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The Lake Pontchartrain Causeway Bridge
1956-2012

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Louisiana Section
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The Louisiana Section is located in ASCE Region 5 that consists of the Louisiana, Mississippi, Alabama, Georgia, and Florida Sections.

President's Message

By Kurt M. Nixon, PE, PLS

Kurt M. Nixon, PE, PLS

Leadership is defined in that ever reliable online source of Wikipedia, "as a process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task." Based on that definition, I can most assuredly say that leadership is alive and well within our society. One of the highlights of servicing as President is that I get the privilege to see and work with many of you first-hand on different projects and tasks in which your passion for our profession is evident. I am always impressed by the level of commitment, time, and work put in by the volunteers who make possible all that we do at the State Section level.

As I have mentioned in my last two President's messages, but it is worth repeating and has been my key point of emphasis, our membership is our most valuable asset! Our ability to positively impact people both within and outside of our engineering community is limited by the activity and involvement of our members.

Highlighted below are a few of our volunteer leaders who have enthusiastically helped advance some new and ongoing initiatives within our society over the last few months.

• Chris Sanchez – Chris has set up and administered the Section's new Constant Contact program. The Constant Contact program is the Section's mass email and event registration service which we began in February. All of you should be receiving emails through this new program. The program has simplified our mass email distribution and allowed online registration and payment, something many of our members have asked for. Chris' prompt efforts to set up and work with each of the four branches, along with the two institutes, have lead to an overwhelmingly positive response to this program.

• Jeff Duplantis – Jeff has taken over as the chair of the Section's Government Relations Committee. One of the primary tasks of this committee is picking up where the Report Card Committee ended, and continuing to keep the local governments and general public aware of Civil Engineering activities and issues. He has fielded multiple media interviews and worked with Lambert Media to issue a press release about the new National Report Card. In addition, he has taken the initiative to start, lead, and implement our new Section SPAG program. This program continues the awarding of funds to branches for creative community outreach initiatives begun under the previous National SPAG program.

• Patrick Furlong – Patrick is the chair for this year's Louisiana Section Spring Conference. This year's Spring Conference was held in Shreveport Louisiana in the new downtown Shreveport Convention Center. Patrick did not start the conference planning process with the chairmen role but has taken over to bring order to the flurry of activity which happens in the final couple of months before a major conference. He has done this with confidence and professionalism, and has delivered an exceptional conference.

Each of these volunteers has fielded literally hundreds of emails and phone calls. (I know because I have been copied on all of them!) I am thankful for their willing service and initiative. They are just a few examples of the terrific membership, which make us such a great Section.

Last month the Section hosted its first half-day seminar in Lake Charles. This was a new initiative I took on to provide a tangible benefit to our members in underserved population centers of the state which do not have easy access to Branch activities. This meeting was a resounding success, with nearly 40 people in attendance. A 1 PDH ethics presentation was given by Justin Owens and Tyson Ducote from the LAPELS Board along with a technical presentation on the Calcasieu Ship Channel Salinity Control Measure Project by Joe Cancienne and Benjamin Richard of Tetra Tech. Based on the success of this meeting, discussion is under way for the potential of a similar meeting in other areas of the state next year.

Finally I would like to encourage you, if you see some area or way that we can better the profession and our organization, then take the initiative to make it happen. One of the biggest impacts which all of us can have is simply choosing to intentionally mentor a young professional into a new young engineer. As I mentioned, our greatest asset is our membership and these young engineers represent the future of our society and profession.

President Kurt Nixon introduces speaker Benjamin Richard

ASCE Region 5 Director's Letter

By William Grogan, PhD, PE, M.ASCE

William Grogan, PhD, PE, M.ASCE

In my last column I mentioned that the ASCE Board of Direction was considering supporting *Real Big! Engineering Wonders of the World,* an educational IMAX film. The Board gave the project a green light, so fundraising will begin in earnest. A total of $15 million is needed, and to date $3 million has been pledged.

In March, as part of the annual Legislative Fly-In, ASCE unveiled the 2013 Report Card on America's Infrastructure (www.infrastructurereportcard.org). All 50 states were represented at the Fly-In, and I appreciate the members from Region 5 who participated. The two events were well timed, with Florida, Louisiana, and Mississippi recently publishing their new or updated report cards. A good companion to the report cards is the Failure to Act reports (www.asce.org/failuretoact) that detail the economic impact of not maintaining our infrastructure.

Those working on national committees are aware of the new structure. There have been some growing pains, but I want to reiterate that the intent was to make ASCE more efficient and effective. For those directly involved, please be patient and work with your committee chairs to help us through this transition. In the end, I believe this will make us more flexible and allow for timely action at the appropriate level. Please see the article in this section on the **National Committee Restructuring Implementation Process**.

Last, but not least, the Region 5 Board of Governors wants to make sure our members are being recognized appropriately. ASCE offers a number of national awards (www.asce.org/leadership-and-management/awards) for which our Region members should be competing. We are working on a system to notify Branch and Section Officers when award nominations are due. However it is still up to you! Please visit the awards web page to review the awards available and nominate your well deserving colleagues. If you need help, contact your Branch or Section leaders.

P.S. Remember, your R5BoG is made up of seven folks willing and able to help:

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National Committee Restructuring Implementation Process

As part of the committee restructuring implementation process, ASCE National has created an on-line committee application form, which is now active. Applications will be accepted for the Society Standing Committees and their constituent committees. A committee member whose term is due to expire will need to apply if they wish to be considered for reappointment. We hope to attract interest from more of our younger members, government engineers, etc. We encourage you as members to apply as soon as possible since many of the appointments must be approved by the Board of Direction at their July meeting.

The URL is: http://www.asce.org/society-committee-application/

If you have any questions, please contact Patricia Jones, Aff.M.ASCE, Director of Executive and Board Operations, at pjones@asce.org or at 703/295-6101.

Region 5 – ASCE Spring/Summer 2013 Continuing Education Seminars and Workshops

Geographic Services is proud to announce the Continuing Education Schedule of seminars and workshops for Spring/Summer 2013 in your geographic area. These seminars/workshops have been produced by ASCE's Continuing Education Department with your members in mind. This new schedule has been placed under the Links tab on each Region website. (http://www.asce.org/Regions-Sections-Branches/Region-5/Links/Links/)

The Lake Pontchartrain Causeway Bridge – 1956-2012

The Lake Pontchartrain Causeway Bridge has recently been designated as a National Historic Civil Engineering Landmark by ASCE. This distinction is bestowed on civil engineering projects, structures or sites to recognize their significance in the development of civil engineering. Only three other NHCELs exist in the State of Louisiana. They are: Eads South Pass Navigation Works (1982), McNeill Street Pumping Station (1999), and the Huey P. Long Bridge (2012). So why was the Lake Pontchartrain Causeway Bridge given this esteemed designation?

The Lake Pontchartrain Causeway Bridge was the culmination of many years of attempting to find a way to more quickly move people and automobiles from New Orleans on the south side of Lake Pontchartrain to the north shore. In the early 19th century, after the town of Mandeville was founded by Bernard de Mandeville, people would travel by steamboat from New Orleans to enjoy the tranquility of the north shore. Visitors would picnic along the Lake shore or enjoy a relaxing day under the oaks at the Fontainebleau Plantation. Mandeville developed as a resort area with spas and quaint hotels. People from around the world came to enjoy this soothing environment.

As a reference point, we will take a quick look at how the City of New Orleans grew in the 20th Century. In the 1920s, the Bonnet Carre Spillway did not exist. To go west, travelers had to follow the banks of the river, winding their way up river toward Baton Rouge. The area between the Mississippi River and the Lake was predominantly swamp, making passage difficult. Going to the east, travelers followed what is now Highway 90 and crossed at the Rigolets. This crossing was accomplished by the use of ferries. In the 1920s, a ferry was also the only way to cross the Mississippi River or to traverse Lake Pontchartrain to Mandeville.

As the number of people driving automobiles in and around the City grew, they started clamoring for shorter/quicker ways to travel to the north. With this desire came various proposals including one popular idea to build a roadway across the center of Lake Pontchartrain using manmade islands. The islands would be connected by a series of bridges like the Florida Keys; the new developable land on the islands would be sold to finance the construction of the bridges and the creation of the land.

