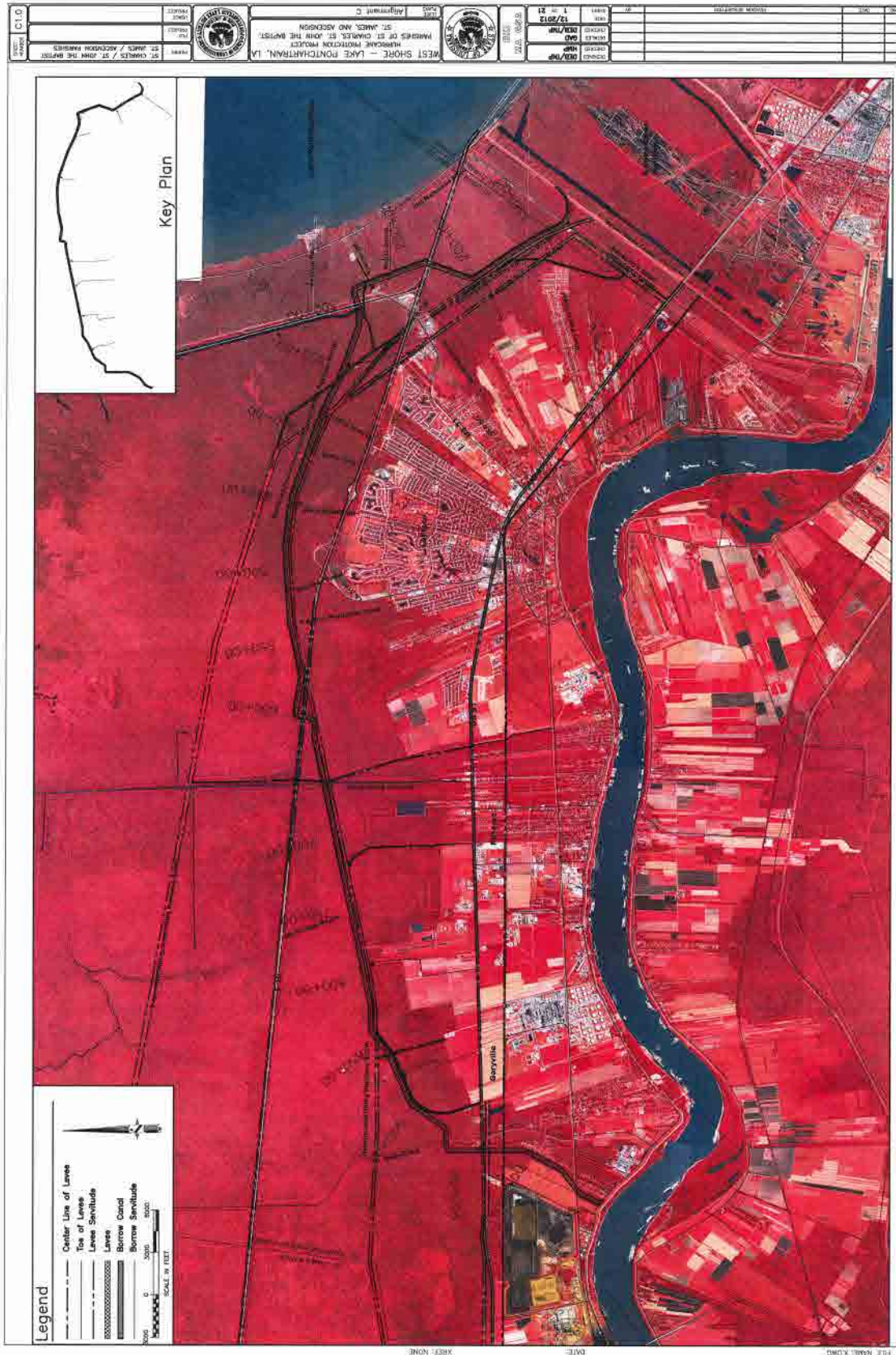
Funding required for completion of the Feasibility Study Phase was a 50% Federal and 50% Non-Federal Local Match. In 2011, the PLD secured \$10,830,000 in Local Match funds through the Louisiana Capital Outlay Program and has executed contractual agreements with the affected Parishes to provide the Local Match for this project. The USACE has the necessary funds to complete the Feasibility Study Report. The USACE needs funding to start Preliminary Engineering Design (PED) after the Chief's Report. The FY2016 request is based upon normal PED funding of newly approved projects.

FY 16 Federal Funding Needed for PED - \$1,500,000



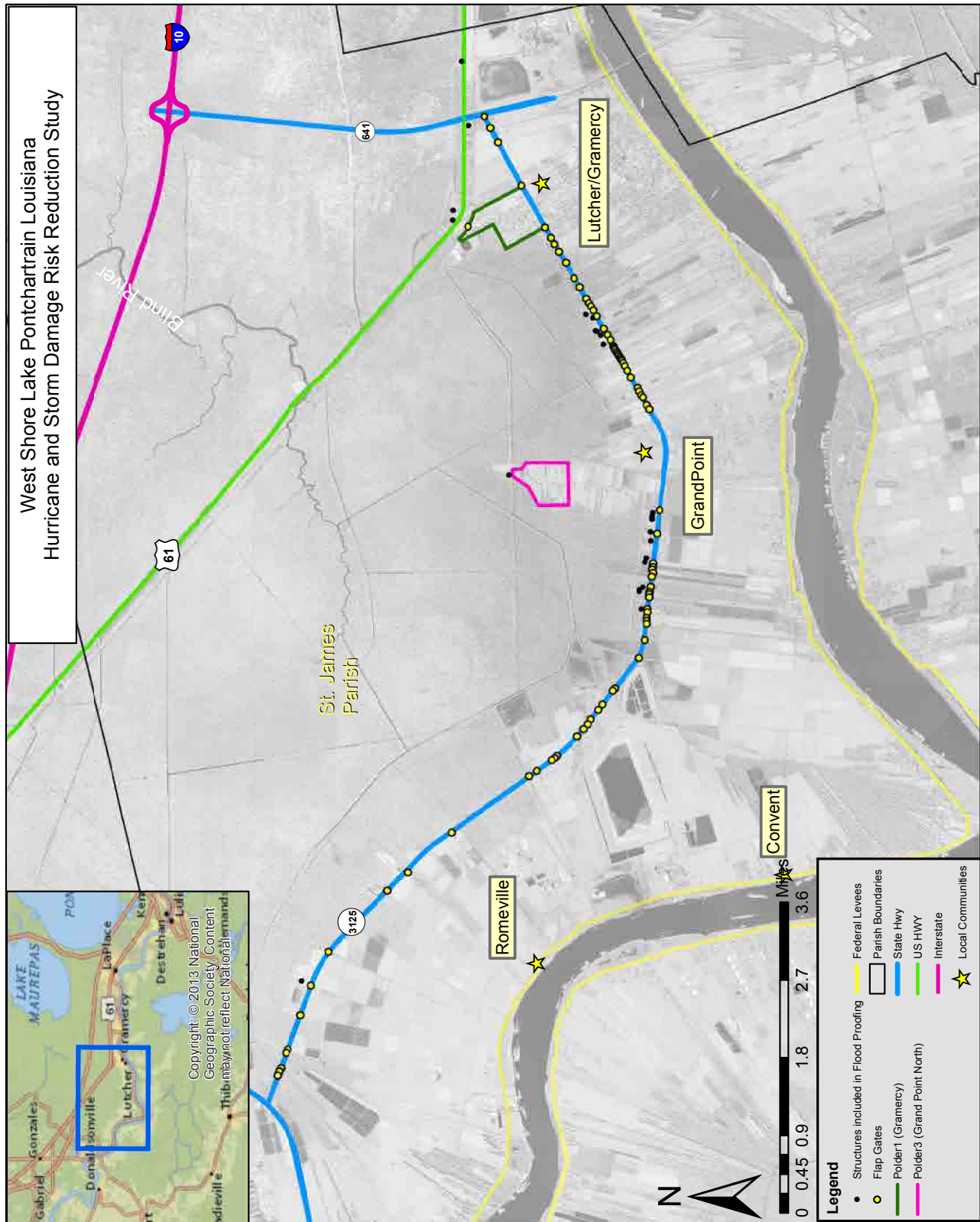
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Bayou Conway & Panama Canal Drainage Improvement Project Ascension Parish and St. James Parish

