

**MINUTES OF THE
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY – EAST
BOARD MEETING
THURSDAY, APRIL 17, 2014**

The regular monthly Board Meeting of the Southeast Louisiana Flood Protection Authority-East (Authority or SLFPA-E) was held on Thursday, April 17, 2014, in the Second Floor Council Chambers, Joseph Yenni Building, 1221 Elmwood Park Blvd., Harahan, Louisiana, after due legal notice of the meeting was sent to each Board member and the news media and posted.

Mr. Doody called the meeting to order at 9:30 a.m. and led in the pledge of allegiance.

The roll was called by Secretary Wittie:

PRESENT:

Timothy P. Doody, President
Stephen Estopinal, Vice President
Louis E. Wittie, Secretary
Wilton P. Tilly, III, Treasurer
Jefferson M. Angers
Lambert J. Hassinger, Jr.
G. Paul Kemp
Richard A. Luetlich, Jr.

ABSENT:

Kelly J. McHugh

OPENING COMMENTS:

Mr. Doody reported that he and Robert Turner, SLFPA-E Regional Director, attended the 79th Annual Spring Meeting of the Mississippi Valley Flood Control Association in Washington, D.C., on March 24-26. Meetings were also held in Washington with Senator Vitter and Congressman Richmond, a member of Congressman Scalise's staff, Roger Cockrell, Senate Subcommittee on Energy and Water Development staff member, and U.S. Army Corps of Engineers (USACE) officials. The issues discussed included a study to utilize the Central Wetlands as an additional storage unit for the IHNC, authorization and funding for future levee lifts, a study to affect the closure of the IHNC Surge Barrier Bypass Barge Gate during hurricane season, and tasking the USACE with the operation and maintenance (O&M) of the IHNC Surge Barrier gates.

Mr. Doody commented that on March 27th the SLFPA-E hosted a visiting engineer from Australia.

Mr. Doody reported that on March 29th he hosted the monthly strategic partnering meeting. The major topic of discussion was the armoring of the Hurricane and Storm Damage Risk Reduction System (HSDRRS) and the construction of levee lifts prior to the placement of armoring. Follow up meetings were held on April 2, 9 and 16 and

included representatives from the SLFPA-W, Coastal Protection and Restoration Authority (CPRA), Plaquemines Parish and Pontchartrain Levee District. The purpose of the meetings was to prioritize the levees requiring a lift prior to 2023 and identify funding for the additional lifts. Levee reaches that do not require a lift over the next ten years will be identified so that the USACE can begin armoring the HSDRRS. Meeting participants are considering the proposal of a pilot project to the USACE wherein the levee districts would be allowed to construct the lifts and the USACE would follow up with the armoring. The Levee System Evaluation Report (LSER) for the certification of the system will expire in 2023 and the system will need to be recertified at that time.

Mr. Estopinal inquired about the hydraulic analysis of the HSDRRS. Rickey Brouillette, CPRA Engineer Manager, explained that the CPRA is reviewing the USACE's effort in order to determine whether it was state of the art at the time and whether there are any issues. In moving forward the CPRA plans to look at other issues; such as, should other things have been looked at from a risk perspective, land cover and the suite of storms selected for the modeling.

Mr. Doody advised that he and Mr. Turner participated in the Mississippi River Commission (MRC) annual high water inspection trip traveling from Baton Rouge to White Castle on the M/V MISSISSIPPI on April 10th. The trip provided an opportunity for discussions with Brigadier General Peter DeLuca, Commander of the Mississippi Valley Division, Norma Jean Mattei, MRC member, Colonel Richard Hansen, USACE New Orleans District Commander, and other officials. Mr. Doody and Mr. Turner also attended the MRC public meeting on April 11th on the M/V MISSISSIPPI at the Thalia Street Wharf.

Mr. Doody reported that on April 14th he and Mr. Turner participated in a webinar in which the report prepared by Arcadis for the CPRA in compliance with Senate Concurrent Resolution (SCR) 39 was reviewed. The goal of SCR 39 is to scientifically look at the reorganization of levee districts along watersheds. The report is currently in draft form. Comments on the report must be submitted by April 23rd. He requested that Mr. Turner's office transmit the draft report to Board members along with the SLFPA-E's draft comments. Additional comments from Board members are to be submitted to Mr. Turner prior to the deadline.

Mr. Doody advised that a barge struck the fender system leading into the IHNC Surge Barrier Sector Gate. The gate has been exercised and there appears to be no apparent damage to the gate; however, an additional investigation will be conducted.

Mr. Doody commented that the Orleans Levee District will hold its annual Safety Awareness Day on April 24th. He reminded Board members that the Association of Levee Boards of Louisiana will hold its annual Workshop in Baton Rouge on May 1-2. The training provided in the Workshop fulfills a part of the mandated training requirements for Board members. He advised that due to the conflict in schedule, the SLFPA-E Committee meetings scheduled for May 1 have been rescheduled to May 8.

Mr. Doody advised that the USACE is coordinating the Media Day scheduled for May 30th at the Port of New Orleans. The event is held each year prior to hurricane season

and covers preseason preparations, safety, cross agency coordination and regional cooperation. He commented that the flood protection system is the best that this area has ever had; however, the public must be made aware of the dangers associated with living in the area. He stressed the need for the public to evacuate if and when the call comes.

Mr. Doody asked that Nick Cali, Lake Borgne Basin Levee District (LBBLD) Executive Director, comment on the LBBLD-St. Bernard Parish (SBP) joint effort on risk communication, which is being funded through a Hazard Mitigation Grant. Mr. Cali advised that the on-going cooperative effort is tied into the onset of hurricane season and the State's "Get a Game Plan" campaign. LBBLD-SBP will host open houses on May 10, 11 and 18 in three distinct areas of the parish. Informational flyers will also be mailed. Information will be provided on individual responsibility, the players in the drainage and hurricane protection systems, appropriate sources of information for the public and social media sources.