The "island" bridge plan was abandoned when the more practical concept of building a bridge across the eastern end of Lake Pontchartrain was proposed. As a result, the Watson-Williams (or Maestri) Bridge was constructed as part of Highway 11. This 4.78 mile toll bridge connected New Orleans to what is now Slidell. At that time, the Watson-Williams Bridge was the longest highway bridge in the world. This bridge also eliminated the need for the steamboats from New Orleans to Mandeville, which ceased operations in the mid-1930s.

Miles Bingham, PE

Under Governor Huey P. Long's administration, the Rigolets Bridge on Highway 90 was constructed, replacing the ferry at that location. The new bridge caused the Watson-Williams Bridge to go bankrupt, and the State purchased the bridge for a fraction of its original construction cost. The State quickly turned the bridge into a toll free facility.

After the construction of the Bonnet Carre Spillway in the 1930s, Highway 61 provided the only route west across the Spillway. It connected to Highway 51 near Laplace, which then travelled up the west side of the Lake with a bridge crossing at Pass Manchac. This was the status quo through the 1940s and into the 1950s.

In the 1940s and 1950s, the City continued to grow, automobiles became more prevalent, and access from the north to the City continued to be limited by Lake Pontchartrain. Driving around the Lake was a time consuming effort. During this time period, a renewed interest developed to provide a direct connection across

Toll Plaza 1960

the center of the Lake to the north shore. As a result, the Greater New Orleans Expressway Commission was formed to build the Lake Pontchartrain Causeway Bridge. The original bridge (southbound) was opened on August 30, 1956, and the second bridge (northbound) was opened to the public on May 10, 1969. It is the original bridge that has been designated as a National Historic Civil Engineering Landmark.

Two factors contributed to why the bridge received this designation: (1) the civil engineers who worked on the project; and (2) the innovative techniques used during construction.

THE ENGINEERS:

So who were the engineering pioneers who contributed to the success of this project? We will start with Maxwell Mayhew Upson.

Maxwell Mayhew Upson

Maxwell Upson was the Chairman of the Board of Raymond Concrete Pile Company, one of the largest contracting companies for foundations in the United States. In his vignette about Dr. Upson, Arthur R. Lord stated, "Raymond Concrete Piles may stand in your mind as another industrial tribute to the genius of a well-known pioneer in concrete development. They are nothing of the kind. They stand as a marker of the business and technical genius of Maxwell Mayhew Upson."

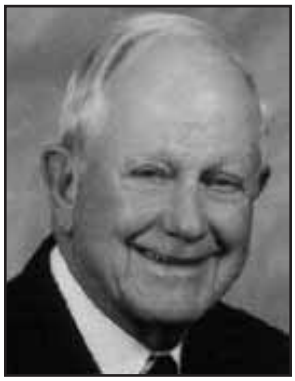
Maxwell Upson had a keen interest in the development of prestressed concrete. In 1937 he went to Europe to investigate this developing concrete application. His fascination with prestressed concrete led him to start testing its suitability to applications in his area of expertise, foundations. Upon his return to the United States in 1939, he had concrete test piles driven in New York City Harbor to test their resistance to long term corrosion. World War II slowed his pursuit of viable applications. However, in an article in the January 1953 Civil Engineering Magazine, Upson reported his findings as follows:

> *Not only were the piles exposed to high and low water in a vertical position, but short sections were also laid on the beach so that the ends, with stressing steel exposed, were subjected to the same deteriorating action. The effect of alternate freezing and thawing was also involved. Naturally the wires which extended beyond the surface of the concrete rusted off, but to our surprise this rust stopped within 1/8 to 1/4 inch of the surface, and the steel embedded in the concrete beyond this distance was bright and clean, indicating that it had been completely protected.*

This result led Upson to conclude that the use of thin walled (4 to 4-1/2 inch) 54 inch diameter concrete hollow piles was practical. In this area, Dr. Upson holds several patents including Patent No. 2,706,498 from April 19, 1955 (Filed November 13, 1950), which contains many of the details found in the piles used on the Lake Pontchartrain Causeway Bridge.

Maxwell Upson was an innovator in the field of prestressed concrete, particularly in pile fabrication and installation. He saw prestressed concrete as a way to break down the barriers that once limited how piles could be installed. Before Dr. Upson's research, most concrete piles were square with dimensions of 24 inches or less. He saw potential for using piles with dimensions of 36 to 54 inches. Using smaller pile segments and prestressing technology, he revolutionized the way piles were manufactured.

During the late 1940s and early 1950s, Maxwell Upson applied the new pile technology to the offshore oil construction industry.



Walter E. Blessey

During this time he centered his research on prestressed piles in New Orleans. He brought in Walter E. Blessey, who was an Associate Professor at Tulane University, to help with his research. Mr. Blessey was also keenly interested in the development of the new technology surrounding prestressed concrete. Both Dr. Upson and Mr. Blessey were at the forefront of research on prestressed concrete structures and members.

In his 1953 article, Maxwell Upson further discussed the research that went into proving the piles. Using higher strength concrete, more workable grout that expands, and 12 strand No. 6 high-tension straight wire cables all helped improve performance. The article notes the success of "an oil treating and control station in the Gulf of Mexico standing on piles 36 in. in diameter and 96 feet long." Maxwell Upson was a leader in adapting prestressed technology to the offshore industry, including piles, beams, floor construction and cross bracing. According to Dr. Upson's article, "Offshore oil drilling islands are interesting examples of the application of prestressed units to solve practical problems… prestressed piles varying from 36 to 54 in diameter have been used to form an important part of the structure…"

During this same time period, Dr. Upson started exploring the adaptability of this new technology to other applications, such as bridges. In conjunction with Henry F. LeMieux, who was the New Orleans District Manager for Raymond Concrete Pile Company, he explored the possibility of using large hollow prestressed piles for bridges. In a conversation with Mr. LeMieux, he stated that he first approached the Louisiana Highway Department (LHD) about the Pass Manchac Bridge on Highway 51. The LHD drove 54 inch test piles in June 1954. Maxwell Upson arranged for these piles to be fabricated using the *Hume Process* at the Equitable Equipment facility on the Tchefuncte River. The 54 inch piles used a 4 inch wall

thickness and a fairly wet concrete mix. In the end, LHD was satisfied with the results from the test piles, and the design of the Pass Manchac Bridge moved forward using the 54 inch hollow prestressed concrete pile. The construction of this bridge was completed in 1958, two years after the Causeway.

The Lake Pontchartrain Causeway Bridge design was proceeding along a parallel path. Test piles were driven in July of 1953. During this time, Dr. Upson was not sitting still. He was already developing a better way than the *Hume Process* to fabricate the piles. In the Modern Marvels video about the construction of the Lake Pontchartrain Causeway Bridge, Henry F. LeMieux describes his conversation with Dr. Upson concerning his new *cenviro* method for pile fabrication by stating, "I had a call from Maxwell Upson, and that was like getting a call from one of the disciples." This conversation led to Upson's new innovative process being used to fabricate the prestressed concrete piles for the Causeway Bridge.

As stated earlier, Walter E. Blessey was another innovator in the area of prestressed concrete. As a Professor and Head of the Civil Engineering Department at Tulane University, Mr. Blessey strongly believed that to teach the Civil Engineers of the future, he needed to have practical experience as well as academic knowledge. As such, he had a thriving consulting engineering practice, where he applied what he taught to real-life problems. Mr. Blessey was an expert in the design of foundations in the New Orleans area, as well as steel and concrete bridges, wharves and buildings. Like Dr. Upson, he was intrigued with the developing technology of prestressed concrete. He had at his disposal Tulane University's testing facilities for research, which he used to advance the understanding of prestressed technology.

Mr. Blessey's involvement on the Lake Pontchartrain Causeway Bridge project was as a consultant and to provide the technical research leading up to the application of prestressed concrete on this project. His friendship with Henry LeMieux provided the catalyst to bring two of the great minds in prestressed concrete to bear on the problems associated with the construction of the Lake Pontchartrain Causeway Bridge.

