



# Comprehensive Drainage & Flood Protection Project (CDFP)

## Current & Future Projects

*Note: The following projects have been identified by the North Lafourche Levee District as being vital to the District's Comprehensive Drainage and Flood Protection Project (CDFP). They are summarized below for reference purposes only. Actual project details may vary from those stated herein as the project required funds and resources are identified, construction and permitting plans are developed and the projects are prioritized by the North Lafourche Levee District. Phases or elements of a project may be undertaken in lieu of the entire project when independent utility is demonstrated. Estimated project costs are for the capital cost for subcontracted work and indicate cost remaining on the project on the entire project. These cost estimates do not include cost already applied to elements of the individual project. Projects listed without cost are considered to be in a "maintenance" status by the NLLD.*

### Project Areas:

The North Lafourche Levee District has further subdivided its territory into smaller project areas generally along existing hydrological barriers on both the east and west sides of Bayou Lafourche. The attached map shows the approximate location of the boundaries of each project area. Namely, the project areas are as follows:

#### West Side Project Areas

Thibodaux – West

Thibodaux – Lockport – Bayou Blue

Lockport – Larose

#### East Side Project Areas

Choupic

St James

Lake Bouef Watershed

Gheens

Valentine East

Each of these project areas, and the identified projects within the project areas, will be discussed in further detail in the following sections of this document. Information is current as of the posted revision date.

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## **Thibodaux – West Project Area: (61YY.YYZ)**

Location: See map. The boundary is the area enclosed by a polygon beginning at the Lafourche Parish line from Bayou Lafourche at the northern most part of the Parish going southwest to the western most point (corner) of the Parish. Then it goes east, north and then east again along the Parish line. From this point the boundary meanders generally northeast along the Parish line to Canal Blvd where it then continues east and then southeast along the Parish line to the top of the Acadia Ridge. The boundary then follows the Acadia Ridge north to the Percy Brown Road where it continues towards the northwest then west along the Acadia Ridge (old railroad corridor) across Canal Blvd, along Lawrence Avenue to Ridgefield Road. The boundary then continues northwest up west bank of Bayou Lafourche to the point of beginning. The 2010 Census shows a population of 14,899 in this Project Area which represents a 3% increase in population over the last 20 years with a 4% increase in the last 10 years.

**Leighton / Morvant /Welcome Pump and Levee System:** This huge drainage basin, which also includes contributing drainage from portions of Assumption and Terrebonne Parish, encompasses a total of 14,074 acres, 12,678 of which are in Lafourche Parish. Overall the system includes approximately 40,000 feet of levees, most of which is in Lafourche Parish. This forced drainage system, which includes the Leighton, Morvant and Welcome pump stations protects approximately 4300 residences along with many businesses, schools and other infrastructure west of Thibodaux. The following individual projects have been identified in this sub-area.

Leighton Levee Improvements: This project involves excavating and enlarging the borrow canal adjacent to the Leighton Levee to provide a lift of approximately 15,000 feet to the existing Leighton Levee to a finished height of 7.5 feet. Overall, the ring levees are insufficient in height and profile. The project also includes channel improvements.

*Project COA 6100.50Z, Estimated Cost: \$308,750.00*

Leighton / Morvant Pump and Area Drainage Improvements: Development and the removal of historical detention in the area are beginning to place demands on the existing drainage for this area. The Leighton Pump Station currently has 3-36” diesel fueled, engine driven pumps, 1-36” electric motor driven pump and 3-48” diesel fueled, engine driven pumps. The Morvant Pump Station currently has 2-36” and 2-48” diesel fueled engine driven pumps. Broadly scoped, this project includes improvements to both pump station, improving the access to the Morvant Pump Station, adding large detention reservoirs and major improvements to internal drainage canals and ditches.

*Project COA 6100.51Z, Estimated Cost: \$7,412,350.00*

**Morvant Levee Improvements:** This project involves excavating and enlarging the borrow canal adjacent to the Morvant Levee to provide a lift to approximately 25,000 feet of the existing Morvant Levee to a finished height of 7.5 feet. Overall, the ring levees are insufficient in height and profile. The project also includes channel improvements. The NLLD Std. Amphibious Excavator performed a recent maintenance sweeping of the pump reservoir from the pump to the Parish line. This level of work is complete. Final levee re-sectioning remains to be completed.

*Project COA 6100.52Z, Estimated Cost: \$100,000.00*

**Terrebonne – Lafourche Drainage Canal:** This project includes clearing the canal of obstructions from the Leighton and Morvant Pump Stations to the Southern Pacific Railroad crossing. The Leighton Pump Station outfall canal was cleared from the Leighton Pump Station to the intersection with the canal in January 2010. Overall, the project would entail complete clearing of the canals and adjacent rights of ways and maintenance dredging of the canals.

*Project COA 6100.53Z, Estimated Cost: \$1,400,000.00*

**St. Louis Canal:** This project involves clearing the St Louis Canal from Cardinal Drive in Thibodaux to the Southern Pacific Railroad in Schriever. We have a signed Intergovernmental Agreement with Lafourche and Terrebonne Parishes addressing this project as most of this Canal is in Terrebonne Parish.. Lafourche Parish has cleared the adjacent rights of ways. The plan is to use one of the North Lafourche Marsh buggy Excavators, operated by the Parish to clear the St. Louis Canal as described. Clearing of the canal will improve drainage in the Acadia Woods area, as well as other areas in the City of Thibodaux. Currently, the Parish has cleaned the St. Louis Canal from the Percy Brown Road to the railroad crossing. Also, the NRCS has approved a clearing project with Terrebonne Parish for clearing from the railroad crossing going south. Currently, the canal has been cleared of debris south of Highway 648 (Percy Brown Road.) by the Lafourche Parish Government with the NLLD Excavator and parish Equipment. The City of Thibodaux has requested the canal be swept from Cardinal Drive passed Audubon Ave to Highway 648. NLLD is considering options for addressing this section of the canal and has engaged T. Baker Smith for project development and management.

*Project COA 6100.54Z, Estimated Cost: \$100,000.00*

**Acadia Woods Ring Levee, Detention & Pump:** It is believed that one possible solution to the occasional street flooding in the Acadia Woods Area would involve providing a small ring levee system along the back edge of the western property owners with a ditch tied into a detention pond and a small pump station. Other options for improving drainage in the area are also under consideration by the NLLD. We have engaged T. Baker Smith for project development.

*Project COA 6100.55Z, Estimated Cost: \$850,000.00*

**Little AI Drainage Area Improvements:** This 295 acre forced drainage system in the Thibodaux area protects 31 residences and a few businesses. The system has approximately 12,200 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-36” diesel fueled engine driven pump. Overall, the ring levees are insufficient in height and profile. This system was most recently threatened by the opening of the Morganza Spillway in the spring of 2011. Proposed improvements would include re-capping and re-shaping the entire ring levee, internal channel improvements and replace the existing pump station

*Project COA 6100.56Z, Estimated Cost: \$1,297,000.00*

### **Other Non-Capital Projects in the Project Area:**

**Thibodaux, Canal and Haulsey Street Drainage Study:** The NLLD has hired T. Baker Smith to work with other local engineering firms to study the contributing drainage areas for the Haulsey Street system. The Haulsey Street culvert is the headwater for the St. Louis Bayou draining part of Thibodaux and portions of Terrebonne Parish. The study is nearly complete at this time. A draft report is under review and once approved, the information will be distributed to all parties for future use and information.

*Project COA 4200.002, Project No. SP-1025, Estimated Cost: \$10,000.00*

## **Thibodaux – Lockport -- Bayou Blue Project Area: (62YY.YYZ)**

Location: See Map. The boundary is the area enclosed by a polygon beginning at the intersection of Bayou Lafourche and Ridgefield Road in Thibodaux. The boundary line then heads south along Ridgefield Road to the intersection of Lawrence Avenue. From that intersection the boundary heads east along Lawrence Avenue and follows the top of the Acadia Ridge (old railroad corridor) to the east across Canal Blvd turning southeast then south as if follows the Acadia Ridge to the point where the Acadia Ridge intersects with the Parish Line. From that point, the boundary travels generally southeast along the Parish line to the point where the western Parish line intersects the Gulf Intracoastal Waterway (GIWW). The boundary runs eastward along the GIWW north bank to the intersection of the GIWW with the Company Canal. The boundary then travels generally northwestward along the Company Canal to the intersection of the Company Canal and Bayou Lafourche in Lockport. At this point the boundary meanders generally north and west along the west bank of Bayou Lafourche back to the point of beginning at the intersection of Bayou Lafourche and Ridgefield Road in Thibodaux. The 2010 Census shows a population of 30,766 in this Project Area which represents a 21% increase in population over the last 20 years with a 12% increase in the last 10 years.

**28 Arpent, 40 Arpent, Dugas & Hollywood Canals:** This project included maintenance clearing and dredging a final section of the 40 Arpent Canal south of the Lefort By-pass Road in the Lafourche Crossing Area to the intersection of the 40 Arpent Canal with Theriot's Canal near Four Point Heights Subdivision. The initial clearing and dredging work was completed for this section in 2008. The project area is now in a maintenance mode in need of right of way (Spoil Bank and Berm) as well as an aquatic vegetative control. The NLLD has an ongoing vegetation control program throughout the District. Maintenance dredging work was completed in the Hollywood Canal between the Bayou Blue By-Pass Road and the Company Canal south of Lockport in May of 2010. The Dugas Canal from the 28 Arpent to the 40 Arpent Canal and the 28 Arpent Canal from the Dugas Canal to where the 40 Arpent Canal re-joins the 28 Arpent Canal have been maintenance dredged and the Right Of Way on one bank has been cleared as of 3/2011.

The non-cleared bank of the 28 Arpent Canal from the Dugas Canal to the point where the 40 Arpent Canal re-joins the 28 Arpent Canal needs to have a maintenance Right of Way acquired and this new Right of Way needs to be cleared of vegetation and maintained. The NLCLDD has assigned Leonard Chauvin, Inc. as an Engineer to this project element and acquisition of Right of Ways and the clearance of encroachments are being pursued currently.