Project Location:

Bayou Conway and the Panama Canal drainage basin is located in southern Ascension Parish and northern St. James Parish, along the proposed Ascension Parish alignments of the Lake Pontchartrain West Shore Hurricane Protection Levee Project.

Project Description:

The purpose of the Bayou Conway and Panama Canal Drainage Improvement Project is to provide a reduction in the risk of flooding for the drainage basin that includes the area near the boundary between Ascension and St. James Parishes.

The modeling component of the project was utilized in the West Shore Hurricane Protection Levee project for the Bayou Conway crossing of the proposed Levee Alignment D. It now appears that Alignment D has effectively been removed as an alternative from consideration for the West Shore Hurricane Protection Levee. The modeling results are being utilized to make improvements to the gravity conveyance system (channel improvements) within the watershed, and to consider the potential for a forced drainage system (levees and pump stations) in the future.

The Bayou Conway watershed encompasses the Mississippi River Levee at the 81 mile point (mile marker 180) to its confluence with Blind River, and travels a distance of approximately 23.5 miles. The Panama Canal is an 8.3 mile diversion relief channel that cuts a more direct channel to the downstream end of Bayou Conway. The Conway/Panama System serves as the major conveyance channel for the southeastern portion of Ascension Parish and a portion of St. James Parish. The drainage basin encompasses an area of approximately 65 square miles, of which a large portion lies along the Mississippi River corridor. The entire drainage basin lies outside of the area served by the Marvin J. Braud Pump station located at McElroy, and its protection levees, which are located in Ascension Parish. The results of the Bayou Conway/Panama Canal Drainage Study are being utilized for proposed channel improvements, so that the risk of flooding can be reduced within the basin. The study and modeling efforts also form the basis for future basin planning and watershed management.

Project Status

The hydraulic analysis/study was completed in July 2011. The study determined the existing conditions within the basin based on varying downstream conditions and proposed necessary improvements to the channels to reduce the risk of flooding within the watershed. Downstream conditions were determined utilizing the existing data from existing gage data, FEMA Studies, and data generated from the Amite River Tributaries and Lake Pontchartrain West Shore projects. As a result of this investigation, channel maintenance and a dredging regime is recommended to provide the needed channel capacity for the gravity conveyance improvements within the Bayou Conway and Panama Canal watershed.

Permits for the Snagging and Clearing of the channels were received in the summer of 2014 to facilitate the drainage improvements. The actual improvements were completed by the fall of 2014, resulting in over 1,500 "targets" (logs, snags, lay-downs, etc.) being removed from the channels.

The next phase of work will be to begin the implementation of the proposed channel maintenance dredging. The proposed improvements consist of five phases of work that will open up the silted/clogged channels and provide needed capacity for the drainage system. The phases of work were divided by assessing the most urgent priorities determined in the modeling efforts.

Additionally, the potential for a forced drainage system including levees and pumps are being considered for future efforts.

Project Funding

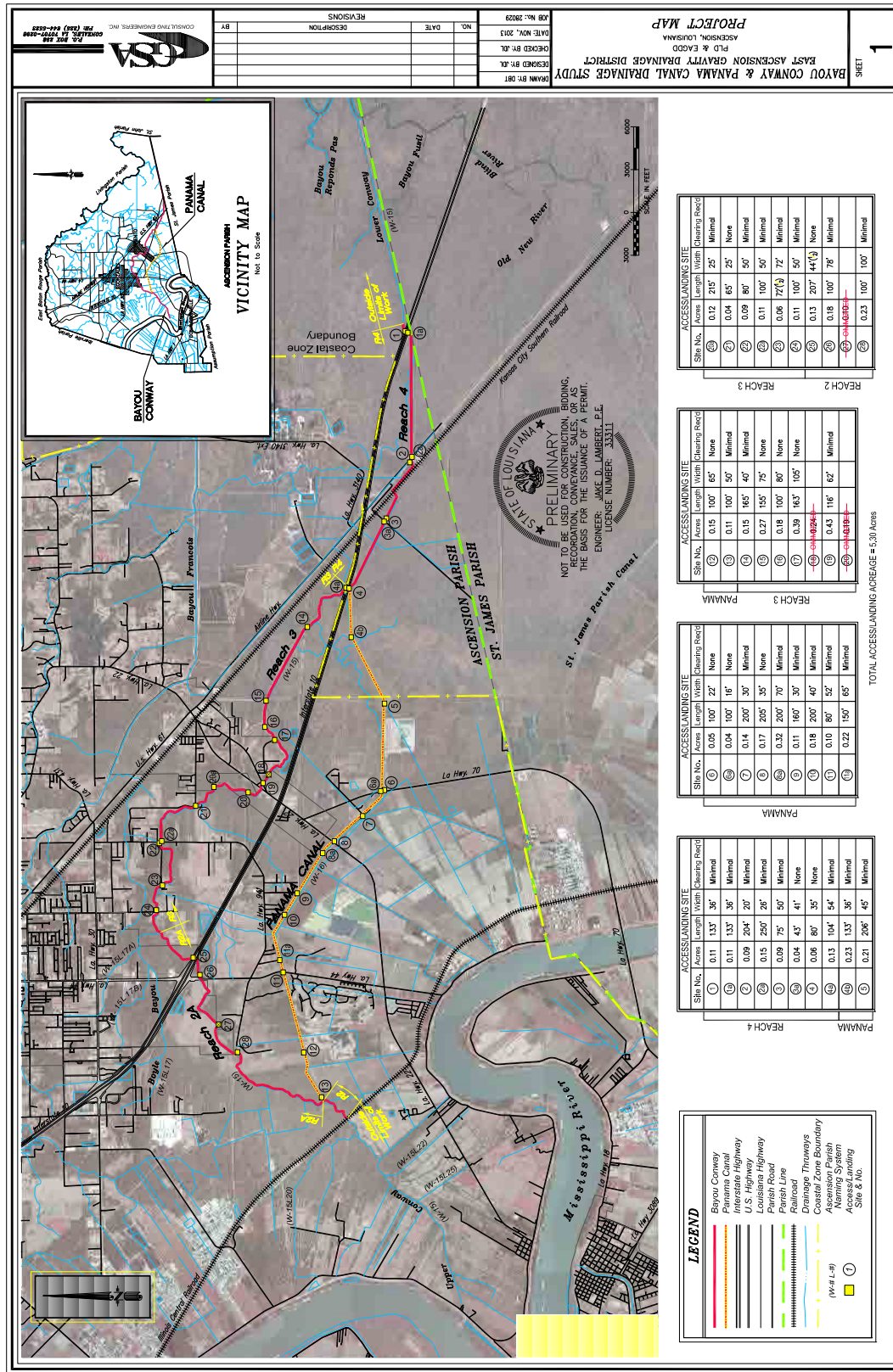
The Pontchartrain Levee District and the East Ascension Gravity Drainage District have entered into an intergovernmental agreement that split the funding of the Drainage Study amongst each entity. Funding for the implementation of the recommendations will be funded by the EAGDD and PLD.