ADOPTION OF AGENDA:

A motion was offered by Mr. Estopinal, seconded by Mr. Wittie and unanimously approved, to adopt the agenda.

RESOLUTION NO. 04-17-14-01 – APPROVAL OF MARCH 20, 2014 BOARD MEETING MINUTES

On the motion of Mr. Kemp,
Seconded by Mr. Wittie, the following resolution was offered:

BE IT HEREBY RESOLVED, that the Southeast Louisiana Flood Protection Authority-East approves the minutes of the Board Meeting held on March 20, 2014.

The foregoing was submitted to a vote, the vote thereon was as follows:
YEAS: Mr. Angers, Mr. Estopinal, Mr. Hassinger, Mr. Kemp, Mr. Luettich,
Mr. Tilly and Mr. Wittie
NAYS: None
ABSENT: Mr. McHugh

PRESENTATIONS:

1. System Engineering Analysis for the Hurricane Surge Defense System of the East Bank of the Greater New Orleans Area – Lake Pontchartrain Basin Foundation

Mr. Kemp advised that the presentation was given to the Coastal Advisory Committee at its last meeting and that he recommended that it be given to the Board.

John Lopez, Ph.D., Lake Pontchartrain Basin Foundation (LPBF) Executive Director, commented that many of the issues addressed in the presentation are not new;

however, system engineering analysis provides a fresher look in terms of organizing issues. The LPBF's role is to support the SLFPA-E and similar agencies and to engage with the public to create capacity so that they can do the things that need to be done.

Ezra Boyd, Ph.D., explained that he, Mr. Lopez and Rune Storesund, P.E., collaborated and worked about four years on the project. He addressed the topic of "specifying the system". The USACE deals only with the structural system (levees, pump stations and floodgates). The State Master Plan (SMP) slightly broadens the conceptualization of the system (levees, pump stations, floodgates, marshland bridges, natural ridges and oyster reefs). He pointed out that coastal elements should be included as a part of the system because they influence the dynamics of storm surge and the public risks. Since the SMP uses economic criteria for evaluating projects and not health impacts, it does not include evacuation routes. The LPBF pioneered the Multiple Lines of Defense Strategy (MLODS). MLODS is a more complete system specification and includes 12 lines of defense (offshore shelf, barrier islands, sounds, marsh land bridges, natural ridges, highways, floodgates, levees, pump stations, building elevation, evacuation routes and insurance). The lines of defense were mapped to provide an overview. Local, State and Federal jurisdictions were mapped and demonstrated the overlapping authorities. The project scope used MLODS to specify the system. The system as specified in the study is identified as the Hurricane Surge Defense System (HSDS) "as is" at the time of the study. The study area focused on the east bank of Greater New Orleans; however, some of the system elements cover a much larger area.

Mr. Boyd reviewed the methods and tools used in the project:

- Systems engineering – A professional discipline/methodology to ensure that complex projects are designed and built as integrated systems.
- Quality Management Assessment System (QMAS) - A facilitated discussion whereby system assessors share their experiences and the facilitators formalize this knowledge into a system specification.
- Systems Modeling Language (SysML) – A software tool used to codify the qualitative insight gained from the QMAS process. The modeling language includes three elements: system requirements, system structure and system behavior.

Mr. Boyd explained that three QMAS workshops were held in 2012. The workshops pulled together system assessors (individuals with hands on expertise with an element of the system) for an interactive and facilitated discussion. Approximately 25 individuals participated in the workshops. The results included:

- System Definition: Identifying the key elements and structure of the system
- Factors of Concern (FOCs): System elements or behavior that could adversely impact system performance. Major FOCs included system performance and the basis of the performance level, consequences (SMP focuses on property, not mortality), transportation related to evacuation, system funding, the drainage system (the drainage system is built for a 10-year rainfall event, not a 100-year storm surge event), flood protection (armoring, O&M and levee lifts), and communications with the public.

- Scenarios of Concern (SOCs): Extreme and fair weather scenarios where the FOCs could manifest.

Mr. Boyd advised that two detailed case studies were developed from the QMAS workshops: 1) the interaction between the I-10 East evacuation route and the Chandeleur Islands, and 2) the IHNC/GIWW closure operations. Both case studies point to a need for a new approach for analyzing the system.

Mr. Boyd explained that the information and knowledge garnered from the QMAS workshops was codified using SysML software. The process begins with the system requirements. The system requirements include the 100-year level of protection (FEMA and USACE), a sustainable long term solution for the coast (CPRA) and greater than the 100-year level of protection (New Orleans Master Plan). Block diagrams were used to represent an element of the system and include each element's attributes, responsibilities, constraints and notes. A block diagram showed the hierarchical system structure based on MLODS. The HSDS is broken into three lines of defense (coastal, structural and community) that reduce risks. The lines of defense are further broken down into its various elements. For example, evacuation is addressed under community lines of defense and is broken down into the categories of personal vehicle based evacuation and special needs assisted evacuation with a breakdown of the various elements under each category.