Henry F. LeMieux also played an extremely important role in making this project a reality. Mr. LeMieux attended Tulane University where he was taught prestressed concrete by Walter Blessey. After graduating, Mr. LeMieux was personally recruited by Dr. Upson to be the district manager for Raymond Concrete Pile Company in the New Orleans area. One of Mr. LeMieux's main responsibilities was introducing and marketing the hollow prestressed cylindrical concrete piles which Dr. Upson had developed. He focused his attention in two areas: offshore platforms and highway bridges. As stated above, he was key in convincing, the LHD to use the 54 inch cylinder piles on the Pass Manchac Bridge.

At the same time he was marketing the LHD, he was working with Palmer and Baker to have the piles included in the design as the primary option for the Lake Pontchartrain Causeway Bridge. As fate would have it, the Causeway Bridge started construction in January of 1955, which was a month before the plans for the Pass Manchac Bridge were approved by the LHD. Mr. LeMieux was instrumental in linking together the key parties involved in this project. Without his involvement, the pieces of the puzzle may not have come together. Mr. LeMieux was also responsible for obtaining the simple, single span design from Walter Blessey and providing it to Palmer and Baker for their use in the plans for the Causeway Bridge.

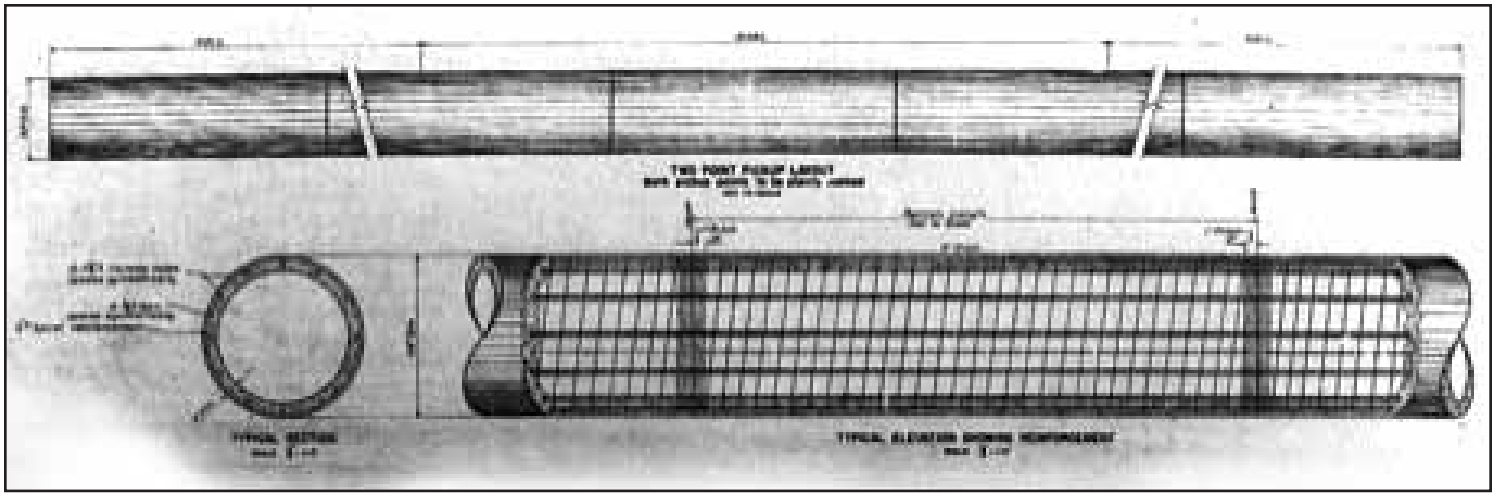
Dr. Robert Bruce recounted in an e-mail how he had witnessed Maxwell Upson sketch the layout for a Causeway like structure on the back of a napkin at Brennan's Restaurant. His e-mail read, "Long before Palmer & Baker were appointed the engineers of record for the Lake Pontchartrain Causeway, Maxwell Upson had envisioned a causeway structure having three components: the piles, the pile cap and the deck slab." The inference here would be that Maxwell Upson provided the basic concept to Walter Blessey who then worked out the design details using his knowledge of prestressed design. Mr. Blessey then provided the more evolved concept in greater detail via Henry LeMieux to Palmer and Baker.

Wayne F. Palmer was the lead engineer and principal for Palmer and Baker on this project. According to Henry LeMieux, Mr. Palmer was a driving force behind using this new type of pile in the plans for the Lake Pontchartrain Causeway Bridge. Palmer and Baker was a well-respected firm in the design of roadway bridges. Mr. Palmer could have easily chosen to design the bridge using the proven technology of the day. To his credit, he recognized the ingenuity of Upson's new pile and the three component design. He staunchly supported the new technology and included it in the plans prepared for the Lake Pontchartrain Causeway Bridge.

One fact that is now buried deep in the past is that Palmer and Baker included a conventional cast-in-place option in the plans. This option used 24 inch concrete piles and a cast-in-place deck. This design was consistent with the standard construction methods being used in that time period. According to Mr. LeMieux, the inclusion of the 24 inch pile alternate was purely political; other construction firms pressured decision makers to provide the more standard option. How different would the history of the Lake Pontchartrain Causeway Bridge have been if this option had been used?

THE INNOVATIONS:

Although for over fifty years the Lake Pontchartrain Causeway Bridge was the Longest Bridge in the World and still is the Longest Bridge Over Water (Continuous), this is not why ASCE designated the bridge a National Historic Civil Engineering Landmark. The construction of the bridge incorporated two civil engineering concepts never before used in the construction of bridges. These innovations, which are discussed below, are the reason this bridge was considered worthy of this designation:



The 54 inch Hollow Prestressed Concrete Pile used on the Causeway Bridge

54 Inch Hollow Cylindrical Prestressed Concrete Piles

The first unique innovation and probably the most important to engineers is the use of the 54 inch hollow cylindrical prestressed concrete piles to support the bridge. In the New Orleans area, a large number of bridges are supported by this same type of pile, and as anyone knows who has visited the area, leaving the City requires crossing a bridge. What makes the original Lake Pontchartrain Causeway Bridge unique is the fact that it was the first bridge to be constructed using this type of prestressed concrete pile. Prior to this bridge, the standard practice was to use solid square or circular concrete piles with dimensions equal to or less than 24 inches. The new 54 inch hollow cylindrical prestressed concrete pile was the innovation of Maxwell Mayhew Upson. Although historic research shows that the hollow cylindrical concrete piles had been used a few years earlier for off-shore applications, the pile fabrication method utilized for the construction of the Causeway Bridge was Upson's newest method called *cenviro*.

Prior to this application, Upson had been using the *Hume Process* to manufacture large diameter piles. Henry LeMieux described the *Hume Process* as requiring "a fairly wet concrete mix and the sections "were spun with rubber covered rods in the wall which were removed after the concrete set leaving holes for prestressed cables." No 54 inch piles using the *Hume Process* were installed for bridge construction. Some were used on off-shore platforms, and a few were used as test piles for the Pass Manchac Bridge.

Before the 54 inch hollow cylindrical prestressed concrete piles could be used for the foundation of a bridge, Maxwell Upson had developed a better process for manufacturing the large diameter piles. This method was called *cenviro.* In the *Modern Marvels* program, which chronicles the construction of the Lake Pontchartrain Causeway Bridge, *cenviro* is described as follows:

"The *cen* in *cenviro* stood for centrifugal force, which made the concrete spin to the outside wall of the piling form; v*i* stood for violent vibration that compacts the concrete; and *ro* stood for rollers that roll the concrete hard against the outside form."

C*enviro* was a revolutionary procedure used to generate a drier more compact concrete, which allowed Upson to achieve higher concrete strengths approaching 10,000 psi. The method involves the concrete being spun so that it is forced against the outside wall of the piling form. As part of the process, the concrete is compacted using heavy vibration, and then rollers press the concrete hard against the outside form. The piles were fabricated in 16 foot sections, which were tied together using high strength steel wire threaded through longitudinal holes in the pile walls. The steel wires were tensioned using jacks to push the pile sections together, similar to a segmental bridge deck. Upson also held the patent on the jacking clamps used to secure the wires. Once the cables were tensioned, grout was fed into the holes under pressure to secure and protect the steel wires from the environment. By using this method, a pile could be created of almost any length using the same basic elements. Until Upson's efforts in developing new concrete pile technology, concrete piles were limited to 24 inches.