Estimated Project Construction Costs

The preliminary project cost estimates for the snagging and dredging of the selected channels was divided into several phases. The priority phase of work is approximately \$2.0M and consists of targeted areas that will have the greatest flood risk reduction and the least environmental impact. Subsequent phases could occur over a period of time, as funds become available. Costs range from \$5-8M depending on the project permitting and material disposal methods.

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Bayou Conway/Panama Canal Drainage Study Ascension Parish and St. James Parish



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Laurel Ridge Levee Extension, Ascension Parish

Project Location:

The Laurel Ridge Levee Extension Project is located in the north east corner of Ascension Parish along the Amite River.

Project Description:

The Laurel Ridge Levee Extension Project consists of extending the existing Laurel Ridge Levee to protect additional properties along/within the Amite River floodplain from backwater flooding and high waters on the Amite River. The proposed levee extension will begin at the ending point of the existing Laurel Ridge Levee, and is proposed to terminate at the northern end of Wall Cemetery Road

The Laurel Ridge Levee Extension, as currently proposed, will be approximately 4.5 miles long, and will be constructed to an elevation of 15.0 NAVD. The construction will require nearly 425,000 cubic yards of fill.

The proposed project will reduce flood stages by several feet and will provide this protection for a population of approximately 4,000 people, and 1,700 structures.

Project Status

The initial reconnaissance level investigation was completed during the summer of 2011. The reconnaissance study investigated the feasibility of the project and helped determine some of the project features, modeling results, and design criteria. In May of 2013, the project scope changed from a project of approximately 3.3 miles long to a total project length of approximately 4.5 miles to provide flood risk reduction to additional residents within the Amite River Flood Plain located along LA 431. This revision required additional surveying and preliminary engineering necessary to incorporate into the original project.

Three alignments were considered.

Alignments 1 & 3 were investigated to minimize environmental impacts to the jurisdictional wetlands. Because of the increased levee lengths and the necessity for multiple pump stations for both alignments, Alignment 1 & 3 were deemed too expensive (\$32 and \$35 million, respectively) to construct, compared to the benefits that they would have provided.

Alignment 2 is the preferred alignment due to the reduced estimated cost (\$24 million) for providing the same benefits and level of protection as Alignments 1 & 3. Alignment 2 would utilize the existing swamp as retention for the internal drainage while the Amite River is at flood stage. This alignment does not require the construction of pump stations and the gravity-driven internal drainage will be handled by a flood gate system. This will allow the swamp area on the protected side of the levee to be used as storm water storage until the Amite River floodwaters recede. The proposed levee is approximately 25,300 feet long with a crest elevation of 15.0. Because the gated system will be operated in an open condition, and only closed during a backwater flooding event from the Amite River, there will be minimal environmental impacts to the wetlands on the protected side, and it will allow for a shorter levee length.

Project Funding

Ascension Parish has previously funded several Master Drainage Plans that have included this levee extension project in the overall plan. There was also, some preliminary geotechnical investigations performed at the expense of the East Ascension Gravity Drainage District (EAGDD), an entity of Ascension Parish.

The Pontchartrain Levee District (PLD) has funded the Laurel Ridge Levee Extension Recon Study, and the Preliminary Permitting efforts.

At this time, a Memorandum of Understanding has been completed between the PLD and EAGDD, that states that the PLD will be responsible for coming forward with the funds required to complete the engineering, design, and permitting phases of the proposed project, and that the EAGDD will provide the funds for the environmental impacts, real estate acquisition, and construction phases.

Project Breakdown

Phase I: Reconnaissance Study

This effort was an investigation into the general project concept. Engineering parameters, project costs, project benefits were investigated to determine whether the project was worthy of further consideration. The results came back favorably for the construction of Alternative Alignment #2. This effort was completed during the summer of 2011.

Phase II: Preliminary Design and Permitting

This effort consists of the data collection necessary to perform the preliminary design services required to better define the project parameters before the design and permitting application is submitted. Topographical Survey Services were required to better define the termination point of the proposed levee. The proposed project structures were more closely investigated for site requirements and alignments.

A wetlands delineation was performed to



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Laurel Ridge Levee Extension, Ascension Parish

determine the boundary of the areas impacted by the proposed improvements, and to assist in the permit submittals.

This effort was completed during the summer of 2014.

Phase III: Permitting

The permitting will be critical to the successful completion of this project. The permitting will require submittal of the preliminary design documents, and will require the approval of the proposed plan. An operation plan for the flood gates will be developed and approved that will dictate the strict ownership and operation parameters for the flood gates. Also, the environmental impacts will have to be identified, and a wetlands mitigation and monitoring plan will have to be established for impacted areas. Once these concerns have been addressed, the various entities having jurisdiction will have to accept the proposed improvements.

The permitting efforts are currently underway.

Phase IV: Final Plans & Specs

And the final design and the necessary construction documents will be put together. Once the final design is completed, a revised construction cost estimate will be produced.