The non-cleared bank of the 40 Arpent Canal from Hwy 182 to the Butch Hill Pump Station needs to have a maintenance Right of Way acquired and this new Right of Way needs to be cleared of vegetation and maintained. The canal can then be maintenance dredged.

The non-cleared bank of the 40 Arpent Canal from Hwy 182 to the Theriot Canal needs to have a maintenance Right of Way acquired and this new Right of Way needs to be cleared of vegetation and maintained. The canal can then be maintenance dredged.

*Project COA 6200.50Z, Estimated Cost: \$1,500,000.00*

**Thibodaux - Lockport - Bayou Blue Storm Water Flood Protection:** This massive project seeks to utilize the natural ridges of Bayou Lafourche and Bayou Blue, along with improvements to existing levees near Lockport and the Raceland Prairie area, as protection from storm and backwater flooding that can occur from the southern end of the project area. An open system, to mimic the traditional natural drainage of the watershed's eco-system, utilizing levee installations and improvements, required pump stations, and water control structures, is planned as a solution to the problem. This project area serves nearly 31,000 residents including parts of the cities of Thibodaux (including Nicholls State University) and Lockport as well as, the communities of Raceland, Matthews and Bayou Blue. Generally, the project includes the following work items (elements):

- E1) Construct a levee from LA1 in Lockport along the north side of the Company Canal to the 40 Arpent Canal. Duplantis Design Group was the Engineer for this Project. The contract for this element has been awarded and construction for most of the project has been completed. (Total project amount funded by NLLD to date is \$1,107,819.06). The project has been modified to omit a section of the planned levee where undocumented fill material had been placed along the planned levee alignment. This section of levee will have to be completed as an additional independent contract, once the material issue is resolved between the individuals who placed this material on the Parish Property and the Parish. The main portion of the levee is substantially complete.

*Project COA 6200.51Z, Initial Project Completion Cost Remaining: \$190,533.75  
Estimated cost to complete skipped section: \$150,000.00*

- E2) Improve the 40 Arpent Canal Levee from the Coastal Pump Station at the Company Canal in Lockport to the Butch Hill Pump Station. NLLD has hired Leonard Chauvin, Inc. as Engineers to complete substantial survey, design, and construction estimates for this project as would be required to seek a permit from the USACOE for the project. Planned improvements would increase the current storm water elevation from an average of +4 feet to +8 feet. In general, the project seeks to push the location of the levee back (away from Bayou Lafourche) while widening

the existing 40 Arpent Canal to the front (towards Bayou Lafourche) in order to acquire borrow material for levee construction. At this point, we are preparing the Permit Application; the NLCLDD has notified the approximately 100 landowners of the overall scope of this project prior to filing the Permit Application as to avoid confusion and errant speculation about the project. At this time, the estimate has been completed and the project is ready to move forward pending available funding.

*Project COA 6200.52Z, Estimated Cost: \$1,649,738.00*

- E3) Improve the levee from the Butch Hill Pump Station to the existing Pump Station in Bayou Folsé. Leonard Chauvin, Inc. is the Design Engineer for this project. The contract for this element to Dean Equipment, along with element 5 has been awarded and construction will be completed early this summer.

*Project COA 6200.53Z, Estimated Cost: with Element 5*

- E4) Construct a deployable canal closure structure at Bayou Folsé just beyond the existing Pump Station.

*Project COA 6200.54Z, Estimated Cost: \$6,375,000.00*

- E5) Improve the levees along Bayou Folsé, the Commotion Canal and Bayou Dumar from the new Water Control Structure in Bayou Folsé to a new Pump Station / Water Control on Bayou Dumar near the intersection of Bayou Dumar and Lake Fields. The contract for this element, along with element 3 (Dean Equipment) has been awarded and construction will be completed this spring. (Total project amount funded by NLLD to date is \$2,360,812.42)

*E5 Project COA 6200.55Z,  
Estimated remaining Cost E3 & E5: \$330,110.19*

- E6) Install a new Pump Station / Canal Closure across Bayou Dumar just beyond the intersection of Bayou Dumar and Lake Fields.

*Project COA 6200.56Z, Estimated Cost: \$8,108,000.00*

- E7) Construct a new levee from the new Bayou Dumar Pump Station/ Canal Closure along Bayou Dumar and Candies Property Canal to the south west corner of the Candies Property.

*Project COA 6200.57Z, Estimated Cost: with Element 8*

- E8) Construct a new levee with a gated opening from the SW corner of the Candies Property along the existing spoil bank along the Hollywood Canal near Prospect Extension.

*E8 Project COA 6200.58Z, Estimated Cost E7 & E8: \$5,100,000.00*

- E9) Construct a Deployable Canal Closure / Pump Station structure on the Hollywood Canal just east of Prospect Extension.

- E10) Construct a new levee from the Deployable Canal Closure / Pump Station on the Hollywood Canal along Prospect Extension to the Bayou Blue Ridge.

*Project COA 6200.74Z, Estimated Cost E9 & E10: \$6,183,000.00*

We have completed a detailed hydrology study for this project area. The NLLD has authorized Engineers to precede with elements 1, 2, 3 and 5 as described above. We continue to consider alternative alignments and look for funding sources.

Bayou Blue - Hollywood Interim Project: To date, individual elements 1, 2, 3 and 5 of the Thibodaux – Lockport Bayou Blue Storm Water Protection Project have been selected and advanced because they have independent utility and can provide measurable benefits to flood protection in the area prior to completion of the entire project. Similarly, the NLLD has looked for ways to provide additional storm water protection prior to the completion of the entire project. The Hollywood Interim Project is one such example.

This large project will prevent high storm water elevations in the Hollywood Canal from backing into the subdivisions on the Lafourche side of LA316 from the intersection of LA 316 and Prospect Extension northwest to the intersection of the Bayou Blue By-Pass Road and the Hollywood Canal. Land along the Burma Road and the land west of the Grand Coteau Ridge will also be protected as will subdivisions that cross the Hollywood Canal to the east (Over 1800 residences numerous businesses and nearly 7000 citizens.) Provided for project impact area reference, a partial list of the major streets impacted by this project include Sharnell Dr., Adams St., Silver St., Division St., Dewey St., Main St., Mazerac St., Linda St., Marcel St., Hwy 182, Brien St. Ozia Skyline Dr., Onterio St., Evangeline Hgts., Meadowland Dr., Roberts Dr., Bayou Bend Dr., Oakview Dr., Canal Ln., Hummingbird Dr., Mary Beth Dr., Terre-Haute Pl., Louise Ln., Hidden Acres St., Verna St., Adda Rd., Ida St., Melanie Ln., Pearlye Blvd., Buccaneer Rd., Amber Ln., Maxine Blvd., Jennifer St., Julie St., Blue St., Cajun St., US 90 Service Rd., Lydia St., MIA Dr., Kimino St., Blueridge Dr. Baylis Dr., Cypress Ct., Aselane St., Ponderosa Ln., and the Bayou Blue Bypass Road. Please keep in mind that in addition to the streets named above, those streets not named which are adjacent to or near those listed will also be protected by this project. The project scope includes a partial construction of Element 9 and completion of element 10, plus the construction of a new deployable closure structure in the Hollywood Canal just downstream of the Bobcat Lane Pump Station. The project use the natural ridges of Bayou Blue and Grand Coteau Ridge to provide limited flood protection from storm water backing up into this portion of the basin. The system would remain normally open allowing traditional gravity drainage and hydrologic interchange of the entire area until threatened by rising storm water at which point the Hollywood Canal closure would be deployed and Pumping would begin to remove any rain water caused

by the Storm event. The NLLD is working to engage and Engineering firm for preliminary design and development of this project.

*Project COA 6200.66Z, Estimated Cost: 4,543,100.00*

**Thoroughbred / Supercharge:** This 170 acre forced drainage system in the Lafourche Crossing Community protects 162 residences a few businesses, the NSU Farm and other infrastructure. The system has approximately 10,073 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-24” and 1-30” natural gas fueled engine driven pumps. In intermittent locations, the ring levees are insufficient in height and profile. Proposed improvements would include re-capping and re-shaping portions of the ring levee system, clearing and widening and improvements to internal drainage channels / culverts and making improvements at the existing pump station.

*Project COA 6200.60Z, Estimated Cost: \$701,000.00*

**Bayou Blue By-Pass & Bobcat Lane:** This 265 acre forced drainage system in the area between the Burma Rd and the Hollywood Canal on both sides of the Bayou Blue By-Pass Rd and Bobcat Ln protects 80 residences and other infrastructure. The system has approximately 6,070 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a two pump stations which are operated separately; but, can be interconnected through a gated culvert. The Bayou Blue By-Pass Pump Station has 1-16” electric motor driven pump. The Bobcat Ln Pump Station has 1-36” diesel fueled engine driven pumps. Overall, the ring levees are sufficient in height but are poor in profile causing stability issues along long stretches of the levee system. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include:

Re-capping and re-shaping the entire ring levee,

Clearing and widening and improvements to internal drainage channels / culverts

Making improvements at the existing pump stations

*Project COA 6200.61Z, Estimated Cost: \$1,007,050.00*

**Four Point Heights Subdivision:** This 5.69 acre forced drainage system at the end of Four Point Height Subdivision protects 11 residences. The system has approximately 2,200 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-12” diesel fueled engine driven pump. This project includes maintaining the various existing backwater flood protection levees and improvements to the pump. *Project COA 6200.62Z, Estimated cost \$53,000.00*

**West Theriot Canal Maintenance Dredging:** This project includes maintenance dredging of the West Theriot Canal from Bayou Lafourche to Bayou Folse. The banks of this project area have been cleared about 3 years ago and are now in a maintenance mode in need of right of way (Spoil Bank and Berm) as well as an aquatic vegetative control. *Project COA 6200.63Z, Estimated Cost \$58,000.00*

**US Highway 90 at Bayou Dumar and Bayou Folse:** A long time seepage boil adjacent to US90 at Bayou Dumar worsened during TS Lee. Working with the State CPRA and DOTD a permanent improvement using sheet piles donated by the St. Mary's Levee District has greatly improved levee stability in these areas. Previously, an emergency action was taken just after Hurricane Ike and before Hurricane Gustav (2008) at US 90 and Bayou Folse on both sides of the Bayou. The temporary components of this project need to be replaced in favor of a permanent solution.