The use of the 54 inch hollow cylindrical prestressed concrete piles is very well suited to the conditions in Lake Pontchartrain and southern Louisiana. Driving piles in Louisiana soils requires that the pile be driven deep until sufficient resistance is developed to support the load. A pile is repeatedly struck driving it into the ground. The shock wave caused by the hammer blow travels down the pile and then reflects back up the pile. Tensile stresses produced by driving can cause considerable damage to a non-prestressed concrete pile; in some cases, the tensile stresses can cause the destruction of this type of pile. In contrast, prestressing introduces compression into the pile section, which resists tensile cracking. Therefore, a prestressed pile can withstand hammer blows of greater magnitude and more repetitions. This allows the pile to be driven deeper resulting in greater pile capacity.

Pile capacity in Louisiana is developed almost entirely by skin friction. Louisiana soils, which are made up of soft clays and silts, do not develop large tip bearing capacities. Even when a sand layer is found, these layers tend to be thin and are not reliable for tip

bearing. The circumference of the 54 inch pile allows for a large area on which to develop skin friction. Therefore, pile capacity can be generated using shorter pile lengths and/or fewer piles. The hollow pile also reduces the pile weight considerably, which makes the pile easier to handle. Any end bearing, which is generally ignored in calculating pile capacity, is developed over the whole end section due to the soil plug that is forced up inside the hollow pile during driving. Significant end bearing can occur when a pile is driven into a sand layer; however, instances have been documented where a pile imbedded in a sand layer has later punched through the sand layer and settled significantly due to the weight of the structure. For this reason, unless the sand layer is known to be of sufficient thickness, most engineers drive piles through sand layers to the layer below counting only on the skin friction.

Mass-Production, Assembly-Line Techniques

The second unique innovation used in the construction of the Lake Pontchartrain Causeway Bridge is the manner in which it was constructed. The Causeway Bridge is the first bridge ever to employ mass-production, assembly-line techniques in fabricating and assembling a bridge. One of the reasons prestressed bridges had been slow to gain favor in the US was due to construction time. As opposed to Europe, US companies desired to construct everything as fast as possible using mass-production like procedures. Prestressed concrete as developed in Europe did not lend itself to this philosophy.

Charles C. Zollman wrote in his article published in the January-February 1980 PCI Journal that Professor Mangel recognized this difference in philosophy. At the 1954 Canadian (Toronto) Conference on Prestressed Concrete, Professor Mangel stated, "In the United States, industry is developed in a wonderful way…This is due in part to an internal market of 160 million people…This has made possible the enormous development of mass-production and the introduction of highly specialized labor saving machinery… Unfortunately, in bridge building, one cannot apply the idea of mass production." Mr. Zollman continued by stating that Professor Mangel was proven wrong and "what he thought was impossible – namely assembly-line, mass-production of prestressed structural elements capable of carrying heavy loads over large spans – came to pass…" in the Causeway Bridge.

In this same article, Mr. Zollman recounts a meeting which he attended between Walter Blessey, "the Raymond Engineers" (presumably Mr. LeMieux and possibly Dr. Upson) and Professor Mangel. In that meeting, the Professor chided them by saying, "If prestressed concrete can be competitive only because of the use of thin walls and inappropriate materials, for heaven's sake don't use it." In Europe, Dr. Mangel was one of the leading experts on prestressed concrete. His admonition to not use prestressed concrete in the manner being proposed for the Causeway Bridge would have swayed most engineers to abandon this pursuit. To their credit, Mr. Blessey, Mr. Lemieux and Dr. Upson forged ahead.

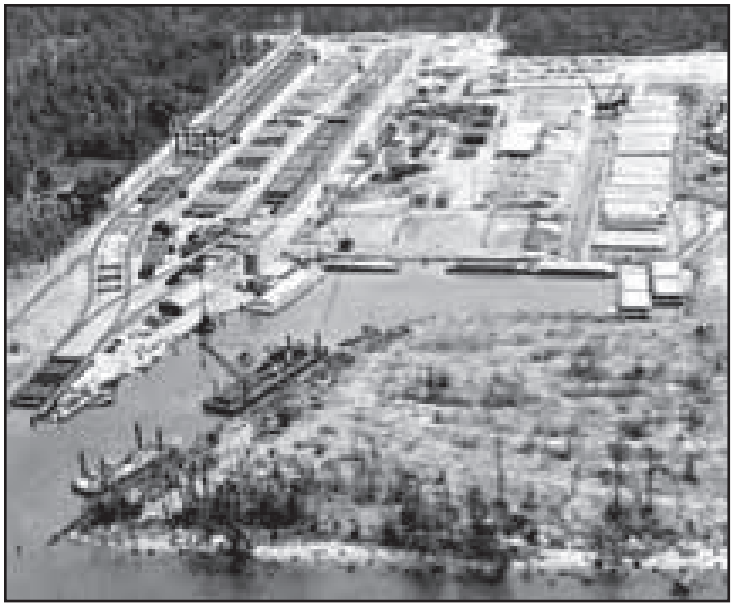
One can see from the above statements that the methods used on the Lake Pontchartrain Causeway were stretching the known boundaries of prestressed concrete design and construction. In conversations with Dr. Robert Bruce and Henry LeMieux, both participants have expressed their shear amazement in how fast the bridge was constructed. In an advertisement published in the August 29, 1956 Times-Picayune, the Louisiana Bridge Company stated the following:

> *In just 19 months, the Lake Pontchartrain Causeway – longest highway bridge in the world – has been completed. This is a world's record for long-distance overwater construction. Assembly-line efficiency produced a superior masonry bridge at substantial savings in cost and time.*
>
> *The contract required construction of the 24-mile span in only 23 months…a speed which would have been impossible with other methods, and a tough time-line for the method which was used. Yet the Causeway has been completed four months – 17% - ahead of schedule…*
>
> *The Causeway was assembled from structural units manufactured at the Mandeville plant of the Louisiana Bridge Company. Here the reinforced concrete caps, prestressed roadway slabs and prestressed piles were precast. And from here these units were barged to the jobsite and set in place.*

Looking at the original Causeway Bridge, one sees a rather simple structure. Two piles straddled by a bent cap supporting the ends of two 56 foot decks. The simple layout is repeated over and over again as the bridge proceeds nearly 24 miles across the Lake. The 56 foot simple spans utilize seven prestressed girders. Only at the two bascule bridges (The southern bascule was replaced by a high-level structure when the second bridge was built), the nine-mile turnaround and the three navigation humps does the pattern deviate. Miles and miles of the same units repeated. Here is where the true genius of Upson and Blessey reveals itself. By making the components (piles, bent caps and decks) identical, the theories of mass production could be readily employed.

For the construction, the Louisiana Bridge Company built a state-of-the-art concrete casting plant on the north shore of Lake Pontchartrain near Mandeville at the northern end of the bridge. At this plant the components were prefabricated in a controlled environment and then barged out via the Lake to the construction site. The plant allowed the contractor to fabricate multiple pieces at one time. The controlled environment also allowed for greater quality control. This assembly-line process significantly reduced both the construction cost and the installation time.

Rich Rochelle of Brown & Root stated, "The concept of doing all this from the water and prefabricating steel forms that you could use



Prefabrication plant

Transporting components via barges

again a thousand times and prestress all within the form, all this was absolutely new stuff."