Mr. Boyd addressed system behavior diagrams and discussed two examples of systems interactions that impact system performance:

1. I-10 East evacuation route and Chandeleur Islands: The foot of the I-10 bridge (the new \$803 million twin span bridge) is about +7-ft. above sea level and located outside of the \$15 billion flood protection system. During Hurricane Katrina the bridge had a capacity of approximately 2,000 vehicles per hour. An ADCIRC simulation indicates that if the Chandeleur Islands degrade, the peak of the hydrograph both rises about ½ foot and moves up about an hour. Therefore, if the Chandeleur Islands continue to degrade, the low spot on the I-10 (a crucial evacuation route) could flood one or two hours earlier (an estimated 5,000 person reduction per hour in evacuation capacity). The two elements (I-10 East evacuation route and Chandeleur Islands) are located far apart; however, their interaction can limit the performance of the system in reducing risks. The associated behavior and sequence diagrams were reviewed.
2. IHNC/GIWW Surge Barrier Closure Operations: Closure operations are triggered based on water elevations of 3-ft. or greater in Lake Borgne or the prediction of a storm making landfall in the area within three days. The Seabrook, Bayou Bienvenue and GIWW Sector and Barge Gates and the IHNC navigation lock must be closed in accordance with their mandated procedures and the drawbridges must be closed and locked before winds reach 40 mph; however, vehicular and marine evacuations must also take place. The gate and bridge closures do not happen in a vacuum and must occur while other moving parts of the system are fulfilling their functions and responsibilities. Hundreds of vessels must be evacuated from the U.S. Coast Guard Regulated Navigation Area (RNA) while hundreds of thousands of residents evacuate. Drawbridges must be in the up position for vessels to evacuate,

but in the down position for residents to evacuate. Numerous stakeholders are involved in the closure operations. The associated sequence diagrams were reviewed. A requirements mapping diagram showed the requirements and the various elements of the system that satisfy the requirements.

Mr. Boyd reviewed the conclusions of the study:

- The study demonstrates the application of Systems Engineering, QMAS, and SysML methods to holistically assess the Hurricane Surge Defense System (HSDS) for the greater New Orleans east bank using the Multiple Lines of Defense Strategy.
- The assessment found modest progress towards addressing systems level vulnerability.
- Six primary FOC themes were identified by the QMAS assessment team:
 - HSDS is very dynamic in fair weather and storm conditions
 - Unpredictability of HSDS system interactions
 - HSDS system integrity over its life-cycle
 - Jurisdiction and coordination over HSDS
 - Long term HSDS funding
 - Stakeholder education and engagement of “system” aspects of their flood protection, i.e., the HSDS

Mr. Estopinal commented that the SLFPA-E’s jurisdiction extends beyond the structural system and that it would like to participate in activities that would reduce the storm surge impact to the system. Mr. Doody pointed out that the RNA extends beyond the IHNC Surge Barrier and includes a portion of the Mississippi River. He noted that the public should be made aware of the low spot in the I-10 evacuation route and that there is a need to know when surges beyond the +7-ft. elevation can be expected in order to help inform the public. Mr. Kemp added that another factor that could impact the I-10 low spot is the waves atop the surge. He commented that the SLFPA-E would appreciate receiving a copy of the report and would like to understand how it can prioritize and move forward with some of the critical elements that should be addressed. Mr. Doody pointed out that this effort should be closely coordinated with the CPRA.

2. The Status of iLevee and Related Coastal Protection and Restoration Authority (CPRA) Efforts

Mr. Turner explained that the Coastal Advisory Committee discussed the development of a scope of work for a study to determine the appropriate direction for adding instrumentation to the levee system for monitoring purposes. He subsequently spoke with Rickey Brouillette and learned that the CPRA has a similar effort underway. He requested that the CPRA provide a presentation to the Board and suggested that the Board may wish join the CPRA in its effort in lieu of individually pursuing this initiative.

Mr. Brouillette introduced Kris Armstrong (Geocomp GIS Developer) and Nicholas Betancur (Geocomp Geotechnical Engineer and Project Manager), who were members of the iLevee team. Geocomp was a prime contractor, among a number of contractors and individuals, involved with the iLevee project. The purpose of the project was to develop a prototype system that would include a set of instruments, a data collection

and communication system, an alert system and a data management system. A great amount of effort went into getting the system up and running and included permitting, installation and evaluation. Due to Geocomp's efficiency the CPRA was able to expand the effort beyond the original scope and remain within the project budget. The CPRA engaged personnel from the SLFPA-E, SLFPA-W and USACE. A secondary goal of the project was to develop a risk based approach for decisions on expanding the system that are informed by knowledge obtained during design, data and knowledge gained during construction, and observations made since construction and during events. A next step could entail workshops to develop the roll out of the system using the information learned and the risk based approach for decisions. Parts of the system could be managed locally by the flood authorities or their consultants or sources. The CPRA has other on-going efforts, such as, the storm surge modeling checks and addressing datum issues. The CPRA has completed the data collection on the surveys of the system that was not collected last year due to on-going construction. Trevor Greening with Towill Surveying, Mapping and GIS Services, a CPRA consultant, has set up a survey test in order to look at the geoidal/ellipsoidal issues. He noted that the iLevee system was used during Hurricane Isaac by the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP). Geocomp was able to make immediate adjustments during Isaac to meet informational needs.

Mr. Betancur explained that he has been involved with the geo-structural instrumentation and monitoring of the iLevee system for the HSDRRS for the past three years. He reviewed the objectives of the iLevee project:

1. Prototype and evaluate a state-of-the-art, real-time monitoring, warning and response system that is scalable for Greater New Orleans.
2. Evaluate cost effective approaches to cover 350 miles of levee that are robust enough to survive a 500-yr. hurricane or flood and sustainable for minimum of 50 years (the design life of the HSDRRS).
3. Develop risk assessment tools for the levee districts and flood protection authorities to prioritize monitoring efforts
4. Provide a data integration tool that is GIS based with web interface to assist with O&M activities related to levee performance.