*Project COA 6200.65Z, Estimated Cost: \$625,000.00*

**St. Charles By-Pass Road Backwater Flood Prevention Project:** This broadly defined project intends to address occasional backwater flooding that occurs as high water levels in the 40Arpent Canal back-up into this community. Specific element scopes of work will have to be developed. Generally, it is believed that the project would involve a ring levee system and a pump or temporary pump location. The NLLD is working to engage and engineering firm for the preliminary design and development of this project.

*Project COA 6200.67Z, Estimated Cost: \$610,000.00*

**Lake Long Drive:** The gravity drainage system along Lake Long Drive allows high water levels in the GIWW to back-up into the approximately 85 residences along this street. The area also has no significant backwater flood protection. Broadly scoped, this project would involve construction of some backwater flood protection levees and add a pump station to create a forced drainage system of approximately 83 acres.

*Project COA 6200.68Z, Estimated Cost: \$2,769,000*

**Lefort By-Pass:** This 116 acre forced drainage system in the Lafourche Crossing Community protects 46 residences several businesses and other infrastructure. The system currently has approximately 9,500 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-20" electric motor driven pump. Overall, the ring levees are sufficient in height in most areas but are poorly profiled and could be re-configured to reduce the overall length if the pump station is relocated.. Hurricane Isaac did not top the levee system; but, it was threatened in several locations and auxiliary pumps had to be brought in due to the loss of power in the area. Proposed improvements would include:  
Re-capping as required and re-shaping and re-locating the entire ring levee,  
Clearing and widening and improvements to internal drainage channels / culverts  
Making improvements at the existing pump station

*Project COA 6200.69Z, Estimated Cost: \$687,000.00*

**Raceland Prairie, Drainage area 1 of 12:** This 797 acre forced drainage system in the Raceland Prairie Community protects 102 residences several businesses and other infrastructure. The system has approximately 28,000 feet of ring levees

total with about 13,500 feet of those providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-24” and 1-36” diesel fueled, engine driven pumps. Overall, the ring levees are sufficient in height in most areas but are poorly profiled and they would benefit from the obtaining and clearing of right of ways adjacent to the levees and drainage canals to prevent unwanted vegetation from falling in the canals or on the levees. The existing Pump Station is being replaced by the Parish with funding from a Gustav/Ike HUD CDBG grant to include 3-36” diesel fueled, engine driven pumps. The NLLD is monitoring this pump station replacement project and is providing technical support and review. Further proposed improvements would include:

Re-capping as required and re-shaping the entire ring levee, clearing and widening and providing improvements to internal drainage channels.

*Project COA 6200.64Z, Estimated Cost: \$562,000.00*

**Raceland Prairie, Drainage area 2 of 12:** This 1,017 acre forced drainage system in the Raceland Prairie Community protects 85 residences several businesses and other infrastructure. The system has approximately 28,500 feet of ring levees total with about 17,500 feet of those providing backwater flooding protection.

Approximately 6000 feet of the backwater Flood Protection Levees are currently being re-constructed as part of the Thibodaux- Lockport – Bayou Blue Flood Protection Project, Element 3. Forced drainage of the area is accomplished with a single pump station with 2-36” diesel fueled, engine driven pumps. Overall, the ring levees are sufficient in height in most areas but are poorly profiled and they would benefit from the obtaining and clearing of right of ways adjacent to the levees and drainage canals to prevent unwanted vegetation from falling in the canals or on the levees. The existing Pump Station is being replaced by the Parish with funding from a Gustav/Ike HUD CDBG grant to include 3-36” diesel fueled, engine driven pumps. The NLLD is monitoring this pump station replacement project and is providing technical support and review. Further proposed improvements would include:

Re-capping as required and re-shaping the entire ring levee, clearing and widening and providing improvements to internal drainage channels / culverts.

*Project COA 6200.75Z, Estimated Cost: \$916,000.00*

**Raceland Prairie, Drainage area 3 of 12:** This 2,116 acre forced drainage system in the Raceland Prairie Community protects 170 residences several businesses and other infrastructure. The system has approximately 22,588 feet of ring levees providing backwater flooding protection. Approximately 7000 feet of the backwater Flood Protection Levees are currently being re-constructed as part of the Thibodaux- Lockport – Bayou Blue Flood Protection Project, Element 5. Forced drainage of the area is accomplished with a two pump stations. Each pump station has 1-36” diesel fueled, engine driven pump and 1-36” dual drive, diesel fueled engine or electric motor driven pump. Overall, the ring levees are sufficient in height in most areas but are poorly profiled and they would benefit from the obtaining and clearing of right of ways adjacent to the levees and drainage canals in some areas to prevent unwanted vegetation from falling in the

canals or on the levees. Proposed improvements would include making improvements to both pump stations, re-capping as required and re-shaping the entire ring levee, clearing and widening and providing improvements to internal drainage channels / culverts.

*Project COA 6200.76Z, Estimated Cost: \$1,440,820.00*

**Cyprien / Butch Hill / Twin Oaks**: This 6,248 acre forced drainage system runs from west and south of Raceland east to Mathews. The entire area protects approximately 2100 residences many businesses, a Hospital, two schools and other infrastructure. The entire system currently has approximately 50,700 feet of ring levees providing a combination of backwater flooding protection and drainage isolation. There are three distinct drainage areas within this system. However, they can all be interconnected with gated culverts if required. Information on the individual pump districts are provided below..

**Cyprien Pump District**: This 2,942 acre forced drainage system in the Raceland Community and areas west and south of Raceland protects residences several businesses and other infrastructure from Theriot Canal west of Raceland to Highway 182 in Raceland. The Drainage District borders the 40 Arpent Canal on the south except for the portion of the system west of the Cyprien Pump Station that borders Bayou Folse. The system has approximately 24,301 feet of ring levees of which approximately 19,258 feet provide backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-30” and 1-48” diesel fueled, engine driven pumps and 1-36” electric motor driven pump. Overall, the ring levees are sufficient in height in most areas but are poorly profiled and they would benefit from the obtaining and clearing of right of ways adjacent to the levees and drainage canals to prevent unwanted vegetation from falling in the canals or on the levees. Proposed improvements would include rebuilding the Pump Station and making improvements to the pump station capacity, re-capping as required and re-shaping the entire ring levee, clearing and widening and providing improvements to internal drainage channels / culverts.

*Project COA 6200.70Z, Estimated Cost: \$3,839,265.00*

**Butch Hill Pump District**: This 2,331 acre forced drainage system in the Raceland Community east and south of Raceland protects residences several businesses and other infrastructure from Highway 182 in Raceland to just east of Highway 90. The Drainage District borders the 40 Arpent Canal (Bayou Cut Off) on the south. The system has approximately 9,000 feet of drainage isolation levees. Forced drainage of the area is accomplished with a single pump station with 4-36” and 1-48” diesel fueled, engine driven pumps. Overall, the levees are sufficient in height in most areas but are poorly profiled and they would benefit from the obtaining and clearing of right of ways adjacent to the levees and drainage canals to prevent unwanted vegetation from falling in the canals or on the levees. Proposed improvements would include making improvements to the pump station capacity, re-capping as required and re-shaping the entire levee,

clearing and widening and providing improvements to internal drainage channels / culverts.

*Project COA 6200.71Z, Estimated Cost: \$2,798,000.00*

**Twin Oaks Pump District:** This 975 acre forced drainage system in the Raceland & Mathews Communities east and south of Raceland and Mathews protects residences several businesses and other infrastructure from just east of Highway 90 to just east of Acadia Drive on the east side of Ocshner St. Anne's Hospital. The system has approximately 17,400 feet of ring levees of which approximately 7,200 feet provide backwater flooding protection. These 7,200 feet of levee is slated for improvement in the Thibodaux – Lockport – Bayou Blue Storm water Protection Project in Element 2. Forced drainage of the area is accomplished with a single pump station with 1-36" and 1-48" diesel fueled, engine driven pumps and 1-20" electric motor driven pump. Overall, the remaining levees are sufficient in height in most areas but are poorly profiled and they would benefit from the obtaining and clearing of right of ways adjacent to the levees and drainage canals to prevent unwanted vegetation from falling in the canals or on the levees. Proposed improvements would include making improvements to the pump station capacity, re-capping as required and re-shaping the entire levee, clearing and widening and providing improvements to internal drainage channels / culverts.

*Project COA 6200.72, Estimated Cost: \$1,327,400.00*

**Fantastic Acres Pump / Coastal Pump District:** This 3,018 acre forced drainage system in the Raceland Prairie Community protects 1,500 residences many businesses and other infrastructure. The system has approximately 18,400 feet of ring levees providing backwater flooding protection and drainage isolation. Approximately 15,600 feet of the backwater Flood Protection Levees are currently being re-constructed as part of the Thibodaux- Lockport – Bayou Blue Flood Protection Project, Element 1& 2. Forced drainage of the area is accomplished with a two pump stations. The Fantastic Acres pump station has 2-36" and 1-48" diesel fueled, engine driven pump. The Coastal Pump station has 2-48" diesel fueled, engine driven pumps. Proposed improvements would include making improvements to both pump stations, re-capping as required and re-shaping the entire ring levee not parts of E1 & E2, clearing and widening and providing improvements to internal drainage channels / culverts.