Phase V: Real Estate Services & Environmental

This phase will include the acquisition of the necessary real estate easements, wetland mitigation, completion of the final design documents, and bidding of the project. The real estate easements and wetland mitigation will be handled according to the permitting requirements.

Once these steps are completed, and the construction funds are in place, then the project can be opened for bidding.

Phase VI: Construction Administration and Inspection Services

The Construction Administration and Inspection Services will be performed to ensure that the Contractor is constructing the proposed improvements according to the Construction Documents and to protect the interests of the owner. This effort will include the day-to-day management of the project, the inspection of the construction progress, the verification (geotechnical and survey) of the construction materials and quantities, progress meetings, approval of pay applications, processing of change orders, owner updates, and various other construction administration services.

Project Estimated Costs

Alignment Option 2- The total preliminary estimated project cost for this alignment option is \$24 million dollars.



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Project Schedule

Phase I: Reconnaissance Study – COMPLETE

Began: September 29, 2008

Status: Completed Spring 2011

Phase II: Prelim Design and Prelim Permitting – COMPLETE

Began: July 5, 2012

Status: Complete

Phase IIa: Additional Data Collection and Design Revision

Began: September 2013

Status: Completed February 2014

Future Phase III: Permitting

Estimated Duration: 10 Months

Projected Begin: October 2014

Projected Completion: August 2015*

**Dependent on LADNR & USACE Review/Approval Schedule*

Future Phase IV: Final Design/Specifications (on-going simultaneous to Permitting)

Estimated Duration: 12 Months

Projected Begin: April 2015

Projected Completion: April 2016*

**Dependent on LADNR & USACE Review/Approval Schedule*

Future Phase V: Real Estate Services, Wetland Mitigation

Estimated Duration: 12 Months

Projected Begin: April 2015

Projected Completion: April 2016

Phase VI: Construction - Estimated Construction Cost \$20M

Estimated Duration: 18 Months

Projected Begin: Summer 2016

Projected Completion: Fall 2017

Total Estimated Project Cost: \$24 Million



Laurel Ridge Levee Extension, Ascension Parish



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Lake Pontchartrain and Vicinity, Louisiana Project North of Airline Highway, St. Charles Parish 100 Year Hurricane Protection

Project Description:

The Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection Project was authorized by Public Law 298, 89th Congress, 1st Session, approved on October 27, 1965. The original authorized design provides standard hurricane protection (SPH) from a fast moving Category 3 hurricane. The existing hurricane protection levee system, fully constructed to the original authorized design is currently being constructed to the new Corps of Engineers design standards which provides a 100 year level of protection, equivalent to a slow moving Category 3 hurricane. The project includes approximately 9.75 miles of earthen levee, four (4) drainage structures, two (2) swing gates, two (2) pre-cast concrete access bridges and five (5) floodwalls, one being a major floodwall under Interstate 310.

Project Location

The St. Charles Parish levee north of Airline Highway, a feature of the Lake Pontchartrain and Vicinity, Louisiana 100 Year Hurricane Protection Project, is located in southeastern Louisiana in St. Charles Parish on the East Bank of the Mississippi River. The levee project is oriented in an east-west direction and separates the developed areas in St. Charles Parish from the approximately 26,000 acres of wetlands on the north, or flood side of the levee, known as the "LaBranche Wetlands." On the levee system's eastern limits, the levee transitions into the Jefferson/St. Charles Parish Return Levee just south of the east-west runway extension of the New Orleans Louis Armstrong International Airport. Generally, the levee parallels Airline Highway to where, at the levee system's western limits, it traverses around the Shell Oil Company tank farm and transitions into the existing Bonnet Carre' Spillway East Guide Levee.

Project Funding

The Lake Pontchartrain and Vicinity, Louisiana 100 Year Hurricane Protection Project is a cost-shared project between the U.S. Army Corps of Engineers (Corps) and the Pontchartrain Levee District (PLD), the local Non-Federal sponsor. For construction of the earthen levee sections, the Corps is responsible for 65% of the project costs and the PLD is responsible for 35% of the project costs. The project costs for the drainage structures, floodwalls and pre-cast access bridges are 100% federally funded. Due to the Corps credited amounts accumulated by the PLD over a 20 year period, the financial impact to the PLD for this new construction is expected to be minimal to the PLD.

Project Status

As of March 2015, there are fifteen (15) projects that have been awarded by the Corps which include: five (5) levee projects, which include two (2) pre-cast concrete access bridge projects; five (5) floodwall projects; one (1) railroad swing gate project; and four (4) drainage structure projects