Mr. Betancur reviewed the various ways that the iLevee system can be used by the flood protection authorities:

- Provide warning of poor performance of HSDRRS structures during a storm event.
- Provide the status of floodgate closures during a storm event.
- Show performance of the structures being monitored during intermediate events.
- Integrate flood related data and levee information from a variety of sources into one visual platform using GIS.
- Provide a framework to project and prioritize future O&M needs.

Mr. Betancur explained that a full scale implementation plan for the HSDRRS was developed. The initial scope of work was to deploy the system at two sites; however, Geocomp was able to design 13 sites on the Mississippi River east and west banks and fully deploy ten of the sites within the original budget and time frame. Three sites could

not be deployed due to permitting issues related to scheduled levee lifts. Presentation slides were viewed listing the sites and indicating their location on a map.

Mr. Betancur discussed the various types of instrumentation deployed at several of the sites, the issues addressed through the instrumentation, and some of the resulting observations:

- 17th Street Canal Instrumentation: The need to reliably monitor the performance of long linear structures at a low cost was addressed. The monitoring solution was to obtain continuous strain profiles along a stretch of levee/floodwall system using Distributed Strain and Temperature Fiber Optic Sensors. Fiber optic cable was buried along the levee toe and crest and embedded along the top of the floodwall and across expansion joints. Strain profiles are obtained every hour. Monitoring picked up impacts of construction activities for the USACE's Permanent Canal Closures and Pumps (PCCP) Project.
- IHNC Surge Barrier Instrumentation: The need to monitor storm surge and wall performance to confirm design adequacy was addressed. The monitoring solution was the installation of in-place inclinometers and vibrating wire piezometers. The USACE embedded inclinometers in the cylinder piles and Geocomp was able to bring the data into the iLevee system at a low cost. The structure can now be monitored in real time. Approximately 1/2-inch of displacement towards the floodside of the structure has been captured within about eight months of monitoring. In addition, VW piezometers were installed on the flood and protected sides of the structure and GPS monitoring stations were installed on top of the wall.
- Chalmette Seepage Area: The need to monitor the performance of seepage cutoff remediation was addressed. Observation wells were being monitored manually. Automated piezometers were put in place to relay real time data.
- Bayou Bienvenue Gate Status: The need to monitor floodgate closure status was addressed. The monitoring solution was to place relay switches on the sector gate to indicate whether the gate is open or closed.

Mr. Betancur explained that a risk based rating tool or protocol was developed as a part of the iLevee project. The purpose of the protocol is to assist the decision making process and prioritize where and when money should be spent in order to achieve the greatest risk reduction and enhance the functionality of the HSDRRS. The protocol uses the decision theory along with local expert knowledge to determine the likelihood of failure based on certain failure modes associated with each structure type and different storm events. Decisions had made based on field measurements and observations. Observations, inspections, surveys and explorations are used in the iLevee reliability approach combined with the automated data and data from sources such as LIDAR to achieve insight into the performance of the structures. The likelihood of different failure modes for different structure types can be developed through mathematical modeling and decisions can be made based on the probability of failure. The iLevee system identifies the different HSDRRS structure types and associates the relevant failure modes for each structure. Performance indicators are identified for each failure mode to provide insight on the severity of the failure mode. Local experts can review information on historical performance and determine the probability of failure for

the different types of structure and failure modes. The probability of failure is developed once and used on the entire system. The probability of failure can be updated as new observations are made and additional data and information is collected. He discussed the types of information and data incorporated into the comprehensive risk assessment protocol.

Mr. Betancur reviewed the benefits of using the iLevee system approach:

1. Standardization of observations, procedures and evaluations.
2. Field observations and data collection are focused on the significant modes of failure.
3. Outcomes are likelihoods of failure by each significant mode rather than mere rankings.
4. A justifiable priority list.
5. More rational budgeting and resource allocation.

Mr. Armstrong provided a demonstration of the iLevee system and its GIS capabilities. He explained that he has worked on the iLevee system software prototype and data management system since the project's start. A service oriented architectural approach was taken towards capturing data from instrumentation in the field, interactions with third party web services and data service to multiple devices. He reviewed the mobile application. The GIS based mapping system is a spatially enabled application. Different data is represented at different scales. Every sensor in the system is plotted at its installation location. Reports can be produced from the real time data management system. Email notifications can be transmitted each time a sensor exceeds a limit to the individuals registered in the system. Several thousand documents associated with instrumentation and as built drawings were reviewed as part of the iLevee project. Relevant files can be accessed in the system.

Mr. Doody reminded the Board that the CPRA began the project with the support of the SLFPA-E and SLFPA-W. The SLFPA-E and SLFPA-W each contributed \$50,000 towards the project. The CPRA provided a total of \$3 million of funding for the project. The SLFPA-E selected three reaches (one in each levee district) as project sites. He inquired about the ability of the sensors to transmit data during a power or communications failure. Mr. Brouillette explained that the onsite boards collect the data during a communications (cell phone) failure. A satellite phone can be used; however, it would be more costly. Battery and memory backup is available on site. In the situation where the USACE installed instrumentation at the IHNC Surge Barrier, the contractor did not have any place to send the data; therefore, the data was pulled into the iLevee system at a cost of several thousand dollars. Decisions concerning the use of satellite phones and on-site data storage can be addressed in a future workshop. The CPRA is conducting discussions internally and with the SLFPA-E and SLFPA-W relative to the project's future direction. Several types of instrumentation were selected in the initial project in order to assess workability. Future cooperative efforts may become available—for example, the USACE will probably install instrumentation in several reaches of the St. Bernard T-wall due to down drag issues and the data can be pulled into the iLevee system.