The assembling of the components was also much different from the standard cast-in-place construction. As described earlier, multiple sections of the precast piles were fabricated in 16 foot lengths and then "strung" together using prestressed technology to make the necessary pile length (96 feet). The reinforced concrete pile caps and bridge decks, which used prestressed girders, were also mass produced in the yard. The prefabricated pieces were assembled span by span in the middle of Lake Pontchartrain. Piles were driven using a template to properly locate their position. The pile caps were then lowered onto the tops of the piles. The pile caps had a wire-basket insert that fit inside the piles. The caps were then shimmed to assure the proper elevation and grouted into place. Finally, the precast decks were set on top of the bents. Steel bolts anchored in the bent caps were threaded through slotted holes in steel angles affixed to the side of the outside girders on each slab. These bolts helped position the slabs properly while also providing some resistance to uplift and lateral movement. By employing this construction strategy, the Lake Pontchartrain Causeway Bridge became the first bridge ever built using assembly-line, mass-production techniques. Charles Sloan, who worked on the bridge, described his experience thus, "It was built like a big tinker toy."

By using these methods, the Lake Pontchartrain Causeway Bridge was built in "record time." What this actually meant was unclear since no bridge like the Causeway had ever been built. This quote from an article in the Times-Picayune on August 29, 1956 provides a good perspective:

> *Consulting engineers for the project conceived the design which permitted the contractor to adapt all construction to mass-production methods. Engineers estimated that it would have taken four times as long to finish the work employing conventional methods.*

The Engineering News Record described the bridge as "a bold venture requiring unusual foresight, ingenuity and resourcefulness." What the record shows is the bridge was constructed in fourteen months from the time when the first piles were driven on May 23, 1955. With the bridge measuring 23.86 miles, this would translate to a rate of 1.7 miles per month or over 5 slabs per day. This rate of construction is pretty impressive.

In summary, the Lake Pontchartrain Causeway Bridge was made possible through the collaboration of some of the greatest civil engineering minds of their time using technologies that were innovative and imaginative. This is why the Lake Pontchartrain Causeway Bridge has been designated a National Historic Civil Engineering Landmark.

The Louisiana Section Centennial Committee is currently undertaking the planning of the 100 Year Celebration of the ASCE Louisiana Section, 1914- 2014.

Please contact the Centennial Committee if you would like to help with the planning or have a contribution: l.asce100year@gmail.com.

We are looking for information for a potential commemorative edition which would feature stories, photographs, including unique and historical images that offer insight into the growth of the Louisiana Section in the last 100 years. The book would spotlight significant achievements in construction and unique engineering projects in Louisiana.

ASCE Legislative Fly-In: 2013 Report Card for America's Infrastructure

By Jeffrey Duplantis, PE; Joey Coco, PE; & Nedra Davis

Many ASCE members took advantage of a unique opportunity to meet with their U.S. House and Senate representatives regarding the need to invest in our nation's infrastructure, just as our new 2013 Report Card for America's Infrastructure was released. The Society's annual Legislative Fly-In drew 200 members from all 50 states to Washington, DC, to fan out across Capitol Hill, telling lawmakers that the nation's infrastructure problems are solvable if Congress will show strong leadership. The message was bolstered by the new National Report Card and its app for smartphones and tablets, which was well received by representatives and their staffs as a tool they will be able to use to better understand the state of our infrastructure. The representatives from the Louisiana Section this year were Jeffrey Duplantis, PE, MWH Americas; Joey Coco, PE, Forte & Tablada, Inc.; and, Nedra Davis, Atkins Engineering.

The Report Card has had unprecedented coverage in national and local media, with more than 1,000 mentions and counting. Louisiana ASCE Government Relations Committee members are also spreading the word locally, with interviews and op-eds in the Times Picayune, Baton Rouge Business Report, LSU Reveille, and more.

Fly-In attendees met with members of the 113th Congress who are unfortunately tasked with limiting government spending and reducing the national debt, and placing heightened scrutiny on all federal expenditures, including those to repair or replace the nation's infrastructure.

Mr. Duplantis, Mr. Coco, and Ms. Davis attended the Fly-In breakfast, which focused on the value of civil engineers going to Capitol Hill in person to provide a technical perspective to members of Congress who are not engineers themselves. The issues focused on the findings of ASCE's 2013 Report Card for America's Infrastructure, with a legislative emphasis on transportation and inland waterways (the Water Resources Development Act).

- Transportation Issue
- Highway Trust Fund shortfall
- Water Resources Development Act Issue

Mr. Duplantis, Mr. Coco, and Ms. Davis met with staff from the offices of Senator Vitter, Senator Landrieu, and Representative Cassidy on Capitol Hill. While sharing the Report Card, the ASCE Louisiana Section members also strongly urged their representatives to pass a new Water Resources Development Act in this session. Traditionally reauthorized every two years, the last WRDA was passed in 2007. The Report Card gave dams a D, inland waterways a D-, levees a D-, and ports a C, and ASCE's Failure to Act report on the nation's marine ports and inland waterways stated that without a new WRDA, it threatens one million U.S. jobs and $270 billion in exports by 2020. The WRDA renewal would create a National Levee Safety Program, reauthorize the National Dam Safety Program, increase spending for the Inland Waterways Trust Fund, and restore the Harbor Maintenance Trust Fund.

Joey Coco, Nedra Davis, & Jeff Duplantis on Capitol Hill for ASCE Legislative Fly-in

A third issue ASCE Louisiana Section members addressed with our leadership was to find a long-term federal funding solution for the nation's surface transportation systems, as reauthorization comes up again next year after being renewed only last year. Budgeting for the Highway Trust Fund, which allocated $15 billion in 2012, has not been adjusted since 1993. While transportation demands have grown over time; the Highway Trust Fund has not been able to keep up with that demand. ASCE does not take a stand supporting any particular funding mechanism; we just wanted to request that our legislatures keep an open mind and consider all alternatives.

The Grades

The ASCE National Report Card assigns grades to 16 sectors of our infrastructure. Each sector - roads, bridges, drinking water systems, mass transit, the power grid, and others, receives its own grade. The overall grade for all sectors this year – what you could say is our infrastructure GPA - is a D+.

This is not acceptable and here's why:

Our infrastructure is the backbone of our economy and when it's in bad shape, we all suffer.

When our roads prevent trucks from getting from point A to point B to deliver goods, we suffer. When blackouts turn off the lights of small businesses, we suffer. And when our ports can't keep pace with the new rules of international commerce, we suffer. It hurts our GDP, our ability to create jobs, personal incomes, and our competitiveness with other nations.

It also hurts our quality of life every day. We waste hours sitting in traffic or at congested airports.

We must close the investment gap and rebuild our bridges, drinking water systems, electric grid and other vital infrastructure sectors that truly are the lifeblood of our economy. We must call on our leaders at every level of government to make this a priority.

But it is not just about spending public dollars; it's also about driving investment from the private sector and building strong partnerships to get the job done.

Everyone can take a look at the grades for the infrastructure in their own backyards by downloading the free Report Card app at www.infrastructurereportcard.org. The app has user-friendly videos, maps and state-by-state data.

Some Examples

- More than 40% of our urban highways are congested. That means Americans waste almost 2 billion gallons of gas, and – at last year's prices – folks spent more than $7 billion on gas idling in traffic.
- It also means folks sat idling in traffic for 34 hours longer than they needed to. That's like missing your kid's entire soccer season 5 times. (51 soccer games at 90 minutes).
- More than 4 out of 10 Americans live near a levee. And our levees are in really terrible shape (earned a grade of a D-). That may not mean much in the abstract, but you ask folks in Iowa or New Orleans or any other community that has endured a flood and you'll hear differently.
- There are between 700,000 and 800,000 miles of public sewer lines in the U.S. – most of them installed right after World War II – and they are in bad shape (D grade). In fact, those systems discharge almost 900 billion gallons of untreated sewage each year: enough to fill more than a 1 million Olympic-size swimming pools.
- There are almost 240,000 water main breaks each year in the U.S. That means that every day, drinking water in more than 650 cities and towns is compromised. That's not acceptable to a civilized society.

The Good News – Solutions Exist

In spite of the bad grades, there is good news.

Noticeable improvements were made in six of the sectors – Roads – Bridges - Solid Waste – Drinking Water systems - Wastewater systems – and the nation's Railroads.

Why did some sectors improve, while others continued to fall behind? Two reasons:

- **Strategic investments of public or private dollars; or both;**
- Innovative partnerships between different levels of government – cities and states working together to prioritize and implement projects.