*Project COA 6200.73Z, Estimated Cost: \$3,904,800.00*

**Thibodaux Drainage Culvert Projects:** The following projects have been included at the request of the City of Thibodaux's Department of Public Works. The NLCLDD will be working with the City to coordinate the design and construction of the requested projects. The following three projects will be considered together. The NLLD has engaged Leonard Chauvin, Inc. for project design, development and management. A contract(s) will be put out to bid as soon as the design work is complete for this project(s).

Culvert Extensions West of Bayou Lane: This project will extend the culverts that pass under Bayou Lane towards the rear of the EDW New Gym and install appropriate catch basins.

*Project COA 6200.77Z, Estimated Cost: \$65,000.00*

Culvert Installations along Bayou Lane: This project will install culverts and catch basins along Bayou Lane from the entrance of Peltier Park to the south west approximately 750 feet along the east side of Bayou Lane

*Project COA 6200.78Z, Estimated Cost: \$127,000.00*

Culvert Installation within Peltier Park: This project will install culverts and catch basins approximately 400 feet near the Park's Storage Barn.

*Project COA 6200.79Z, Estimated Cost: \$127,000.00*

### **Other Non-Capital Projects in the Project Area:**

**Thibodaux, East 7th Street Drainage Study:** The NLLD has hired Leonard Chauvin, Inc. to work with other local engineering firms and the City of Thibodaux to study the contributing drainage areas for the East 7<sup>th</sup> Street drainage system. The survey work for the study is nearly complete at this time. A draft report will be generated and once approved; the information will be distributed to all parties for future use and information.

*Project COA 4200.002, Project No. SP-1026, Estimated Cost: \$13,000.00*

## **Lockport - Larose Project Area: (63YY.YYZ)**

Location: See map. The boundary is the area enclosed by a polygon beginning at the intersection of Bayou Lafourche and the Company Canal in Lockport. The boundary runs generally south and east along the eastern bank of the Company Canal to the intersection of the Company Canal and the GIWW. From there, the boundary follows the north bank of the GIWW west than turning northwest to the intersection of the GIWW and Bayou Lafourche in Larose. At this point the boundary meanders generally north and west along the west bank of Bayou Lafourche back to the point of beginning at the intersection of Bayou Lafourche and the Company Canal in Lockport. The 2010 Census shows a population of 6,385 in this Project Area which represents a 6% increase in population over the last 20 years and a 1% increase in the last 10 years.

**Lockport to Larose Levee Project:** This large project includes major maintenance and re-sectioning of the levees from Lockport to Larose along the 40 Arpent Canal and Bayou L' Bleu. The NLLD hired J. Wayne Plaisance Engineers and David Waitz Engineers for design and surveying work for individual portions of this project. The project is underway at this time with work beginning in the Edna Plantation section near Valentine. Ultimately, this project will provide a levee with a height of 9 feet above sea level throughout its length. The current permitted project area is from the Parr Pump Station to just pass the Edgar Guidry Pump Station. Currently, the levees have been substantially completed from just east of the Edna Pump Station to the Parr Pump Station. The plan is to continue work to the southern permit extent. This portion of the Project is called Reach "C".

*Project COA for current work section (center) is 6300.50Z.*

*Estimated Cost: \$38,100,000.00*

This project has the following short term sub-projects within it:

**Edna / Barrios Pump Relocation and Consolidation:** A consequence of the Lockport to Larose Levee Project is the need to address the location and function of both the existing Edna and Barrios Pump stations. Both stations are poorly positioned for the new levee alignment, old, and antiquated. The NLLD has completed a study of the best solutions and cost estimates for this issue. Overall, it has been determined that the best course of action would be to:

- 1) Remove the existing Barrios Pump Station.
- 2) Remove the existing Edna Pump Station and replace it with a new station at the end of the existing outfall canal. With sufficient capacity, this new pump station would allow us to:

3) Remove or re-align the existing Edgar Guidry pump station, also not properly positioned for the levee alignment especially if you:

4) Relocate the Larose Pump Station further west at the existing canal running from the 40 Arpent levee to the GIWW.

Primary funding for items 1) & 2) above is coming from the Parish HUD CDBG. An Angelette and Picciola has been selected as engineer for the project and the NLLD is monitoring and is involved in the project scope and details as well as technical support and review as it moves forward.

*Items 1&2 Project COA 6300.51Z,  
Estimated Cost f/ NLLD involvement in items 1-2: \$50,000.00*

*Item 3 Project COA 6300.64Z,  
Estimated Cost f/ item 3: \$4,200,000.00*

*Item 4 Project COA 6300.52Z,  
Estimated Cost f/ item 4: \$4,200,000.00*

Continuity of Levee at Allied Shipyards: There exist a low area in the current Lockport to Larose flood protection where the existing levee near Larose fails to connect to the 7 foot contour along the GIWW and Bayou Lafourche. Just prior to Hurricane Ike, the NLLD installed HESCO bags to close this gap. Gaps in these bags were re-installed for Tropical Storm Lee and Hurricane Isaac. NLLD hired J. Wayne Plaisance Engineers as engineers for this project and they have been working with local property owners to provide a permanent and easily deployed solution to this situation. The will be advertised for bid shortly.

*Project COA, 6300.53Z, Estimated Cost: \$475,000.00*

Repairs of Weakened Levee Sections Valentine to Larose: The section of levee along the 40 Arpent Canal from Valentine to Larose was poorly constructed and previously modified by removing the protected side berm. This causes a continuous maintenance requirement until the levee can be re-constructed as part of the Lockport to Larose Levee Project as described below as Reach "D". The NLLD Deep-water Excavator, along with a LPG small track excavator completed a keying and recapping project in the summer of 2010. This levee reach has been re-sectioned as the material dried and settled. Subsequently, the NLLD Lockport to Larose Levee Project Committee decided to consider an engineered solution for the 2000 foot problematic section. An emergency action opportunity caused by the opening of the Morganza Spillway allowed the Parish, the NLLD, and the State to specifically address the weakened sections with work completing on 6/10/2011. The committee continued to consider

temporary action in this area. Work was planned and was budgeted for the winter of 2011/2012. Engineering design and geotechnical was completed to make the interim repairs and the local impacted landowners had been contacted for RoW donations. Due to a lack of donations of borrow materials, the designed interim solution cost has increased to an estimated \$1,000,000.00. As such, the NLLD proposed a project with shared cost whereby the NLLD contributed \$500,000.00, with the balance of the funds coming from the Parish or the State. The NLLD has received notice of an additional \$500,000.00 in funding from the State Coastal Protection and Restoration Authority (CPRA). The NLCLDD has hired Picciola and Associates as an engineer to design and advertise / bid this project to address this issue as rapidly as possible. The Project has been awarded to Apeck Construction and work on the project construction has begun.

*Project COA 6300.54Z, Estimated Cost \$1,020,000.00*

Maintenance to the return Levee at Phillip Plaisance: This project involves re-sectioning a section of levee between Bayou L' Bleau and the 5 foot contour line near Bayou Lafourche adjacent to the Phillip Plaisance property. Most of this project area is on land owned by ConocoPhillips and Phillip Plaisance. The NLLD is working with the landowners to develop project specifics. The section from Bayou L' Bleau to the 40 Arpent Canal has been improved using material from the inside and in house equipment. The project includes a return levee to the 5 foot contour along Bayou Lafourche and a gated culvert across the new Borrow Canal.

*Project COA 6300.56Z, Estimated Cost \$600,000.00*

Smithport Levee Reach (North End): Also known as "Reach A1". This project includes adding height to the Smithport Levee along the back side of Lockport from the Company Canal to the Al Robichaux Pump Road Gate. In addition, the project will address issues with the culverts through this levee system. The Levee District is moving forward with the work in this project area by using a portion of the funds made available through 2010 / 2011 State Capital Outlay funds. The NLLD hired Leonard Chauvin, Inc. for the project engineering. Low Land Construction was awarded a contract for this project which is nearing completion.

*Project COA 6300.57Z*

*Estimated cost for this item is included below*

Smithport / Delaune Levee Reach (South End): Also known as "Reach A2". This project will re-section and elevate the Smithport /

Delaune Levee from the Al Robichaux Pump Road gate to the Claudet return levee. The NLLD hired Leonard Chauvin, Inc. for the project engineering. Low Land Construction was awarded a contract for this project which is nearing completion

*Project COA 6300.58Z*

*Estimated cost for 6300.57Z and .58Z is \$381,560.00 - \$150,000.00*

*To be received from the State Capital Outlay (\$231,960.00 net)*

This project has the following longer term sub-projects within it:

**Claudet Return Levee Lift and Section Improvements:** This project would serve to remove trees and a ditch adjacent to the existing levee and improve the elevation of this levee, while providing proper Right of Way for maintenance. An engineer has been selected to work on the project details and we have been in discussion with local landowners. Trees on the Levee have been removed and a fence to prevent cattle ingress has been installed.

*Project COA 6300.59Z, Estimated Cost \$267,340.00*

**Claudet Levee to Parr Pump Levee Project:** Also known as “Reach B”.

This large project includes major maintenance and re-sectioning of the levees from the Claudet return levee to the Parr Pump Station (17,000 Feet). This entire levee section is in need of re-sectioning and requires additional elevation.

*Project COA 6300.60Z, Estimated Cost: \$12,250,000.00*

**End of Permitted Levee to Larose Pump Levee Project:** Also known as “Reach D”. This large project includes major maintenance and re-sectioning of the levees from the end of our currently permitted levee near the Edgar Guidry Pump station to the Larose Pump Station (11,000 Feet) at the GIWW. This entire levee section is in need of re-sectioning and additional elevation. The NLCLDD has hired Angelette and Picciola as Engineers to evaluate project alignment alternatives and to prepare cost estimates accordingly.