Cross Bayou Floodwall



Illinois Central Railroad Swing Gate

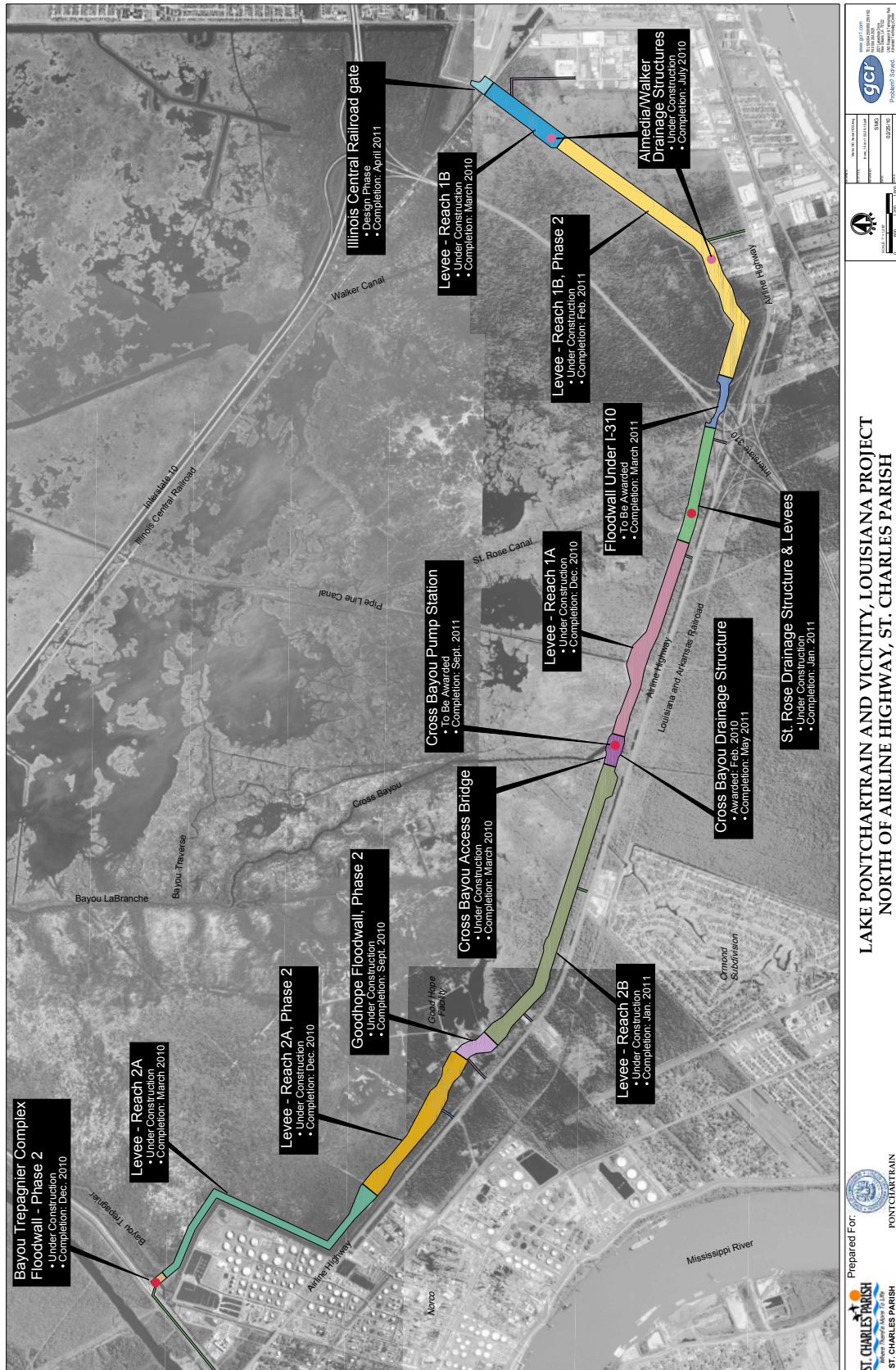


Cross Bayou Drainage Structure

which have all passed final inspections and are complete. On December 15, 2014, the Corps of Engineers awarded a contract for the armoring of two (2) of the levee projects. Those levee armoring projects are currently being constructed.

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St. Charles Parish East Bank Urban Flood Control Feasibility Study

Project Description:

The St. Charles Parish East Bank Urban Flood Control Feasibility Study is the result of recommendations from earlier work by the U.S. Army Corps of Engineers (Corps) and others to evaluate the need and costs for flood control improvements in the area upstream of the Lake Pontchartrain Hurricane Protection Levee. Alternatives currently being evaluated during this study include increasing the effectiveness of existing storm water conveyance systems and the construction of a new storm water pump station along the existing hurricane protection levee.

Project Status

The work on the Study Report was originally funded by the Corps and the Pontchartrain Levee District (PLD). The computer model for the existing and proposed conditions hydraulics and hydrology is complete. The results of the model are currently being reviewed by St. Charles Parish for use by FEMA to establish Base Flood Elevations throughout the East Bank.

Pump Stations

The PLD has constructed the Trepagnier Pump Station and the Cross Bayou Pump Station. Both are fully operational and have performed well during several named tropical events and numerous local rainfall events. The total construction cost of the Trepagnier Pump Station Project was \$8,500,000. The total construction cost of the Cross Bayou Pump Station was \$18,800,000.00. The PLD has finalized detail design reports and construction documents for an additional needed pump station, the Walker-Almedia Pump Station, and is currently in the process of procuring construction funding.

Project Schedule

The East Bank Urban Flood Control Feasibility Study is essentially complete. The Corps is currently working with FEMA in their efforts to develop risk assessment in the modeled area. The PLD has completed its commitment to the initial phase of the Study. Some earmarked funds will be used for completion of specific improvements authorized by the Corps Study Team. Funding has been secured by the Corps to continue working with the Study, and work is currently underway to complete all remaining phases of the project. The cost share for construction of the East Bank Urban Flood Control Project features is 65% Federal and 35% Non-Federal.

Project Funding History

The cost sharing for the original Feasibility Study was 50% Federal and 50% Non-Federal. Funding available for FY 05 was approximately \$1,000,000 (\$500,000 Federal and \$500,000 Non-Federal). Funding available for FY 06 was approximately \$2,000,000 (\$1,000,000 Federal and \$1,000,000 Non-Federal). Total funding for the Study is \$5,400,000 (\$2,700,000 Federal and \$2,700,000 Non-Federal). In the aftermath of Hurricane Katrina, large portions of the Study were used in other projects, most notably by the Interagency Performance Evaluation Taskforce (IPET), with additional Federal funding being allocated to support those projects. Currently, the Study is serving as the basis for an updated assessment of the area by FEMA for use in determining risk for their rate maps.

At this time, no Federal funding has been authorized for the construction of the East Bank pump stations.

Funding Requirements for FY 2015

The expected cost sharing for the design and construction of two major pump stations, Trepagnier and Cross Bayou Pump Stations, is 65% Federal and 35% Non-Federal; however, at this time, no Federal authorization is in place for the construction of any of the East Bank pump stations. To date, the Pontchartrain Levee District has allocated \$32,000,000 for the design and construction of Lake Pontchartrain Hurricane Protection Levee Pump Stations. Trepagnier Pump Station construction was completed in FY 2004 and Cross Bayou Pump Station construction was completed in 2011. Both pump stations have been credited with significant reductions in protected-side flooding during numerous storm events since 2004, including Hurricane Katrina.

The third critical primary hurricane protection pump station, the Walker-Almedia Pump Station, has been fully designed and is awaiting construction funding. This pump station is the



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PROGRESS REPORT

St. Charles Parish East Bank Urban Flood Control Feasibility Study

third of four stations cited and recommended in the Corps Design Memorandum No. 18, the basis for the East Bank Urban Study.

The Non-Federal funding for the original East Bank Urban Flood Control Study Project has been allocated and spent by the Pontchartrain Levee District for their portion of the effort including the Feasibility Study. The Study consists of developing an alternative conditions hydraulics and hydrology model and developing, modeling, and evaluating various alternative mitigation efforts. The remainder of the PLD commitment was spent on improvements cited in the Study.

Funding Requirements Outside the East Bank Urban Flood Control Study

During FY 2015, the Corps should release its recommendations for the alternative mitigation analyses portion of the East Bank Study. The Non-Federal funds associated with the design portion of this effort have been allocated and spent, and much of the permitting and preliminary design work has already been undertaken. Upon completion of the analyses and design, funding will be required for construction of the mitigation projects. The expected cost of the mitigation construction is \$40,000,000 total over five years. Additionally, the expected cost for the design and construction of the remaining two Lake Pontchartrain Hurricane Protection Levee Pump Stations will be \$50,000,000, and cost shared 65% Federal and 35% Non-Federal. The total cost of all portions of this project not currently authorized for Federal funding is \$122,000,000 over the next five years.