How We Can Raise the Grades

Some examples of where the grades rose since the 2009 Report Card:

- Private investment drove huge improvements in the nation's railways;
- Our most vulnerable bridges were improved due to efforts by cities and states to prioritize them and fund improvements;
- Short-term boosts in federal funding fast-tracked improvements in many sectors.

A Wake Up Call for the Nation

ASCE's members are professionals in their field who hold a responsibility to protect the public interest through the construction of civil works. The Report Card finds one thing – when we invest, the grades rise. The key question is – why does that matter?

There are public safety implications of almost every infrastructure investment, but every dollar we invest also grows our economy. ASCE National's Failure to Act studies documented this effect and found that with an investment in our infrastructure of just $157 billion a year through 2020, we can prevent a $3.1 trillion loss in GDP, an annual $3100 drop in personal income, and 3.5 million job losses that would otherwise occur as a result of the investment gap.

- It is time for us to act on today's news and get involved. We need to call on our elected officials to make infrastructure a priority.
- We need leadership at all levels of government and a national vision to fix our infrastructure.
- Everyone should download the FREE Report Card App from the ITunes store to see the data for themselves.
- The app has videos and maps and state-by-state data and so you can see your state's grades.
- You can also see the grades on the ASCE National website –www.infrastructurereportcard.org.
- For a direct link to the **Report Card for Louisiana's Infrastructure** website – http://www.lasce.org/ReportCard.aspx.
- Join the **Louisiana Section Government Relations Committee**, contact Jeffrey Duplantis at Jeffrey.L.Duplantis@us.mwhglobal.com.

LOUISIANA SECTION SPRING CONFERENCE A SUCCESS!

Kurt Nixon, Section President speaks at the conference luncheon

Patrick Landry, Past President announces Life Member awards

Jerry Klier announces Student awards

Gerald W. Mayes, PE, M.ASCE
Life Member

Adam Floyd Catanzaro
Louisiana State University

David Chatelain
Louisiana Tech University

Student Award Recipients not present:

René Chopin, IV
University of New Orleans

Jared Fusilier
McNeese State University

Nicholas Helminger
University of Louisiana at Lafayette

Jamal Steib
Southern University

LA Tech students (l to r); Kori Madere, Seth Strong, Kim Latino, David Chatelain, Daniel Binet, Sal Pellittieri

LSU students (l to r); Jabari Landry, James Parker, Emily Weigand, Adam Catanzaro, Kay Warner, Ryan Jeansonne

McNeese University students

Why the 100-year Flood?

By Frank Bohn, MS, Engineering Science, LSU
& Carol Friedland PE, PhD, CFM, Assistant Professor of Construction Management, LSU

Frank Bohn, MS

Carol Friedland PE, PhD, CFM

The engineering standard for the design flood is the 100-year flood, or 1% annual-chance flood, as required by ASCE standards and ICC codes. However, the origin and selection of the 100-year flood as a design standard is not widely known. During a recent study of flood design requirements, the history and evolution of the 100-year flood was investigated (Bohn, 2013). The historical information in this article is intended to provide context to the designer in evaluating if the 100-year flood is an appropriate standard for all design cases.

The foundation of flood design is based on expert consensus from the 1960's and 1970's. Meanwhile, codes and standards for other hazards have far surpassed the level of protection against flooding, providing increased resilience. The 100-year flood has a significantly higher chance of exceedance than ASCE acceptable reliability for load conditions, exclusive of earthquakes (ASCE, 2010). ASCE 24 *Flood Resistant Design and Construction requires buildings in coastal high hazard areas (i.e. those areas subject to high velocity wave action of 3 feet or greater on a community's flood hazard map) to be elevated in accordance with ASCE 24 Table 4-1* (ASCE, 2005).

Structure Categories used in Table 4-1 are based on the nature of occupancy: Category I represents a low risk to human life (temporary and minor storage facilities); Category II, those not listed in category I, III, and IV (residential structures); Category III & IV those represent a substantial risk to human life (power plants, jails, and health care facilities) (ASCE, 2005, 2010). It should be noted that the difference in required elevation between a storage shed (Category I) and a critical facility (Category IV) is only 1-2 feet.

In the ASCE 7 wind provisions, the design mean recurrence interval (MRI) for Category I structures is the 300-year wind event, Category II structures are designed based on the 700-year wind event, and category III and IV structures are designed based on the 1700-year wind event (ASCE, 2010). The corresponding annual probabilities of exceedance of 0.33%, 0.14%, and 0.059%, respectively, are significantly lower than the nominal 1% annual chance of exceedance for flood design. While the *minimum* design standard for wind is the 300-year MRI, the *maximum* design standard for flood is the 100-yr MRI. As hurricanes are a hazard with coupled risk (i.e. wind and coastal flooding), this incredible imbalance of risk is out of line with current optimized risk-based design.

Although the values for maximum annual probabilities of failure for load conditions in Table C.1.3.1a from the ASCE 7 commentary may be on the high side, they offer a striking contrast to levels of failure for flood events. According to this table, the minimum acceptable annual probability of failure (for failures that are not sudden and do not lead to wide-spread progression of damage) for a Category I structure is 0.0125%, or 1 in 8000 years, significantly lower than a 1% annual chance (1 in 100 years). For slow rising floods, we acknowledge "failure" may not occur. Owners may only need to replace interior content and finishes, and perform mold abatement and similar acts of restoration. However, in coastal zones with high velocity flooding and subject to the forces of breaking waves, an exceedance of the 100-year flood elevation can easily result in structural failure and complete collapse. While we acknowledge freeboard requirements in ASCE 24 Table 4-1, this raises the issue of how much additional protection is provided by freeboard. Does two feet of freeboard increase the 100-year elevation to the 120-year elevation? Or does two feet of freeboard increase the 100-year elevation to the 250-year flood? It depends, and this is not an easy answer. Coupled with the fact that sea level rise and subsidence are not considered in establishing minimum code-required flood elevations, we hypothesize that freeboard may be delivering much less risk reduction than commonly thought. The NFIP promotes the use of freeboard to reduce flood risks for certain types of structures. Many types of commercial, industrial, and infrastructure structures are not covered by the NFIP; therefore, engineers have to consider several design issues with a range of criteria related to flood damage risks for these structures.

History of the 100-Year Flood

In the context of acceptable levels of failure published in ASCE 7, why is the 100-year flood an acceptable design level? To investigate this question, a brief history of the establishment of the 100-year flood is provided.

In 1965, Congress directed the Department of Housing and Urban Development (HUD) to conduct a comprehensive study of flood insurance following significant losses from Hurricane Betsy (Power & Shows, 1979). Marion Clawson, then secretary of HUD, completed the study in 1966 that recommended a federally sponsored flood insurance program (Power & Shows, 1979). The National Flood Insurance Act of 1968 (NFIA) followed, which established the National Flood Insurance Program (NFIP) with the purpose of (Power & Shows, 1979; FEMA & Federal Insurance and Mitigation Administration, 2002):

- Better indemnifying individuals for flood losses through insurance;
- Reducing future damages through state and community floodplain management regulations; and

• Reducing federal expenditures for disaster assistance flood control.

The National Flood Insurance Act of 1968 explicitly intended for the NFIP to be "a program of flood insurance with large-scale participation of the Federal Government and carried out to the maximum extent practicable by the private industry" (Office of the General Counsel, 1997, p. 1).

The National Flood Insurance Program (NFIP) requirements called for mapping all the floodplains in the U.S., therefore making it necessary to determine a standard "size" event in order to assess and manage flood risk for determination of insurance rates, thus treating all communities equally (FEMA & Federal Insurance and Mitigation Administration, 2002). Approximately 50 researchers in the field of floodplain management were identified and invited to participate in a floodplain management guidelines seminar at the University of Chicago that was held December 16-18, 1968 (Sheaffer, 2004). The purpose of this seminar was to determine a standard to be used as the "basis for risk assessment, insurance rating, and floodplain management for the NFIP" (FEMA & Federal Insurance and Mitigation Administration, 2002, p. 5). The 100-year BFE was established at the recommendation of these 50 research experts as a compromise between a 50-year or lesser standard and a 500-year flood standard (Krimm, 2004). In the 1960's, both the USACE and the Tennessee Valley Authority (TVA) agreed upon the 100-year flood as a uniform standard for flood protection (Robinson, 2004). Thus the 100-year flood standard, or the flood with a 1%-annual-chance of occurrence, was adopted by the Federal Insurance Administration (FIA) and was used to identify floodplains (Krimm, 2004).