*Project COA 6300.61Z, Estimated Cost: \$7,700,000.00*

**Improvements at the Parr Pump Station:** The North Lafourche Levee District spearheaded a \$2.5 million planned Capital Improvement project for replacing the PARR pump station near Lockport / Valentine. At this time, the project is complete and the pump station has been turned over to the Parish. The station has the capacity for one additional pump package.

*Project COA 6300.62Z, Estimated cost: \$175,000.00*

**Company Canal South Bank Levee Project:** The completed first lift of this project involved the construction of a new levee along the south bank of the Company Canal in Lockport from the boat launch to the Smithport Levee. This first

phase provided a levee system with an elevation of approximately 4 feet throughout its length. Plans are to provide a second lift to 7.5 feet with armoring at the canal's edge. Project funding for the second lift and armoring is coming from the Parish HUD CDBG. An Engineer has been selected for the project and the NLLD is tracking and remains involved in the project scope and details, providing technical support and review.

*Project COA 6300.63Z, NLCLDD Estimated Cost: \$30,000.00*

## **Choupic Project Area: (64YY.YYZ)**

Location: The boundary is the area enclosed by a polygon beginning at the intersection of Bayou Lafourche and Lafourche Parish Line northwest of Thibodaux. The Boundary then follows the Lafourche Parish Line north then east to the intersection of the Lafourche Parish Line and LA Highway 20. The boundary continues generally south and west along LA Highway 20 to the intersection of Highway 20 (North Canal Blvd.) and Bayou Lafourche in Thibodaux. The boundary then continues up the east bank of Bayou Lafourche to the point of beginning at the Lafourche Parish line northwest of Thibodaux. The 2010 Census shows a population of 6,393 in this Project Area which represents a 33% increase in population over the last 20 years with a 20% increase in the last 10 years.

**Backwater Flood Protection Levees:** This broadly defined project would include making improvements to various existing backwater flood protection levees within the project area. Targeted areas include the Community of Choupic along Highway 304, and the Chackbay Community along the north side of Highway 20 to the Parish Line. This broadly scoped project is assigned the following COA and estimated funding is primarily for project development.

*Project COA 6400.50Z, Estimated Cost: \$100,000.00*

While no threats were reported during Hurricane Isaac in August of 2012 to the following system(s), record high water pushed by the storm into the upper portions of the Barataria Basin and high rainfall amounts give reason to consider improvements to the following systems. The following individual projects are being added as a result of this newly demonstrated weakness to flood protection. Further Project Development is required in the following system.

**Bowie Forced Drainage Area / Backwater Protection Levees:** This 454 acre forced drainage system in the Chackbay Community protects 134 residences, several businesses, and other infrastructure. The system has approximately 19,500 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-36" diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include:

Re-capping and re-shaping the entire ring levee, clearing and widening and improvements to internal drainage channels / culverts and making improvements at the existing pump station.

*Project COA 6400.56Z, Estimated Cost: \$517,000.00*

**West Choupic Storm Water Protection Project:** Broadly defined, this project would provide an open ring levee system surrounding the west Choupic area which currently does not have any stormwater flood protection. This 1,282 acre gravity drainage area has 131 residences, several businesses, and other infrastructure. The project would include the completion of levees with gated culverts along Bayou Onion, Grand Bayou and other area canals to prevent stormwater from entering the area. The project would also likely include a pump to remove rain water during high water events. The NLLD is working to assign this project to an Engineer for project design, development and permitting.

*Project COA 6400.51Z, Estimated Cost: \$11,981,000.00*

**Bayou Onion:** This project includes clearing Bayou Onion and the adjacent rights of ways from obstructions and vegetation, and performing maintenance dredging from Grand Bayou to the 80 Arpent Canal. Engineering and surveying to receive permits for this project are currently in process by the NLLD through its Engineer on the project, Leonard Chauvin, Inc. The permit is expected to be received shortly. The NLCLDD has cleared trees from this Canal post Hurricane Isaac.

*Project COA 6400.52Z, Estimated cost: \$625,000.00*

**80 Arpent Canal:** This project includes clearing the 80 Arpent Canal and the adjacent rights of ways from obstructions and vegetation, and performing maintenance dredging from LA 20 north to the Parish Line. Engineering and surveying to receive permits for this project are currently in process by the NLLD via Leonard Chauvin, Inc. The NLCLDD has cleared trees from this Canal post Hurricane Isaac. This project is also continues into the St. James Project Area. Recently, the NLLD received \$1.1M in State Capital Outlay funds for this project.

*Project COA 6400.53Z, Estimated cost: \$1,356,000.00  
(See also 6500.52Z below)*

**Grand Bayou:** This project includes clearing Grand Bayou and the adjacent rights of ways from obstructions and vegetation, and performing maintenance dredging from Highway 20 to Bayou Onion. Engineering and surveying to receive permits for this project are currently in process by the NLLD through its Engineer on the project, Leonard Chauvin, Inc. The NLCLDD has cleared trees from this Bayou post Hurricane Isaac

*Project COA 6400.54Z, Estimated cost: \$892,000.00*

**North & South Choupic Levee Realignment:** This project has been created due to the prior actions of the Parish in constructing a levee not in accordance with US Army Corps approved alignment on the north side of the Choupic Community. The Corps is pressing the issue and forcing the Parish to remove the existing levee and reconstruct it along the approved route. The NLLD has been asked by the Parish to help with the facilitation of the new levee alignment and to deal with the perspective and impacted landowners in the acquisition of Rights of

Ways or expropriation of required property. The south side of the proposed levee alignment is in line with the prior implemented Chackbay 101B project. Initially, the Chackbay 101 project had included an “A” and “B” phase. The Parish only completed the “A” phase. This project would complete the remaining portions of the “B” phase.

*Project COA 6400.55Z, Estimated Cost: \$353,000.00.*

**North Thibodaux Drainage Improvements.** The City of Thibodaux hired an Engineer to perform a Drainage Study and to recommend drainage projects to improve existing drainage conditions in that area. The NLCLDD has hired David Waitz as the Engineer and is coordinating with the City of Thibodaux to complete these phases as required. The Engineer recommended completing this work in three phases as follows.

Phase A – Improving Outfall along the Subdivisions western Boundary: This project primarily involves upgrading culverts in the outfall as well as existing culverts as indicated in the “red” drainage basin in the study. The engineer for this Phase, David Waitz has been hired and is completing final design. The project will then be advertised for construction bids.

*Project COA 6400.57Z, Estimated Cost: \$82,500.00*

Phase B – Improving Drainage along the Coulon Road: This project primarily involves upgrading culverts along Coulon Road as well as improvements as indicated in the “blue” drainage basin in the study.

*Project COA 6400.58Z, Estimated Cost: \$343,700.00*

Phase C – Diversion of cross streets drainage to the Outfall along the Subdivisions Western Boundary: This project involves the improvements defined in the in the study to divert cross street drainage to the outfall on the western boundary of the subdivision.

*Project COA 6400.59Z, Estimated Cost: \$442,125.00*

## St James Project Area: (65YY.YYZ)

Location: See map. The boundary is the area enclosed by a polygon beginning at the intersection of Bayou Lafourche and LA Highway 20 (North Canal Blvd.) in Thibodaux. The Boundary then follows LA Highway 20 north and east to the intersection of LA Highway 20 and the Choctaw Road. The boundary then follows the Choctaw Road generally to the south east to the intersection of the Choctaw Road and the Laurel Valley Road. From there the boundary follows the Laurel Valley Road generally south to the intersection of Laurel Valley Road and LA Highway 308 extending across LA Highway 308 to Bayou Lafourche. From there the boundary meanders up the east bank of Bayou Lafourche to the point of beginning at the intersection of North Canal Blvd. in Thibodaux. The 2010 Census shows a population of 4,002 in this Project Area which represents a 67% increase in population over the last 20 years with a 23% increase in the last 10 years.

**Legendre – St James – 80 Arpent canals:** The NLLD is confident that improvements to the existing drainage can be made in the St James Plantation area. This drainage also impacts the drainage in portions of the City of Thibodaux which drains through this basin. Broadly defined, this project includes clearing the canals and adjacent rights of ways of debris and vegetation, along with maintenance dredging of the canals. Engineering and surveying to receive permits for all of these projects are currently in process or has been completed by the NLLD. Clearing of the Legendre Canal has recently been completed.

**St. James Canal Clearing Project:** This project includes clearing the St. James Canal and adjacent rights of ways of debris and vegetation, along with maintenance dredging of the canal. Engineering and surveying to receive permits for this project are currently in process by the NLLD through its engineer assigned to the project, Leonard Chauvin, Inc. The NLCLDD has cleared trees from this Canal post Hurricane Isaac.

*St. James Canal Project COA 6500.51Z, Estimated Cost: \$223,000.00*

**80 Arpent Canal Clearing Project:** This project includes clearing the 80 Arpent Canal and adjacent rights of ways of debris and vegetation, along with maintenance dredging of the canal. Engineering and surveying to receive permits for this project are currently in process by the NLLD. The NLCLDD has cleared trees from this Canal post Hurricane Isaac. This project is also continues into the Choupic Project Area. Recently, the NLLD received \$1.1M in State Capital Outlay funds for this project.

*80 Arpent Canal Project COA 6500.52Z, Estimated Cost: (see 6400.53Z)*

**Backwater Flood Protection Levees (Broad Scope):** This broadly defined project would include making improvements to various existing backwater flood protection levees within the project area. Targeted areas include the Sugar Ridge Subdivision area, and the Chackbay and Choctaw communities on the south side of Highway 20, and the Choctaw Road to the Laurel Valley Road. This broadly scoped project is assigned the following COA and estimated funding is primarily for project development.

*Project COA 6500.54Z, Estimated Cost: \$150,000.00*

While no threats were reported during Hurricane Isaac in August of 2012 to the following system, record high water pushed by the storm into the upper portions of the Barataria Basin and high rainfall amounts give reason to consider improvements to the following systems. The following individual project is being added as a result of this newly demonstrated weakness to flood protection. Further Project Development is required in the following system.