CROSS BAYOU PUMP STATION ST. CHARLES PARISH EAST BANK FLOOD CONTROL PROJECT



PROJECT DESCRIPTION

PURPOSE

The purpose of the project is to reduce localized flooding in the East Bank of St. Charles Parish.

DESIGN

The overall design capacity of the pump station is 1300 cfs (580,000 gpm).

The station has five 250 cfs (112,000 gpm) and one 50 cfs (37,400 gpm) pumps.

The Airline Highway Borrow Canal acts as the conduit to feed the pumps. A canal has been built interconnecting the east and west sides of Interstate 310, its size depending on pumping capacities of Cross Bayou Pump Station and the future St. Rose Pump Station.

COST

Construction cost was \$18.8M.

- LabOTD (7.3m)
- Pontchartrain Levee District (6.5m)
- Donation from Shell (2.5m)
- Donation from Motiva (2.5m)

PROJECT SPONSORS



Illustration of the proposed Cross Bayou Pump Station



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St. Charles Parish Hurricane Protection Levee Shoreline Enhancement and LaBranche Wetlands Restoration

Project Location:

The project is located along the unprotected sections of St. Charles Parish Lake Pontchartrain shoreline.

Project Description:

The project's overall objective is to protect northern St. Charles Parish by stabilizing the Lake Pontchartrain shoreline from further erosion, enhancing the shoreline where possible, and restoring the LaBranche Wetlands to provide an integrated system of multiple lines of defense. The shoreline protection measures are integrated with interior marsh restoration for a comprehensive restoration strategy for the LaBranche Wetlands. Previous efforts have protected approximately 14,000 feet of shoreline. There is approximately 18,500 feet of shoreline which is not protected. This year CIAP will construct approximately 3,400 feet of shoreline with the East LaBranche Shoreline Protection project PO-43. Once constructed this will leave approximately 15,000 feet of unprotected shoreline.

Project Status

Recent activity:

West LaBranche Shoreline Protection Project, PO-42

This project completed construction in June 2013. This project stabilized approximately 2,000 feet of shoreline.

East LaBranche Shoreline, PO-43

Project received bids January 2015. Project is expected to begin construction in April 2015.

Project Costs

Once this East LaBranche Shoreline Protection Project is complete there will be a remaining 15,000 feet of shoreline which remains unprotected. The opinion of probable cost to complete the shoreline protection is approximately \$18 Million.

Project Design Funding

In January 2010, the Pontchartrain Levee District (PLD) Board authorized \$598,301.00 for the design of approximately 20,500 feet of shoreline protection and enhancement.

Project Construction Funding

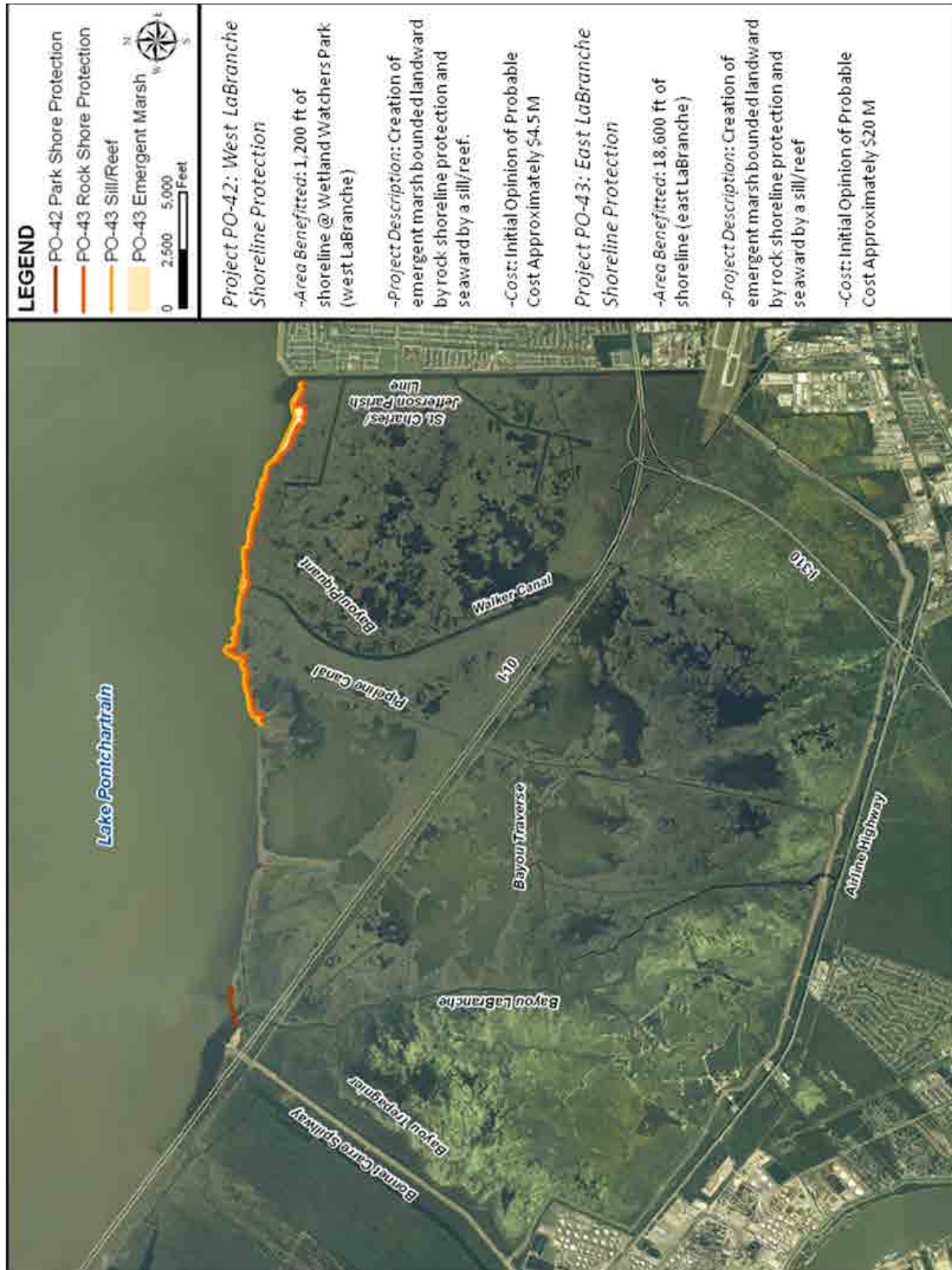
The Coastal Impact Assistance Program is partially funding these projects. In total CIAP has \$6,530,916.99 allocated to these two projects. As mentioned above the West LaBranche project has been constructed. The amount of funds remaining for the East LaBranche project is \$3,753,816. The State elected to appropriate \$2 million of State CIAP funds to the East LaBranche Project.