Mr. Luetlich commented on the SLFPA-E's desire to participate in a systematic way as a partner in the iLevee project. Mr. Kemp noted that the Coastal Advisory Committee's

goal is to provide a recommendation to the Board sometime this summer regarding the SLFPA-E's participation in the project. He pointed out that the information produced from the instrumentation of the system should also be valuable from an insurance standpoint and recommended discussions with FEMA to determine whether there is a payoff in terms of accreditation.

PUBLIC COMMENTS:

Craig Berthold inquired about the reason for the proposed Cooperative Endeavor Agreement (CEA) between the Jefferson Parish Clerk of Court and East Jefferson Levee District (EJLD) to allow the levee district to access documents related to rights-of-way. He pointed out that no right-of-way has been recorded to date along the 17th Street Canal in the Parish of Orleans. Robert Lacour, SLFPA-E General Counsel, responded that the St. Julien servitude does not need to be recorded or filed with the Clerk of Court. Mr. Doody added that the CEA would allow the EJLD access to the records at no cost.

COMMITTEE REPORTS:

Finance Committee: The Finance Committee did not meet during the month of April; therefore, there was no report.

Operations Committee: Mr. Wittie reported that the Operations Committee met on April 3rd and discussed the following items:

- Budget increase for the Franklin Facility Parking Lot Improvements Project – An additional \$200,000 is required for the project. Additional asphalt is required since the existing asphalt was not as thick as anticipated.
- Bayou St. John Water Quality Improvement Plan – A presentation was provided by Burk Kleinpeter, Inc. A matrix will be developed for opening the Bayou St. John Sector Gate.
- Mr. Turner discussed the establishment of a present condition baseline for Lakeshore Drive in order to ascertain potential damage caused by trucks traveling to the USACE's PCCP Project.

Legal Committee: The Legal Committee did not meet during the month of April; therefore, there was no report. Mr. Doody advised that the Legal Committee would meet in the future regarding a Request for Qualifications for legal services.

CPRA: The CPRA met on April 16th. Mr. Hassinger advised that the agenda and minutes of the meeting would be made available and that he had no report.

Coastal Advisory Committee: Mr. Kemp reported that the Coastal Advisory Committee (CAC) met on March 21st. The CAC will not meet in April.

Governmental Affairs: Wilma Heaton advised that an electronic update of the priority legislative bills being tracked by the SLFPA-E was provided to Commissioners. The

SLFPA-E is also tracking a number of legislative bills that deal with day-to-day operations.

REGIONAL DIRECTOR'S REPORT: Mr. Turner reviewed the highlights of the Regional Director's Report (copy appended to minutes). He advised that copies of the third quarter budget comparisons for the SLFPA-E and three levee districts were distributed to Board members. He provided the following additional comments:

- An allision occurred on April 14th when a string of barges struck a leaf and fender system of the IHNC Surge Barrier Sector Gate. The gate was exercised the next day and no problems were encountered while operating the gate. Damage appears to be limited to the fender system. Technical assistance has been requested from the USACE in order to conduct a more thorough investigation of the structure and action will be taken to recover reimbursement for damages from the responsible party.
- USACE personnel have been monitoring certain staff gages at the outfall canals and recording the data during heavy rain events in lieu of just relying on the sensors. The USACE proposes to install cameras to remotely view the gages and will request a right-of-entry for the installation of the equipment.
- An estimated \$3 million of renovation work will be required in the Violet Canal area for the certification of the non-federal levee. An application has been submitted for Capital Outlay funds for this effort.
- A task order has been issued to GCR, Inc. to assist with planning and facilitating a series of workshops with area stakeholders relative to the O&M funding issues for the LBBLD and to begin a dialog on addressing this issue for the long term. The task order also requires GCR to prepare a report on the workshop findings.
- The levee districts are updating their Emergency Operations Procedures (EOP) Manuals. The EOP manuals will be submitted to the Operations Committee for review and to the Board for adoption in May.
- The U.S. Coast Guard has issued the new Regulated Navigation Area (RNA). The SLFPA-E is working with the Coast Guard to coordinate activities particularly with regards to the maritime industry. The Coast Guard and the USACE will post liaison officers in the SLFPA-E's Emergency Operation Center during hurricane events. Several meetings have been held with the maritime community in order to improve communications and coordination. A new SLFPA-E webpage tracks the status of the navigation gates. Notices regarding anticipated closures of the navigation gates can also be posted on the webpage. The SLFPA-E will meet with the Coast Guard and maritime industry next week to relay information on the trigger points for gate operations and communications during a weather event.

NEW BUSINESS:

RESOLUTION NO. 04-17-14-02 - APPROVAL OF LEGAL INVOICES

On the motion of Mr. Estopinal,
Seconded by Mr. Luettich, the following resolution was offered:

WHEREAS, the legal invoices submitted to the Southeast Louisiana Flood Protection Authority-East (SLFPA-E), East Jefferson Levee District, Lake Borgne Basin Levee District and Orleans Levee District listed on the spreadsheet entitled "Legal Invoices Approved on April 17, 2014", have been reviewed and approved by the appropriate levee district Executive Director, the SLFPA-E Regional Director and the SLFPA-E General Counsel, Robert Lacour, and provided to members of the Legal Committee.

BE IT HEREBY RESOLVED, that the legal invoices listed on the spreadsheet entitled "Legal Invoices Approved on April 17, 2014" are hereby approved.