**Chackbay 101 / Water Tower Forced Drainage Area / Backwater Protection Levees:** This 630 acre forced drainage system in the Chackbay Community protects 204 residences, several businesses, and other infrastructure. The system has approximately 17,856 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with two pump stations. The Water Tower Pump station has 1 – 20” diesel fueled, engine or electric motor driven pump which discharges into the 101 reservoir canal. The Chackbay 101 Pump Station has 2 – 24” diesel fueled, engine driven pumps. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening of internal drainage channels / culverts and making improvements at the existing WT Pump Station.

*Project COA 6500.55Z, Estimated Cost: \$1,008,840.00*

**Thibodaux Drainage Canal Improvements.** The City of Thibodaux has requested drainage canal maintenance dredging to improve existing drainage conditions in in the area east of North Canal Blvd. The NLCLDD will work with a NLCLDD hired Engineer (Duplantis Design Group) and the City of Thibodaux to complete these projects as required.

**Rienzi Canal Maintenance Dredging:** This project involves maintenance dredging and removal of the spoil for the portion of the Rienzi Canal from Highway 308 heading north approximately 2000 feet to Ashland Dr. It is expected that a portion of this work can be performed by the NLCLDD with in-house equipment.

*Project COA 6500.56Z, Estimated Cost: \$15,000.00*

Rosedown Canal Maintenance Dredging: This project involves maintenance dredging and removal of the spoil for the portion of the Rosedown Canal approximately 330 feet east of and parallel to North Canal Blvd from Melrose Street heading north approximately 3700 feet to the Thibodaux Family Church. It is expected that a portion of this work can be performed by the NLCLDD with in-house equipment.

*Project COA 6500.57Z, Estimated Cost: \$18,000.00*

## **Lake Bouef Watershed Project Area: (66YY.YYZ)**

Location: See map. The boundary is the area enclosed by a polygon beginning at the intersection of the Lafourche Parish Line and LA Highway 20. The boundary continues generally eastward along the Lafourche Parish line to the intersection of US Highway 90 and the Lafourche Parish Line in Des Allemandes. The boundary then continues southwest along US Highway 90 to the intersection of US highway 90 and LA Highway 182 where it continues southwest to Bayou Lafourche. The boundary then meanders up the east bank of Bayou Lafourche to the intersection of Laurel Valley Road. The boundary then returns generally north along Laurel Valley Road turning northwest on the Choctaw Road then north and east along LA Highway 20 back to the point of beginning. The 2010 Census shows a population of 6,033 in this Project Area which represents a 5% decrease in population over the last 20 years with a 2% decrease in the last 10 years.

**Backwater Flood Protection Levees:** This broadly defined project would include making improvements to various existing backwater flood protection levees within the project area. Targeted areas include the communities of Kraemer and Bayou Bouef along Highways 20 and 307 and the Community of Choctaw from the Laurel Valley Road to Highway 307 along the Choctaw Road. In addition, the northwest part of the Des Allemandes Community in Lafourche Parish falls within this project area. Several subdivisions in the Raceland area would also benefit from this project. In December of 2009, NLLD worked with the Parish to create a new levee system parallel and adjacent to the Choctaw road which was being inundated due to heavy rains. This broadly scoped project is assigned the following COA and estimated funding is primarily for overall development of projects.

*Project COA 6600.50Z, Estimated Cost: \$100,000.00*

Hurricane Isaac in August of 2012 pushed record high water into the upper portions of the Barataria Basin. This high water topped several backwater flood protection levees in this Project Area. The following individual projects are being added as a result of this newly demonstrated weakness to flood protection. While no levees were breached, significant sandbagging efforts were required in the following systems.

**La Butte Forced Drainage Area / Backwater Protection Levees:** This 79 acre forced drainage system in the Choctaw Community protects 60 residences. The system has approximately 11,750 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-18" and 1- 24" diesel fueled, engine driven pumps. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac topped the

levees in two locations and threatened in additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel, making improvements at the existing pump station and adding a new small pump station

*Project COA 6600.60Z, Estimated Cost: \$1,191,300.00*

Sixth Ward Middle School Forced Drainage Area / Backwater Protection Levees:

This 30 acre forced drainage system in the Choctaw Community protects 1 residence, the Sixth Ward Middle School, the Sixth Ward Library, and the LPG Choctaw Field Office. The system has approximately 3,750 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-16" NG fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile. The Choctaw Road, which makes up a portion of the backwater protection, is also at insufficient elevation. Hurricane Isaac topped the road embankment in two locations and threatened in additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, heightening the road embankment and making improvements at the existing pump station.

*Project COA 6600.61Z, Estimated Cost: \$587,300.00*

Rink / Choctaw Fire Station Forced Drainage Area / Backwater Protection

Levees: This 382 acre forced drainage system in the Choctaw Community protects 204 residences, several businesses, and other infrastructure. The system has approximately 36,689 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with two pump stations. The Choctaw Fire Station Pump station has 1 – 36" diesel fueled, engine driven pump. The Rink Pump Station has 1 – 36" diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile with multiple encroachments. Hurricane Isaac topped the levee system in one location and threatened in additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, adding additional pump cross connection capacity across Choctaw Road and making improvements at the existing pump stations.

*Project COA 6600.62Z, Estimated Cost: \$1,322,952.00*

Bayou Boeuf School Forced Drainage Area / Backwater Protection Levees:

This 31 acre forced drainage system in the Kraemer Community protects 20 residences, several businesses, and the Bayou Boeuf School. The system has approximately 6,060 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished through one pump station with 2 – 12" pumps, one electric motor driven and one electric / natural gas fueled engine driven. Overall, the ring levees are insufficient in height and profile with multiple encroachments. Hurricane Isaac topped the levee system in multiple locations and threatened in additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, heightening the road embankment along Hwy 307 and Torres St., adding an additional small pump station, internal channel and culvert improvements and making improvements at the existing

pump station. The NLLD is working to engage an Engineer for project design, development and permitting.

*Project COA 6600.63Z, Estimated Cost: \$682,715.00*

Zeller / Larousse Forced Drainage Area / Backwater Protection Levees: This 420 acre forced drainage system in the Kraemer Community protects 234 residences, several businesses, and other infrastructure. The system has approximately 33,417 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with two pump stations. The Larousse Pump station has 1 – 30” diesel fueled, engine driven pump. The Zeller Pump Station has 2 – 36” diesel fueled, engine driven pumps. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac topped the levee system in multiple locations for substantial lengths and threatened in additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, addressing road embankments on Hwy 307 near the Bayou Bouef Bridge, addressing road embankment on Bayou Rd., adding additional pump cross connection capacity across the Kraemer Road, internal channel improvements and making improvements at the existing pump stations. The NLLD has hired Leonard Chauvin, Inc. as the Engineer for design, development and permitting for the levee aspects of this project. Recently, we received \$145K from State Capital Outlay funding for this project.

*Project COA 6600.64Z, Estimated Cost: \$1,580,255.00*

Martinez / Rond Pom Pon Forced Drainage Area / Backwater Protection Levees: This 175 acre forced drainage system in the Kraemer Community protects 95 residences, several businesses, and other infrastructure. The system has approximately 25,055 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with two pump stations. The Martinez Pump station has 1 – 20” diesel fueled engine driven pump. The Rond Pom Pon Pump Station has 1 – 30” diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac topped the levee system in multiple locations for substantial lengths and threatened in additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, addressing road embankments on Hwy 307 near RPP Bridge, addressing road embankment on Sanchez Rd., adding additional pump cross connection capacity across the Kraemer Road and replacing the existing RPP Pump station.

*Project COA 6600.65Z, Estimated Cost: \$1,021,825.00*

Eymard / Rodrique 8 Forced Drainage Area / Backwater Protection Levees: This 948 acre forced drainage system in the Kraemer Community protects 226 residences, several businesses, and other infrastructure. The system has approximately 34,747 feet of ring levees providing backwater flooding protection. Highway 307 makes up the southern boundary of this forced drainage district. Forced drainage of the area is accomplished with two pump stations. The

Eymard Pump station has 1 – 30” diesel fueled, engine driven pump. The Rodrigue #8 Pump Station has 1 – 36” diesel fueled engine driven pump. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac topped the levee system in a few locations (especially along Bayou Rond Pom Pon) and threatened in additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, internal channel and culvert improvements, replacing the existing Rodrigue #8 Pump station and making improvements at the pump stations.

*Project COA 6600.66Z, Estimated Cost: \$1,298,205.00*

Mike’s A & B / Legendre Forced Drainage Area / Backwater Protection Levees:

This 963 acre forced drainage system in the Kraemer Community protects 308 residences, several businesses, and other infrastructure. The system has approximately 44,215 feet of ring levees providing backwater flooding protection. Highway 307 makes up the northern boundary of this forced drainage district. Forced drainage of the area is accomplished with two pump stations. The Mikes A&B Pump station has 1 – 30” and 1 – 36” diesel fueled, engine driven pumps. The Legendre Pump Station has 1 – 36” diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, internal channel and culvert improvements, addressing road embankments on Hwy 307 near the RPP Bridge, adding an additional pump station on the eastern end of the system and making improvements at the existing pump stations.

*Project COA 6600.67Z, Estimated Cost: \$1,593,225.00*

Farmer’s Lane / Rodrigue 7 Forced Drainage Area / Backwater Protection Levees:

This 776 acre forced drainage system in the Kraemer Community protects 246 residences, several businesses, and other infrastructure. The system has approximately 27,586 feet of ring levees providing backwater flooding protection. Highway 20 makes up the southern and eastern boundary of this forced drainage district. Forced drainage of the area is accomplished with two pump stations. The Farmer’s Lane Pump station has 1 – 36” diesel fueled engine driven pump. The Rodrigue #7 Pump Station has 1 – 30” diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac topped the levee system in a few stretches and it was threatened in several additional locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, internal channel and culvert improvements, adding an additional pump station on the western end of the system, addressing the road embankments along Hwy 20 from the Grand Bayou bridge to the west end and making improvements at the existing pump stations.