On September 10, 1971, the NFIP specifically tied the regulatory requirements of the program to the 100-year flood standard (Robinson, 2004). In May 1972, the U.S. Water Resources Council issued final guidelines for evaluating flood hazards that recommended agencies use the 100-year flood as the "basic flood" (Robinson, 2004, p. 3). The 1973 enactment of PL 93-234 (1972 Act, as amended) affirmed the use of the 1% or greater chance of flooding (100-year flood) as the "base flood standard" (Reilly, 2004, p. 14). In 1974 amendments to the NFIP, the 100-year flood was specifically mentioned in the NFIP legislation for the first time (Robinson, 2004), and on October 26, 1976, the term "base flood" and "base flood elevation" were introduced to phase out the misleading term of the "100-year flood" (Robinson, 2004, p. 5).

On May 24, 1977 President Jimmy Carter issued Executive Order (EO) 11988- *Floodplain Management, which specifically defined the floodplain as the base flood in terms of the 100-year flood* (Reilly, 2004; Robinson, 2004). The sufficiency of the 100-year flood was reviewed in 1973 by the Senate Committee on Banking, Housing, and Urban Affairs, and again in 1981 by the Office of Management and Budget (OMB) as part of the President's 1981 Task Force on Regulatory Relief. In both of these reviews, the 1-percent-annnual-chance standard was deemed "reasonable and consistent with national objectives in reducing flood losses" (FEMA & Federal Insurance and Mitigation Administration, 2002, p. 5). A 1983 report by the Presidential Task Force on Regulatory Relief concluded that no better alternatives to the standard were available and that there was no justification for the expense of converting to another standard (ASFPM Foundation, 2004).

Congress passed the Flood Disaster Protection Act of 1973, which provided strong incentives for community and individual participation in the flood insurance program by introducing broad financial penalties for failure to participate (Power & Shows, 1979). Sections 102(a) and 102(b) of this act were intended to prevent lending by savings and loan institutions if an identified flood-prone community did not participate in the flood insurance program (Power & Shows, 1979)**. "Section 1315 of the 1968 Act prohibits FEMA from providing flood insurance unless the community adopts and enforces floodplain management regulations that meet or exceed the floodplain management criteria established in accordance with section 1361(c) of the Act"** (FEMA & Federal Insurance and Mitigation Administration, 2002, p. 12)**. Changes made to the program in 1969 and 1973 dramatically increased the**

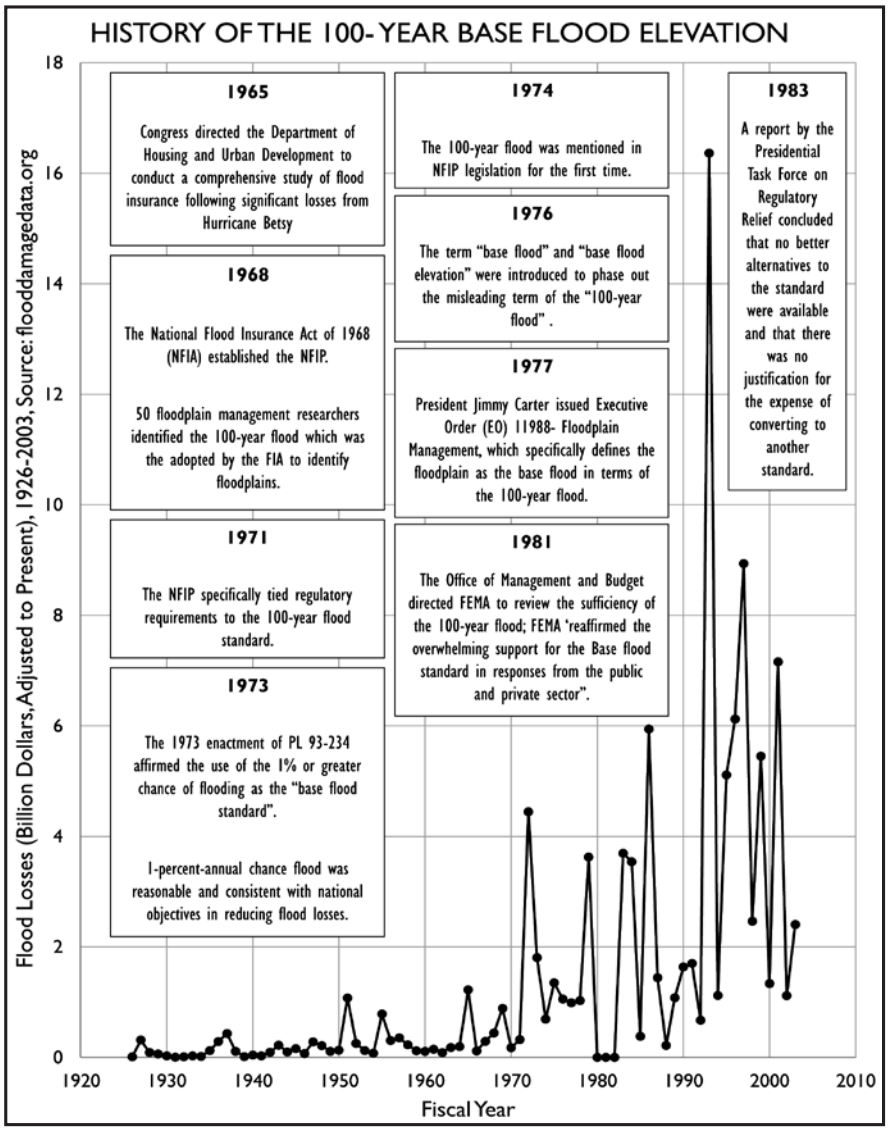


Figure 1 – History of the 100-year Base Flood Elevation and U.S. Flood Loss (Figure Credit: Fatemeh Orooji, LSU)

number of participating communities from four in 1969 to 15,898 in 1978, leaving only 2,928 (as of 1978) officially identified flood-prone communities that had yet to join (Power & Shows, 1979).

Figure 1 provides a summary of this history, superimposed on flood loss data from 1926 to 2003, obtained from the University Corporation for Atmospheric Research (UCAR, flooddamagedata.org) and adjusted to current dollars. In the 39-year period from 1926-1964, $7 billion in flood losses were incurred. Losses from Hurricane Betsy in 1965 ($1.2 billion), spurred the establishment of flood regulations and the NFIP (Power & Shows, 1979). In 19-year period 1965-1983, while the NFIP regulations were being formalized, approximately $18.4 billion in losses were incurred (note: the dataset is missing data from 1980-1982). In the 20 years that followed the establishment and formalization of the NFIP (1984-2003), nearly $78 billion in flood losses were incurred (note: losses from Hurricane Katrina in 2005 are outside the data period). In the nine subsequent years (2004 to 2012), federally-insured flood losses in the U.S. are on the order of $30 billion (fema.gov).

In light of the tremendous level of losses from flood events, including loss of life, why is engineering design dictated by the standards of an insurance program developed based on expert judgment from nearly 50 years ago? The monopolization of flood hazards by the NFIP has effectively removed much engineering judgment from the purview of the engineer, and has engendered public desire for the lowest acceptable levels of design. The practitioner is largely limited to 100-year design information, which discourages more extensive evaluation of cost vs. risk reduction tradeoffs for a broader range of freeboard alternatives. Additionally, there are distorting effects of the 100-year threshold which are amplified by the NFIP's insurance premium pricing methods (e.g., significant premium discounts are provided for structures elevated just above the 100-year BFE). This distortion also affects other flood management practices, such as the planning and design of levee systems to reduce hazards of the 100-year flood.