There currently is approximately 18,500 lf of shoreline which has not been protected and is eroding at a rate of 9 feet per year. The CIAP program is funding the East LaBranche Shoreline Protection Project. The allocated funds will construct approximately 3,400 ft. of the 18,500 which has not been protected.

The opinions of probable estimates have been developed and are:

Protect the entire shoreline

Cost required to protect and stabilize the unprotected portion of the shoreline is (\$18,000,000). This figure includes the CIAP funds which have been allocated to the East LaBranche project.



St. Charles Parish Hurricane Protection Levee Shoreline Enhancement and LaBranche Wetlands Restoration



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THE PONTCHARTRAIN LEVEE DISTRICT PROGRESS REPORT

St. Charles Parish Hydrodynamic and Water Quality Model of the LaBranche Wetlands

Project Location:

The project is located south of Lake Pontchartrain between Kenner and the east guide levee of the Bonnet Carre Spillway, St. Charles Parish.

Project Description:

As part of the development of an integrated approach to the protection and enhancement of the Pontchartrain shoreline, combined with interior marsh restoration, M&N, in partnership with the USACE and PLD under a PAS agreement is developing a planning level Master Plan for the hydrologic and environmental restoration of the entire LaBranche wetlands. Specifically, the Master Plan will:

1. Recommend the project features required to restore and sustain a fresher water salinity regime in the LBW more similar to historical conditions.
2. Recommend the "what-when-where-how-how much" details of freshwater/sediment /nutrients re-introduction into LaBranche;
3. Propose water control structures to optimize freshwater retention and minimize saltwater intrusion.

Project Status

The numerical model is complete and calibrated to a 2010 six-month field data collection program. The numerical model has been used to evaluate the feasibility and effectiveness of proposed freshwater re-introductions into the wetlands. The numerical model was also used to evaluate the efficacy of the rehabilitation of existing water control structures as well as the potential of additional structures in the vicinity of openings under the rail road embankment and other major conduits for water flow for suppression of salt water intrusion and retention of re-introduced freshwater into the wetlands. In addition to structural measures, this study also evaluated non-structural measures, in the form of fresh water input, to limit salt water intrusion in the LaBranche Wetland

Currently, M&N is using the model to assess the potential benefits of proposed hydrologic restoration projects and combination of projects being explored by St Charles Parish, CWPPRA, USACE and NGO's. Following recommendations in previous reporting and discussion with stakeholders, a set of water management strategies has been selected that are being investigated and discussed within this phase of the study. Analysis of model results will help to converge to an integrated strategy that limits saltwater intrusion and promotes low maintenance. Project was completed October 2013.

Project Costs

The project costs will be determined under future efforts.

Project Design Funding

In January 2011, the Pontchartrain Levee District (PLD) Board and the United States Corps of Engineers entered into agreement for this project. That agreement authorized \$100,000.00 for the project. Since this date another \$140,000 has been allocated. The cost share for this work is 50-50.

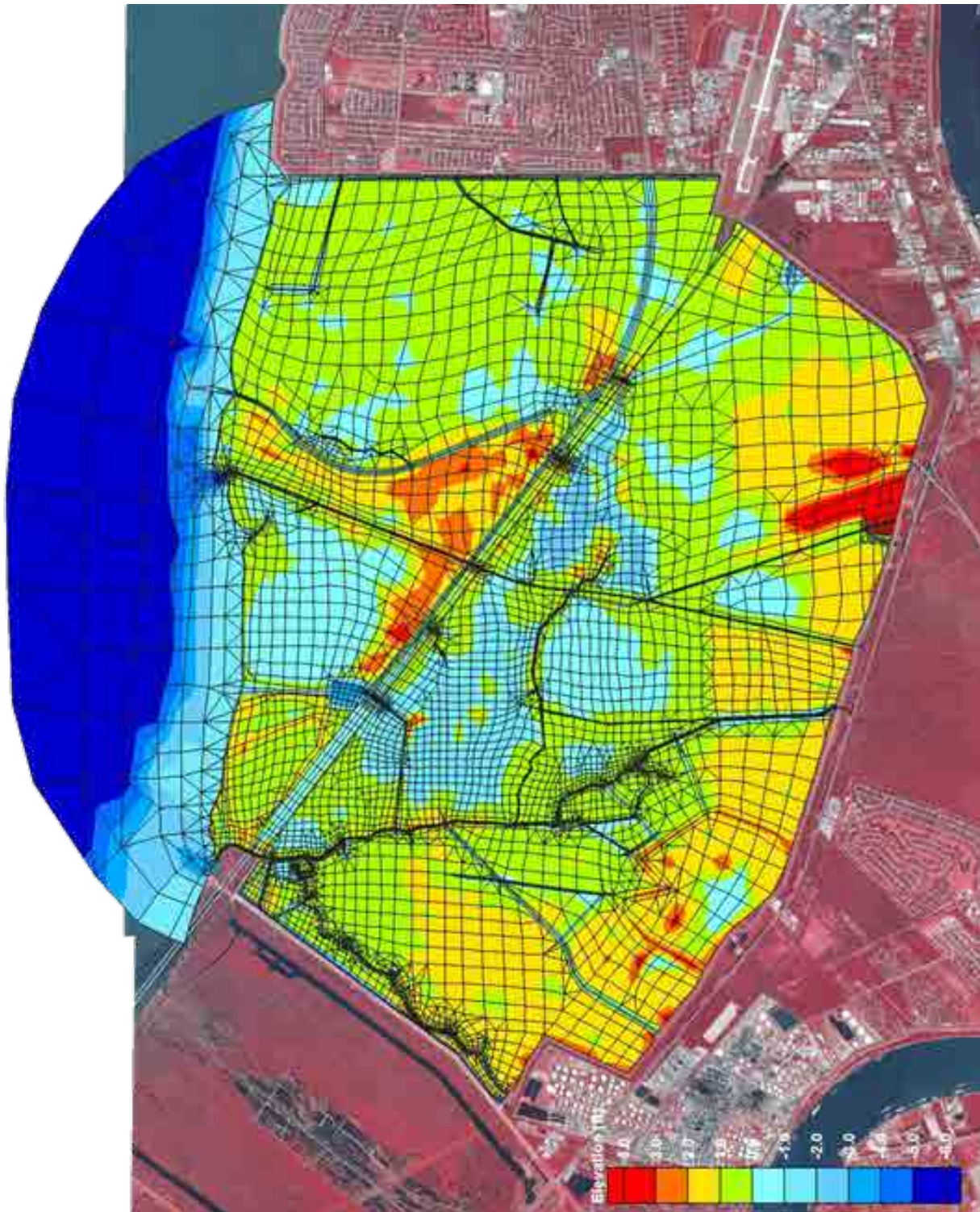
Project Construction Funding

Construction funds for this project have not been authorized.