*Project COA 6600.68Z, Estimated Cost: \$1,210,790.00*

While no threats were reported during Hurricane Isaac in August of 2012, to the following system(s), record high water pushed by the Storm into the upper portions of the Barataria Basin and high rainfall amounts give reason to consider improvements to the following systems. The following individual projects are being added as a result of this newly demonstrated weakness to flood protection. Further Project Development is required in the following systems.

**Banan's Camp Forced Drainage Area / Backwater Protection Levees:** This 256 acre forced drainage system in the Choctaw Community protects 80 residences. The system has approximately 26,605 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-36" diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel, adding additional pump cross connection capacity across the Choctaw Road, addressing road embankments on Choctaw Road near the bridges and making improvements at the existing pump station.

*Project COA 6600.69Z, Estimated Cost: \$860,075.00*

**Peltier Drive:** This 35 acre forced drainage system off LA Highway 308 west of Raceland protects 34 residences. The system has approximately 4600 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-20" diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, adding elevation along Peltier Drive which serves as the eastern portion of the ring levee system, clearing and widening an internal drainage channel, adding additional pump retention and making improvements at the existing pump station.

*Project COA 6600.70Z, Estimated Cost: \$510,600.00*

**Grand Bayou:** The remaining part of this ongoing project includes clearing Grand Bayou of obstructions from the LaPeans (Sawmill) Canal to Bayou Bouef. The portion of Grand Bayou from Highway 20 to the LaPeans (Sawmill) Canal has already been cleared by the Levee District. The NLCLDD has cleared trees from this Bayou post Hurricane Isaac. The NLCLDD has also hired Leonard Chauvin, Inc. as an Engineer seeking a permit for bank clearing and maintenance dredging concurrently with other canals in the area.

*Project COA 6600.51Z, Estimated Cost: \$340,000.00*

**LaPeans (Sawmill) Canal:** This project includes clearing the LaPeans Canal of obstructions from the 80 Arpent Canal to Grand Bayou. Parts of this canal have been cleared by contractors hired by the Parish post Hurricane Gustav. The NLCLDD has cleared trees from this Canal post Hurricane Isaac. The NLCLDD has also hired Leonard Chauvin, Inc. as an Engineer seeking a permit for bank clearing and maintenance dredging concurrently with other canals in the area.

*Project COA 6600.52Z, Estimated Cost: \$140,000.00*

**40 Arpent and 80 Arpent Canals:** This project includes clearing the 40 & 80 Arpent Canals and adjacent rights of ways of obstructions and vegetation from near the Laurel Valley Road to Raceland. Parts of this canal have been cleared by contractors hired by the Parish post Hurricane Gustav. The canals would then require maintenance dredging.

*Project COA 6600.53Z, Estimated cost: \$4,000,000.00*

**Halpin Canal:** This project includes clearing the Halpin Canal of any obstructions from the Theriot Canal to Bayou Bouef. This canal has been cleared by contractors hired by the Parish post Hurricane Gustav.

*Project COA 6600.54Z, Estimated Cost: \$185,000.00*

**Bayou Bouef:** This project includes clearing Bayou Bouef of any obstructions from Lake Bouef to Lake Des Allemandes.

*Project COA 6600.55Z, Estimated Cost: \$185,000.00*

**East Theriot Canal:** This project includes clearing Theriot Canal of any obstructions from Bayou Lafourche to Lake Bouef.

*Project COA 6600.56Z, Estimated Cost: \$185,000.00*

**Sam Foret Canal:** This project includes clearing the Sam Foret Canal of any obstructions from the Southern Pacific Railroad tracks to Lake Bouef. It would also include clearing a small unnamed canal that runs parallel to the Southern Pacific Railroad east and west of the Sam Foret Canal which feeds into the Sam Foret Canal. Parts of this canal have been cleared by contractors hired by the Parish post Hurricane Gustav.

*Project COA 6600.57Z, Estimated Cost: \$ 250,000.00*

**Alidore Community Project:** This 172 acre forced drainage system off LA Highway 308 west of Raceland protects approximately 402 individual residences, 18 multi resident housing structures, several businesses, a church and other infrastructure. The system has approximately 11,150 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with two pump

stations each with 1-30" diesel fueled, engine driven pump. The NLLD has played a technical and surveying support role in the Parish's improvements to the Ring Levee System surrounding the Alidore Community near Raceland. The Parish is also seeking support through the State for replacement of the existing Pump Stations. NLLD remains in a technical support roll for this project. While most of the ring levees surrounding this community were improved after the December 2009 flood event, several sections remain insufficient in elevation and require re-capping and re-shaping. In some instances, the levee needs to be re-aligned for permanent stability.

*Project COA 6600.58Z Estimated Cost: \$ 353,500.00*

**Lake Bouef Watershed Tail Water Project:** The entire watershed encircled by Bayou Lafourche to the West & North, the Mississippi River to the North & East and US Highway 90 to the South is approximately 400,000 acres of which nearly 100% has to drain through Bayou Des Allemandes. This broadly defined project seeks to restore historical hydrology to improve drainage in the southern part of the basin in the Lake Bouef Watershed Project Area. Basically, the project seeks to find ways to get water across US Highway 90 and across Highway 307. The NLCLDD has also hired Leonard Chauvin, Inc. as an Engineer to study drainage alternatives in this area.

*Project COA 6600.59Z, Estimated Cost: \$ 10,000,000.00*

## **Gheens Project Area: (67YY.YYZ)**

Location: See map. The boundary is the area enclosed by a polygon beginning at the intersection of the Bayou Lafourche and LA Highway 182. The boundary continues generally north east along LA Highway 182 to the intersection of US Highway 90 and then continues northeast along US Highway 90 to the Lafourche Parish Line in Des Allemandes. The boundary then continues southeast along the Lafourche Parish line to the intersection of the Lafourche Parish Line with the Company Canal. The boundary then runs along the Company Canal generally to the west and south to the intersection of the Company Canal and Bayou Lafourche in Lockport. The boundary then meanders up the east bank of Bayou Lafourche to the point of beginning at the intersection of LA Highway 182 in Raceland. The 2010 Census shows a population of 2,390 in this Project Area which represents a 30% increase in population over the last 20 years with a 20% increase in the last 10 years.

**Backwater Flood Protection Levees:** This broadly defined project would include making improvements to various existing backwater flood protection levees within the project area. Targeted areas include the Gheens Community along Highway 654. This broadly scoped project is assigned the following COA and estimated funding is primarily for overall development of projects.

*Project COA 6700.50Z, Estimated Cost: \$ 100,000.00*

The following individual projects have been identified:

**Jesse Dufrene Pump District:** This 934 acre forced drainage system in the Gheens Community protects 171 residences, a church, a library a community center and other infrastructure. The system has approximately 18,950 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 2-36” diesel fueled, engine driven pumps. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel, and replacing the existing pump station funded through a Hazard Mitigation Grant with 3-36” diesel fueled, engine driven pumps.

*Project COA 6700.57Z, Estimated Cost: \$681,250.00*

**Homeplace Pump District:** This 1,013 acre forced drainage system in the Gheens Community protects 4 residences, several businesses and other infrastructure. The system has approximately 4,400 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-36” diesel fueled, engine driven pumps. Overall, the ring

levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel / culverts, and making improvements to the existing pump station.

*Project COA 6700.58Z, Estimated Cost: \$526,000.00*

**Natural Gas Pump District:** This 1,279 acre forced drainage system in the Gheens Community protects 60 residences, several businesses and other infrastructure. The system has approximately 23,900 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 2-36” and 1-48” diesel fueled, engine driven pumps. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel / culverts, and making improvements to the existing pump station.

*Project COA 6700.59Z, Estimated Cost: \$1,820,800.00*

**Company Canal:** This project includes clearing the Company Canal and adjacent rights of ways of any obstructions and vegetation from Bayou Lafourche to the Guyosa ridge. The NLLD has Hired Leonard Chauvin, Inc. as the Engineer for this project. Currently, the NLLD has received a US Army Corps of Engineers (USACOE) permit to complete this work from Bayou Lafourche to just north of the Guyosa Rd. In order to receive this permit we needed to come up with a cost saving method of providing the required mitigation for this project. We proposed and received USACOE approval of our permit mitigation project. This mitigation project involves dredging the lower portion of Bayou Folsé adjacent to Lake Fields (aka, the Camp Canal) from the Butch Hill Pump Station Outfall Canal (aka, Sapia Canal) to the Company Canal near Lockport. In addition, the project involves dredging 8,700 feet along the Northeast rim of Lake Fields. Spoil from these dredging activities will be used adjacent to the dredge areas to create emerged wetlands for mitigation and bank stability. The project has several parallel benefits. Dredging the Camp Canal will have recreational benefits to the camp owners in the Lake Fields Area. Additionally, it is believed by the LA Department of Wildlife and Fisheries as well as the Lafourche Fish and Game Commission that this action will improve the water quality in Lake Fields by allowing turbid and highly nutrient water from upper portions of the basin to by-pass the lake. The Lafourche Fish and Game Commission have committed \$50,000.00 to the cost of the mitigation project. The NLLD hired Sea Level Construction as a contractor to clear the banks along the Company Canal and is using one of the District’s marsh buggy excavators to perform the maintenance

dredging in the Company Canal. The mitigation portion of this project has been awarded to Week Marine and is nearly completed at this time.

*Project COA 6700.51Z, Estimated Cost: \$800,000.00*

**Matthews Canal / Clotilda Levee:** This 973 acre forced drainage system off of LA Highway 308 west of Lockport protects 27 residences, several businesses and other infrastructure. The system has approximately 16,500 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 3-30” diesel fueled, engine driven pumps. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel / culverts, and making improvements to the existing pump station. NLLD has hired J. Wayne Plaisance Engineers on behalf of the Parish as the Engineer for this project. The clearing of the Matthews Canal has recently been completed by the NLLD standard Marsh Buggy Excavator and the maintenance dredging will be completed before the end of the year.