The foregoing was submitted to a vote, the vote thereon was as follows:
YEAS: Mr. Angers, Mr. Estopinal, Mr. Hassinger, Mr. Kemp, Mr. Luetlich,
Mr. Tilly and Mr. Wittie
NAYS: None
ABSENT: Mr. McHugh

**RESOLUTION NO. 04-17-14-03 –
RENEWAL OF EJLD FLOOD INSURANCE COVERAGE**

On the motion of Mr. Tilly,
Seconded by Mr. Luetlich, the following resolution was offered:

WHEREAS, the East Jefferson Levee District (EJLD) flood insurance coverage for the EJLD Administration Building is due to expire on May 19, 2014 and a quotation was received for renewal through Arthur Gallagher Risk Management Services; and

WHEREAS, coverage for the EJLD Administration Building (203 Plauche) can be renewed under National Flood Insurance Program at an annual premium of \$2,864 with coverage of \$320,000 on the building and \$80,000 on contents, each with a \$1,000 deductible.

BE IT HEREBY RESOLVED, that the Southeast Louisiana Flood Protection Authority-East authorizes the renewal of Flood Insurance Coverage as stated above under the National Flood Insurance Program through Arthur Gallagher Risk Management Services, for a one year period commencing on May 19, 2014, and authorizes the EJLD Executive Director to sign any and all documents necessary to carry out the above.

The foregoing was submitted to a vote, the vote thereon was as follows:
YEAS: Mr. Angers, Mr. Estopinal, Mr. Hassinger, Mr. Kemp, Mr. Luetlich,
Mr. Tilly and Mr. Wittie
NAYS: None
ABSENT: Mr. McHugh

**RESOLUTION NO. 04-17-14-04 - COOPERATIVE ENDEAVOR AGREEMENT
BETWEEN EJLD AND JEFFERSON PARISH CLERK OF COURT**

On the motion of Mr. Luetlich,

Seconded by Mr. Estopinal, the following resolution was offered:

WHEREAS, the Jefferson Parish Clerk of Court operates an online computer record data system commonly referred to as “JeffNet” to allow end users to view documents filed with the Clerk’s Office; and

WHEREAS, the East Jefferson Levee District (EJLD) in the performance of its duties wishes to utilize the JeffNet system for property descriptions and ownership information relating to rights-of-way; and

WHEREAS, a Cooperative Endeavor Agreement between the Jefferson Parish Clerk of Court and the EJLD to allow the EJLD to access records on the JeffNet system would allow both entities to carry out their duties more efficiently.

BE IT HEREBY RESOLVED, that the Southeast Louisiana Flood Protection Authority-East approves the aforementioned Cooperative Endeavor Agreement between the Jefferson Parish Clerk of Court and the East Jefferson Levee District and authorizes the EJLD Executive Director to sign said Agreement.

The foregoing was submitted to a vote, the vote thereon was as follows:

YEAS: Mr. Angers, Mr. Estopinal, Mr. Hassinger, Mr. Kemp, Mr. Luettich,
Mr. Tilly and Mr. Wittie

NAYS: None

ABSENT: Mr. McHugh

**RESOLUTION NO. 04-17-14-05 - BUDGET INCREASE FOR
FRANKLIN AVENUE FACILITY PARKING LOT IMPROVEMENTS**

On the motion of Mr. Wittie,

Seconded by Mr. Tilly, the following resolution was offered:

WHEREAS, the Orleans Levee District (O.L.D.) Franklin Avenue Facility Parking Lot Improvements Project was awarded to Barriere Construction Company LLC in the amount of \$749,595.10 and a construction budget of \$900,000 was established to include contingencies; and

WHEREAS, unforeseen underground conditions and minor revisions have caused the price for the work to increase beyond \$900,000 construction budget.

BE IT HEREBY RESOLVED, that the Southeast Louisiana Flood Protection Authority – East authorizes an increase in the construction budget to \$1,100,000 for the Franklin Avenue Facility Parking Lot Improvements Project.

BE IT FURTHER RESOLVED, that the O.L.D. Executive Director is hereby authorized to execute any and all documents necessary to accomplish the above.

The foregoing was submitted to a vote, the vote thereon was as follows:

YEAS: Mr. Angers, Mr. Estopinal, Mr. Hassinger, Mr. Kemp, Mr. Luettich,
Mr. Tilly and Mr. Wittie

NAYS: None

ABSENT: Mr. McHugh

RESOLUTION NO. 04-17-14-06 - SELECTION OF FIRM TO PROVIDE PROFESSIONAL ENGINEERING SERVICES

Mr. Turner announced that the selection team recommended the selection of Design Engineering, Inc. (DEI) for the Lakefront Seawall Erosion Control Protection Project Reaches 1A, 1C, 2A, 2C, 2D, 3A, 3B, 3C and 5B. Mr. Doody noted that Mr. Hassinger recused himself from the vote because another attorney with the firm does work for DEI.

On the motion of Mr. Wittie,
Seconded by Mr. Luettich, the following resolution was offered:

WHEREAS, the Orleans Levee District advertised and issued a Request for Qualifications (RFQ) for Professional Engineering Services associated with the Lakefront Seawall Erosion Control Protection Project Reaches 1A, 1C, 2A, 2C, 2D, 3A, 3B, 3C and 5B; and

WHEREAS, eight Statements of Qualifications (SOQ) were received in response to the RFQ; and

WHEREAS, the eight SOQs were reviewed and competitively rated by a selection team consisting of Louis Wittie, SLFPA-E Commissioner, Robert A. Turner, Jr., SLFPA-E Regional Director, Stevan Spencer, SLFPA-E Regional Chief Engineer, and Nick Cali, Lake Borgne Basin Levee District Executive Director, and a short list of three firms was developed; and

WHEREAS, the three shortlisted firms were interviewed by Mr. Wittie, Mr. Turner and Mr. Spencer and competitively rated; and

WHEREAS, the selection team recommended that Design Engineering, Inc., be selected to provide the aforementioned Professional Engineering Services; and

WHEREAS, after a final contract has been negotiated, the Board will be requested to approve the contract with the selected consultant.