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LaBranche Wetlands Model Grid



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THE PONTCHARTRAIN LEVEE DISTRICT PROGRESS REPORT

St. Charles Parish LaBranche Wetlands Restoration Fresh Water Diversion

Project Location:

The project is located in St. Charles Parish and involves the Mississippi River and the LaBranche Wetlands.

Project Description:

The project would involve the construction of ~750-cfs hybrid pump-siphon structure on the Mississippi River See Figure 1, with a conveyance structure aligned along a currently parish owned servitude from the Mississippi River to the Airline Canal, from where the water would then be pumped over the LPV into the LaBranche wetlands. The Pontchartrain Levee District (PLD), St Charles Parish and the US Army Corps of Engineers are currently modifying the current permits to the SCPHPL pump stations in order to officially dedicate at least 50% of available pumping capacity at each location for coastal restoration purposes. Ultimately the pump stations located along the SCPHPL will be owned and operated by the levee district. The hybrid pump-siphon approach would operate as a siphon conveyance by default, with the structure reverting to a pumped conveyance during low river stages.

Project Status

The Mississippi River is in close proximity to the LaBranche Wetlands at a couple of locations and could provide a fresh water source throughout the year if pumped from the river. Planning efforts to date conducted by PLD indicate that the amount of freshwater required to flush a storm surge salinity event or maintain the isohalines would not require a large conveyance from the river. Planning efforts to date (M&N 2014) determined the required flow rates to freshen the LaBranche wetlands can be achieved with a flow rate of the order of 600-cfs, an order of magnitude less than the original PO-26 project. The diverted water would need to be conveyed over two levees (MR&T Levee & SCPHPL). The conveyance of water over the SCPHPL could be accomplished by utilizing existing storm water pump stations. This can be achieved by employing just one of the pumps at the Trepagnier, Cross Bayou and potentially the upgraded Walker Canal pump stations.

Project Costs

The preliminary opinion of probable cost based on the schematic design of the diversion piping and canal work is approximately \$20 Million.

Project Design & Construction Funding

Project funds have not been allocated. Project has been submitted to the CPRA for consideration in the 2017 Master Plan.

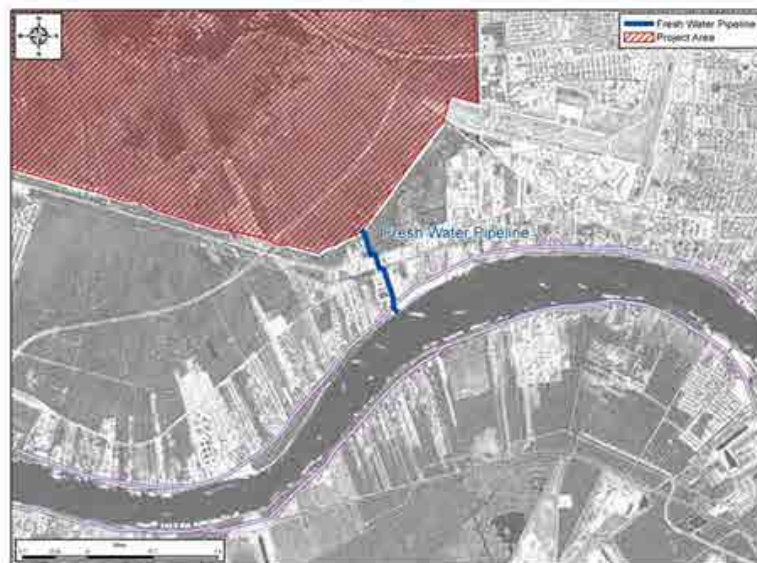


Figure 1: Project Layout



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THE PONTCHARTRAIN LEVEE DISTRICT PROGRESS REPORT

St. Charles Parish LaBranche Wetlands Restoration Salinity Control Structure

Project Location:

The project is located in St. Charles Parish in the LaBranche Wetlands where I-10 intersects Parish Line Canal.

Project Description:

The project involves the construction of 500 ft. barrier to limit water entering the wetlands at this location. The proposed barrier would be placed on top of an existing barrier placed in 1987 as part of mitigation for the I-310 split. The existing barrier settled and is no longer serving its purpose.

Project Status

The project was approved as part of the CPRA's Community Partnership funds. The Coalition to Restore Coastal Louisiana applied for and were granted \$350,000 to administer, design and construct this project. The PLD have provided in kind services and also funded a portion of the design and data collection.

The project will complete the design phase in the first quarter of 2015. Once complete the project will be advertised by St Charles Parish.

Project Costs

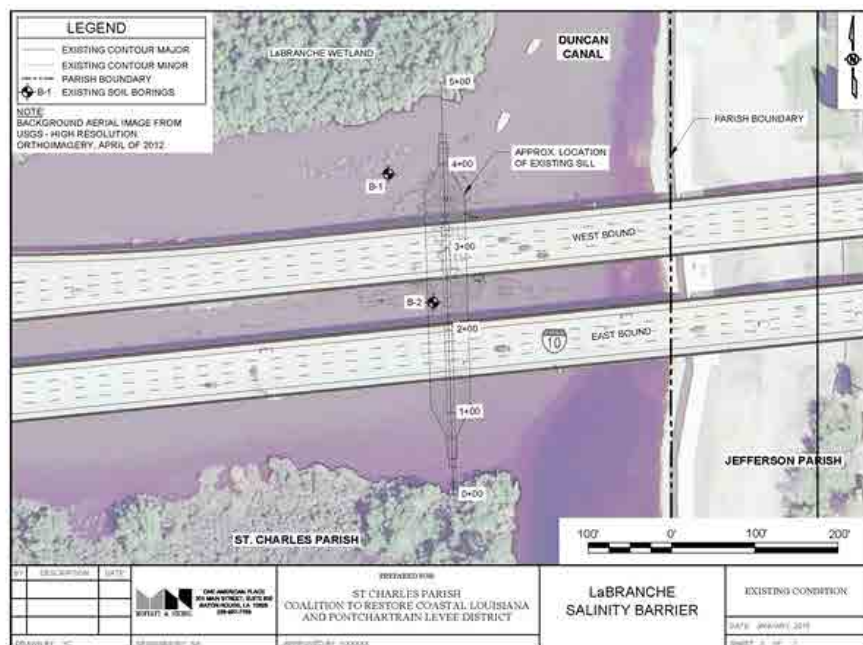
The project is estimated to cost around \$500,000 to administer, design, permit and construct.

Project Design

Project administration, design and permitting is fully funded (\$130,000)

Construction Funding

All but \$100,000 in construction funds have been allocated to this project. The project team is working with the Parish to identify the additional funds needed.



Project location and layout