*Project COA 6700.52Z, Estimated Cost: \$1,883,500.00*

**Des Allemandes Bulkhead Project:** This 57 acre forced drainage system in the Des Allemandes Community protects approximately 86 residences, several businesses and other infrastructure. The system has approximately 3,700 feet of ring levees providing storm water flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-12” diesel fueled, engine driven pump and 1-10” electric motor driven pump. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did top the existing levee system and substantial sandbagging and additional pump capacity had to be brought in. Additionally, the levee system was threatened in several other locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel / culverts, and making improvements to the existing pump station. Currently, Lafourche Parish Government has received HUD CDBG funds for the Bulkhead portion of this project along Bayou Des Allemandes. The Parish has awarded an engineering firm (All South Engineers) the design contract and the project was put out to bid. The Contractor (Cycle Construction) has begun work on this project. NLLD remains in a technical support and review roll for this portion of the project. However, the CDBG funded project will not address the levee for the entire pump district.

*Bulkhead Project COA 6700.53Z, Estimated Cost \$756,500.00*

**Des Allemandes Bulkhead and Breakwater Project:** This project involves restoration of the breakwater parallel to US Highway 90 behind the residential area near Des Allemandes.

*Breakwater Project COA 6700.54Z, Estimated Cost 185,000.00*

**Little Clotilda Pump & Levee Project:** Currently the Parish seeks to bring this pump and adjacent levee into the Parish system to afford drainage protection to adjacent land and protect highway 654 from storm water flooding. The NLLD is providing technical support for this project at this point. The anticipated improvements would include re-capping and re-sectioning of 5,000 feet of ring levee and re-furbishing the pump station.

*Project COA 6700.55Z, Estimated Cost \$95,000.00*

**Ravenswood Pump District:** This 414 acre forced drainage system along LA Highway 308 east of Lockport protects 48 residences, an apartment complex, several businesses and other infrastructure. The system has approximately 4,760 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-30" diesel fueled, engine driven pump and 1-24" electric motor driven pump. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire ring levee, clearing and widening an internal drainage channel / culverts, and making improvements to the existing pump station.

*Project COA 6700.56Z, Estimated Cost: \$1,204,500.00*

## **Valentine East Project Area: (68YY.YYZ)**

Location: See map. The boundary is the area enclosed by a polygon beginning at the intersection of the Bayou Lafourche and Company Canal in Lockport. The boundary continues generally north and east along the Company Canal to the intersection of the Company Canal and the Lafourche Parish Line in Lake Salvador. The boundary then continues east along the Lafourche Parish line to the intersection of the Lafourche Parish Line with the GIWW. The boundary then runs along the north bank of the GIWW generally to the west and south to the intersection of the GIWW and Bayou Lafourche in Larose. The boundary then meanders up the east bank of Bayou Lafourche to the point of beginning at the intersection of the Company Canal and Bayou Lafourche in Lockport. The 2010 Census shows a population of 2,389 in this Project Area which represents a 12% increase in population over the last 20 years with a 6% increase in the last 10 years.

**Backwater Flood Protection Levees:** This broadly defined project would include making improvements to various existing backwater flood protection levees within the project area. This broadly scoped project is assigned the following COA and estimated funding is primarily for overall development of projects  
*Project COA 6800.50Z, Estimated Cost: \$100,000.00*

Targeted areas include the following:

**McLeod Pump District:** This 450 acre forced drainage system along LA Highway 308 east of Lockport protects 30 residences, a future school site and other infrastructure. The system has no traditional levees being isolated from adjacent drainage areas by the old railroad embankment, a road bed that parallels the Company Canal to the north and a headland road to the south. Forced drainage of the area is accomplished with a single pump station with 1-24" diesel fueled, engine driven pump and 1-20" electric motor driven pump. Overall, the ring "levees" are adequate in elevation except for portions of the northern border. Proposed improvements would include re-capping and re-shaping the entire northern border, clearing and widening an internal drainage channel / culverts, and making improvements to the existing pump station.

*Project COA 6800.52Z, Estimated Cost: \$1,052,000.00*

**Old Valentine Pump District:** This 6,186 acre forced drainage system along LA Highway 308 west of Lockport protects 201 residences, several businesses and other infrastructure. The system has approximately 29,000 feet of ring levees providing backwater flooding protection. Forced drainage of the area is

accomplished with a single pump station with 3-48” diesel fueled, engine driven pump and 1-24” electric motor driven pump. Overall, the ring levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. The levee adjacent to the collection canal has culverts through it which limit its ability to serve as a backwater flood protection levee. This can be rectified by changing the alignment of the existing levees to exclude the oxidation bond areas (re-routing its drainage), using and improving portions of the Giosha Ridge as part of the boundary and making improvements along the existing levee as well as adding / enhancing additional levee sections. Proposed improvements would include re-capping and re-shaping the entire ring levee as described above, clearing and widening an internal drainage channel / culverts, and making improvements to the existing pump station. An additional new pump station at the northern end of the system is proposed and already funded. (See COA 6800.61Z below)

*Project COA 6800.53Z, Estimated Cost: \$2,050,000.00*

Humble Pump District: This 867 acre forced drainage system along LA Highway 308 west of Lockport protects 1 residence, and other infrastructure. The system has no traditional levees being isolated from adjacent drainage areas by a remnant ridge, and a road bed / berm the north and south. Forced drainage of the area is accomplished with a single pump station with 1-36” diesel fueled, engine driven pump. Overall, the ring “levees” are adequate in elevation except for portions of the northern border. Proposed improvements would include re-capping and re-shaping the entire northern border, clearing and widening an internal drainage channel, and making improvements to the existing pump station.

*Project COA 6800.54Z, Estimated Cost: \$1,257,000.00*

New Valentine / Ludevine Pump District: This 2,523 acre forced drainage system along LA Highway 308 west of Lockport protects 25 residences, and other infrastructure. The system has approximately 24,900 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with two pump stations. The New Valentine Pump station has 1 – 36” diesel fueled engine driven pump. The Ludevine Pump Station has 1-24” and 1 – 36” diesel fueled, engine driven pump. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac topped the levee system in multiple locations and threatened in additional locations. Re-capping and re-shaping the entire levee system is part of the Valentine East – Lockport to Larose Levee Project (See COA 6800.51Z below) and is not part of this project scope. Proposed improvements would include clearing and widening an internal drainage channel, and making improvements to the existing pump stations.

*Project COA 6800.55Z, Estimated Cost: \$2,412,000.00*

**T-Bois Pump District:** This 736 acre forced drainage system along LA Highway 308 east of Larose protects 351 residences, multiple businesses and other infrastructure. The system has approximately 6,130 feet of ring levees providing backwater flooding protection. Forced drainage of the area is accomplished with one pump station with 3 – 36” diesel fueled engine driven pumps. Overall, the ring levees are insufficient in height and profile with multiple encroachments and many trees and roots in the levees. Hurricane Isaac did not top the levee system; but was threatened in multiple locations. Re-capping and re-shaping the entire levee system is part of the Valentine East – Lockport to Larose Levee Project (See COA 6800.51Z below) and is not part of this project scope. Proposed improvements would include clearing and widening an internal drainage channel / culvert, and making improvements to the existing pump stations.

*Project COA 6800.56Z, Estimated Cost: \$1,457,000.00*

**Rita Pump District:** This 63 acre forced drainage system along LA Highway 308 east of Lockport protects 100 residences, several businesses and other infrastructure. The system has approximately 1,950 feet of levees providing backwater flooding protection. Forced drainage of the area is accomplished with a single pump station with 1-20” diesel fueled, engine driven pump and 1-12” electric motor driven pump. Overall, the levees are insufficient in height and profile. Hurricane Isaac did not top the levee system; but, it was threatened in several locations. Proposed improvements would include re-capping and re-shaping the entire levee and making improvements to the existing pump station. The NLLD is working to engage an engineer to provide some survey work to address some internal drainage issues and the current levee heights.

*Project COA 6800.57Z, Estimated Cost: \$764,000.00*

**Valentine East Lockport to Larose Levee Project:** In the very early stages of development, this project would be similar to our west side Lockport to Larose Levee Project. The project would re-construct the existing drainage levees from Lockport to Larose into storm protection levees simultaneously improving internal drainage for the entire project area. We recently received \$300K from State Capital Outlay to begin some planning for this project.

*Project COA 6800.51Z, Estimated Cost: \$35,600,000.00*

**Industrial Ave. Floodwall:** This project involves building a floodwall along Industrial Ave. north of Larose along the GIWW. The project intent is to prevent storm water in the GIWW from encroaching into adjacent neighborhoods. Currently LPG is seeking funds for this project and the NLLD remains in a technical support roll. *Project COA 6800.60Z,*

**Company Canal Pump Station:** Currently, the Lafourche Parish Government has received State funding to complete a new Pump Station that will take water from the 40 Arpent canal east of Bayou Lafourche, south of Lockport and discharge

into the Company Canal on the Northern end of the Old Valentine Pump District (see above). Additional funding from Lafourche Parish Drainage District #1 as well as an NLLD contribution of nearly \$1,000,000.00 of cash and in-kind services will be provided for this project. (See Company Canal Project COA 6700.51Z in Gheens PA.) NLLD remains in a technical support roll for this project.

*Project COA 6800.61Z, Estimated Cost: \$100,000.00*

**Bayou Lafourche Closure:** This project would include installing a storm water prevention deployable closure in Bayou Lafourche at a future determined location near the GIWW in Larose. The closure would prevent stormwater from backing into Bayou Lafourche circumventing backwater levees. This project may are may not include involvement with a similar structure planned by the Parish to prevent salt water intrusion.

*Project COA 6800.62Z, Estimated Cost: \$9,800,000.00*