BE IT HEREBY RESOLVED, that the Southeast Louisiana Flood Protection Authority-East approves the selection of Design Engineering, Inc., to provide Professional Engineering services associated with the Lakefront Seawall Erosion Control Protection Project Reaches 1A, 1C, 2A, 2C, 2D, 3A, 3B, 3C and 5B.

BE IT FURTHER RESOLVED, that the SLFPA-E Regional Director is authorized to negotiate a contract with Design Engineering, Inc., for the aforementioned services.

The foregoing was submitted to a vote, the vote thereon was as follows:

YEAS: Mr. Angers, Mr. Estopinal, Mr. Kemp, Mr. Luettich, Mr. Tilly and Mr. Wittie

NAYS: None

RECUSED: Mr. Hassinger

ABSENT: Mr. McHugh

The next regular monthly Board meeting will be held on May 15, 2014 and hosted by the Orleans Levee District. There was no further business; therefore, the meeting was adjourned at 12:00 p.m.

SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY - EAST

REGIONAL DIRECTOR'S REPORT

April 17, 2014

HSDRRS Project Status Update

IHNC-02 - Lake Borgne Surge Barrier Complex The Notification of Contract Completion (NCC) was issued Dec. 6, 2013. The Orleans Levee District (OLD) continues conducting monthly barge exercises. A notification system developed to keep the Army Corps of Engineers (Corps), the US Coast Guard and the navigation industry informed of these exercises is operational.

A string of barges under tow through the Sector Gate on April 14, 2014, struck both its northern leaf and southern leaf. We reported the incident to the U.S. Coast Guard and the Corps of Engineers within the hour. The gate was exercised the next day, and no problems were encountered while closing or opening. Damage appears limited to the structure's fender system. On April 16, per protocol, SLFPAE transmitted a "Distress Report" to Corps Emergency Management asking assistance in conducting a Sector Gate damage assessment survey. We provided video footage of the incident captured by Sector Gate cameras and asked that they review and comment on the length of this tow, which was accompanied by at least three tugs. We also wrote the USGC asking if there are existing regulations that address the safety of various tow configurations involving multiple barges.

IHNC-01 – Seabrook Complex The NCC was issued Dec. 6, 2013. The Corps is reviewing the CPRA report on Vertical Lift Gate paint problems. A site visit took place March 21, and GEC gave the OLD staff a day-long training session on April 10, 2014, with the Corps in attendance.

LPV-01.2 - Foreshore Protection Reaches 1&2 Work is scheduled to begin by the end of April to repair substantial erosion along the landward interface between the rock and the soil embankment. Previous Corps' efforts to repair this area failed, and the agency postponed NCC issuance until September.

LPV-105.02 T-wall monolith replacement across from Lakefront Airport is complete, and the NCC was issued Feb. 26, 2014. Turf establishment and site grading are still required.

LPV-109.02a - Levee Enlargement for South Point to CXS Railroad and US11 and US 90 Floodgates Plans to repair problems resulting from excessive settlement of the Highway 11 floodgate, which could involve degrading the floodside berm, are being prepared by a Corps consultant. Work is already

underway to repair the emergency by-pass road adjacent to the gate at Hwy. 11, and slope pavement has been replaced.

LPV-111 - CSX RR to Michoud Canal Construction began March 31 to add up to 12 inches of fill to about 6,000 linear feet of levee currently below design grade. This work will delay the NCC.

LPV-144 - Bayou Dupre The work to replace the hinge and pintle assemblies is nearing completion. The gate leafs are installed. The gate hinges and seals are being adjusted and aligned. The structure is scheduled to open to navigation on April 18. Final inspection is set for April 28.

LPV-145A - Bayou Bienvenue Bridge The contractor has mobilized to the site, and prestressed concrete piles are being formed and poured in Mississippi. The work is scheduled for completion by Hurricane Season 2015.

LPV-149 - Caenarvon Structure The Corps is investigating paint peeling off the floodside skin plate of the Sector Gates.

LPV-149AR - Access Road at Caenarvon Inclement weather delayed the planned Feb. 19 completion of this project. A pre-final inspection was held on April 11, 2014, and a final inspection will be held by the end of April.

LPV-149A - Floodwall Tie-in to the MRL at Caenarvon Work on the monolith base slab started in late March, and all construction is scheduled to finish by May 22.

Outfall Canals The work to install more sheet pile along the London Ave Canal and the west side of the 17th St. Canal (OFC-07) was awarded Feb. 28, and a notice to proceed issued the week of March 10. The Corps hopes to accelerate this project, which is behind schedule partly because a contractor protested the original award.

As part of an environmental assessment, the 17th Street Canal bank protection project (OFC-08) underwent 30 days of public review. The Corps is preparing responses to the review comments and finalizing the "Finding of No Significant Impacts" Report. The project is scheduled to be awarded June 1, 2014.

Permanent Canal Closures and Pumps (PCCP) Please check the New Orleans District web site www.mvn.usace.army.mil/missions/hsdrrs/pccp.aspx for daily updates and more information on this last major HSDRRS perimeter project.

Armoring The Armoring Engineering Alternative Report (EAR) was provided to the Non Federal Sponsor to make written comments by March 28; however, the Risk Management Center asked that more documents be added to the report. As

a result, the Non Federal Sponsor is now expected to get a revised EAR for review on April 25. The award of system-wide armoring installation contracts is scheduled to begin this summer, but SLFPA-E, SLFPA-W and the CPRA are currently investigating with the Corps the possibility of raising some of these levees, at local cost, before they are armored. Raising them in advance of armoring could ultimately save taxpayers millions of dollars.

Mississippi River Projects

Jefferson Heights The contractor is placing embankment material in the first 5,000-ft section and preparing to clear and grub the second 5,000 feet. Approximately two miles of the bike path are currently out of service due to the construction that is adding height to the river levee in Jefferson Parish.

Carrollton Project Work remaining on the north end of this project (adjacent to Jefferson Parish) includes: removing the silt fence along the levee, spot patching the asphalt path, returning the rock parking lot near Cooter Browns to its original state, removing trash and growing sufficient grass. Once the spot patching is complete, the Corps wants to open it to the public. Weather permitting, that could happen as early as late this week.

On the south end, the levee enlargement is complete, but work continues on ramps at the BISSO Marine entrance and waterline relocations for Audubon Park. The work is scheduled to be completed by April 30.

SBPS - 07 – Repairs to LBBLD Pump Stations #2 and #3 The schedule for award of the construction contract slipped from February to June 2014.

Internal Affairs

Non-Federal Levee Certification

Geotechnical field investigations and lab tests are complete in Orleans and are 70% complete in St. Bernard; land surveying continues in several small locations in St. Bernard.

The initial sheet pile testing and assessment report for the 40-Arpent Levee indicates that a 2,500 linear foot section of piling requires spot repairs.

Alternative designs for a new closure at the Shrimp Factory in St. Bernard were developed by the consultant and discussed with the property owner. The preliminary cost estimate for this work is about \$3 million. We have requested \$2 million in state capital outlay to help finance the project. The geotechnical scope of work will be revised to include \$225,000 for the design of the closure at the

Shrimp Factory. This revision will not lead to a change in the overall cost, as the actual geotechnical costs are lower than estimated.

We meet monthly with our consultant to discuss progress of repairs and alternate closures.

LBBLD O & M Funding Workshops A \$32,780 task order was executed this week with a consultant to plan and facilitate workshops focused on how LBBLD is to pay for the rising cost of operating and maintaining the greatly expanded HSDRRS levees, flood walls and floodgates in St. Bernard. The first workshop will outline the issues and challenges, and the second will identify and discuss possible solutions. Regional stakeholders will be asked to participate in the workshops.

Complex Structure Training The Orleans Levee District hired several new employees for the complex structures staff. Our personnel train weekly to become more familiar with operation and maintenance of the complex gated HSDRRS navigational structures.

Emergency Preparedness The Mississippi River level at the Carrollton Gage in New Orleans is approximately 11' and expected to rise to 11.5' by the weekend. Surveillance activities begin this week.

Hurricane Season Preparation SLFPAE staff went with the Coast Guard last week to begin an inventory of barges in the IHNC that must be evacuated in advance of certain tropical storms and hurricanes. The tours will continue monthly throughout the 2014 Hurricane Season that opens June 1.

Seawall Erosion Protection Project (Reaches 1A, 1C, 2A, 2C, 2D, 3A, 3B, 3C, and 5B) Thirteen Requests for Qualifications were submitted for the design phase of this project; three were shortlisted and interviews were held on April 3. A recommendation for selection will be given at today's SLFPA-E Board meeting.

Meetings and Items of Note:

The CPRA board will meet in regular session on May 21, at 9:30 am in the LaSalle Building's LaBelle Room, 617 N. Third St. in Baton Rouge.

The ALBL will have its annual workshop in Baton Rouge, LA on May 1 and 2.

Levee District Construction Projects:

Project	District	Status	Comments
Seawall Steps Erosion – Phase 1B	OLD	70% complete	NC
OLD Franklin Facility Parking Lot Improvements Landscaping Plan	OLD	40% complete	NC
IHNC Florida Ave. Bridge Sheet Pile	OLD	80% complete	
Floodgate & Floodwall Repairs	OLD	15% complete	NC
MRT and IHNC Vegetation Removal	OLD	0% complete	Work delayed due to high river crest.
MRT Poydras to Canal vegetation removal	OLD	0% complete	Notice to Proceed issued
Seawall Steps Erosion Phase 4&5	OLD	0% complete	Pre-construction meeting scheduled for April 11

Levee District Project Designs and Studies

Project	District	Comments
Lakefront Seawall Area Reach , 4&5	OLD	Reach 4&5 design complete; Construction Administration 0%
Lakefront Seawall Area Reach 2B	OLD	Design 20% complete
Floodgate Seal Repairs	OLD	Design complete; Construction Administration 10% complete
IHNC St. Claude Bridge Drainage	OLD	Design 20% complete.
Phase 1 for engine upgrades at Pump Stations 1&4 HMGP approved by FEMA	LBBLD	Design contract awarded; 5% complete project ongoing
Phase 1 for Safe Room Design HMGP approved by FEMA	LBBLD	Design submitted to FEMA Region 6 for Phase 2 approval
Pump Station #6 pump repair and hangers at P.S. #7	LBBLD	P&S at 100%; advertise when erosion control project is complete
Pump Station #6 Erosion Repair	LBBLD	P&S at 100%; advertise for construction bids in April 2014
Floodgate #9 renovation	LBBLD	P&S at 100%; advertise for construction bids in April 2014
Safe house & Consolidated Facility	EJLD	EJLD has purchased the airport property from the City of New Orleans, as well as 2 other private parcels. There are 3 more private parcels, the Food Bank parcel, and portions of streets from the City of Kenner still to buy.
PM Support to LBBLD Staff for HMGP Projects	LBBLD	Ongoing; provides staff augmentation for LBBLD HMGP projects.