As engineers, we have a responsibility to provide a higher level of design for structures that are not intended to be evacuated during flood threats, regardless of policy and, in some cases, minimum building code requirements. The engineering community should help define and develop many of the tools that are needed to meet this responsibility. Flood design standards should be developed to be more risk consistent with other hazards, and information for flood elevations beyond the 100 year flood design should be more readily available. The engineering community needs to develop flood design standards that differentiate more between Structure Categories and to develop the levels of detail needed for a practitioner to design to higher levels of protection associated with an increased MRI.

Acknowledgements

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Frank Bohn, MS *is a recent graduate of LSU's Master of Science in Engineering Science Program, and holds a bachelor's degree in Construction Management from LSU. His thesis, "Design Flood Elevations Beyond Code Requirements and Current Best Practices," provides an overview of current ASCE flood standards and FEMA's Coastal Construction Manual to recommend methods to estimate longer return coastal flood elevations and to explicitly account for coastal factors such as sea level rise and tidal influence.*

Carol Friedland PE, PhD, CFM *is a Professional Engineer and Certified Flood Plain Manager. She is currently an Assistant Professor of Construction Management at LSU and has been engaged in hurricane-related research since 2003. Her primary area of specialization is in assessment and analysis of building damage from hurricane wind and flood hazards.*

ASCE-COPRI Louisiana Chapter News

By Dennis G. Lambert, PE, Newsletter Editor

COPRI
COASTS, OCEANS, PORTS AND RIVERS INSTITUTE
Louisiana Chapter

The newly formed Louisiana Chapter of the American Society of Civil Engineers (ASCE) Coasts, Oceans, Ports, and Rivers Institute (L.COPRI) continues efforts to promote membership and visibility throughout the State of Louisiana by conducting joint seminars with local Branches and State Sections of ASCE.

ASCE Baton Rouge Branch President and L.COPRI Vice Chairman Rudy Simoneaux (CPRA) arranged technical presentations provided by Joe Cancienne and Benjamin Richard with Tetra Tech on the Calcasieu Ship Channel Salinity Control Measures Project. This event was for the March 19th ASCE Louisiana Section Free Half-Day Seminar in Lake Charles. On the evening of March 21st at the Renaissance Hotel, the Baton Rouge Branch of ASCE hosted a seminar to coincide with the 2013 ASCE Deep South Student Conference. The seminar was jointly hosted by the new Louisiana COPRI Chapter with Jon Risinger, Chairman, giving a short presentation on the background and formation of the Louisiana Section's newest Institute. Rudy Simoneaux, L.COPRI Vice Chairman, served as the Master of Ceremonies and arranged the keynote speaker Maury Chatellier, Engineering Division Chief of the Coastal Protection and Restoration Authority (CPRA), who presented on current and upcoming restoration/protection work at CPRA. Finally, L.COPRI's Newsletter Editor Dennis G. Lambert (Ben C. Gerwick) arranged a May 1st seminar for the ASCE Acadiana Branch that will be jointly sponsored by TD&I and L.COPRI. Steve Dartez and Gregory M. Grandy (both with Coastal Engineering Consultants, Inc.) will present with L.COPRI Director Nancy Powell (USACE) on Mississippi River Navigation and Marsh Restoration: Different Goals; Common Solutions. For the 2013 ASCE Annual Spring Meeting and Conference April 18-19 in Shreveport, Russ Joffrion (CPRA) and L.COPRI Secretary Paul Tschirky (Moffatt & Nichol) discussed Utilizing Mississippi River Sediment as a Renewable Coastal Restoration Strategy. L.COPRI Treasurer Ashly Adams (Premier Concrete) also presented Solutions to Shoreline Protection.

L.COPRI Program Committee Chair Luci Silva (Brown & Caldwell) is currently leading efforts to plan L.COPRI's first full conference/seminar this fall. Tonja Koob (GAEA Consulting) and Nina Reins (MWH Global) are planning the next joint ASCE/L.COPRI luncheon in New Orleans this summer. More details to come on date, time, location, speaker, and sponsorship opportunities.

For the ASCE Acadiana Branch meeting on April 3, L.COPRI Young Professionals Committee Chair Erin Rooney (HDR) gave a short presentation about L.COPRI Young Professionals Group (YPG) in conjunction with key note speaker Jerry Hauske from HDR. YPG participated in the "***Save our Shore: Volunteer for the Coast***" event hosted by the Coalition to Restore Coastal Louisiana (CRCL) and Abita Beer on March 2. Throughout the two-day event, volunteers planted 19,000 marsh grass plants and installed a mile of sand fence on the beach of Grand Terre Island. Other upcoming YPG events include a field trip to the Port of New Orleans and coordinated events with local universities.

The activities of L.COPRI will arrange seminars, workshops and other activities to benefit all ASCE and COPRI members. One does not have to be an Engineer to join COPRI. These Institutes are formed for the benefit of ASCE and non-ASCE members to participate and interact with other professionals interested in coastal restoration efforts in the Gulf of Mexico. If you have any questions or to add your name to our mailing list, please contact Tyler Ortetgo, L.COPRI Membership Committee Chair at tortego@gmail.com.

L.COPRI YPG members planting marsh grass on Grand Terre Island

L.COPRI YPG volunteers for the Grand Terre dune restoration event (clockwise from left): Martina Hunter, Kyle Breaux, Jarret Bauer, Andrew Woodroof, Hiram Mechling, Ryan Battaglia, Jenni Schindler, Allison Bauer, and Sara Ghazizadeh

ASCE-T&DI Louisiana Chapter News

By Michael Paul, PE, Newsletter Editor

In an effort to increase awareness of the Louisiana Transportation and Development Chapter, we maintained a booth at the Louisiana Transportation Conference (LTC) held in Baton Rouge February 18-20th. We utilized some of our seminar income to facilitate the booth displays, joined in providing door prizes to increase booth traffic, collected email addresses, and distributed application forms to interested parties. Our sincere thanks to the Chapter members who helped maintain the booth during the conference.

The Chapter also contributed to the ASCE Spring Louisiana Civil Engineering Conference in Shreveport during April 18-19th. This year there were two presentations organized by the T&DI Louisiana Chapter Members. Ronald Schumann (URS) presented *The Huey P. Long Bridge - An ASCE National Historic Civil Engineering Landmark*. Durk Krone (TRC Engineers), Elba Hamilton (AFJMc) and Michael Paul (TRC Engineers) presented *I-49 North Segment K – Project Update*.

In continuation of our efforts to promote interest in transportation planning and engineering, the T&DI Louisiana Chapter contributed to the 2013 Louisiana Science and Engineering Fair held on March 26-27 at the Royal Cotillion Ballroom at the LSU Student Union. The State is divided into 12 Regions. Each region holds a Science Fair early in the year. The top winners from each region can participate at the State level. The Judges for the transportation-related exhibits consisted of LSU's Dr. Amar Raghavendra and T&DI Executive Committee members Karen Holden, PE, and Michael Paul, PE. The special awards winners for the Junior and Senior Divisions are shown below:

Junior Division (Grades 6-8):
1st Place: Colton Lobitz (right) "Efficiency Improvements with HHO"
2nd Place: Nicholas Thompson (left) "Bend Dat!"

Senior Division (Grades 9-12):
1st Place: Warner King (left) "Autonomous Homing Robot"
2nd Place: Jonathan Lavergne (right) "Magnetic vs. Ball Bearings"

T&DI presented a repeat of the 1st installment of a 3-part pavement seminar series, titled *Pavement Engineering: Asphalt Mixture Design and Analysis* on January 31 at UNO. The seminar was co-sponsored with the UNO Transportation Institute. The seminar was originally presented at the LSU TTEC auditorium in Baton Rouge. The purpose of the seminar was to provide basic knowledge of materials and specifications utilized in the design and construction of hot mix asphalt mixtures used in flexible pavement structures. Mix designs and materials according to the DOTD Specifications for Roads and Bridges (2006-Blue Book) were reviewed, as well as the major proposed changes to the DOTD Standard Specifications. Dr. Louay Mohammad (CEE Department, LSU and LTRC) and Chris Adabie, PE (Materials Research Admin, DOTD/LTRC) presented the seminar.

In April 2013, the T&DI Louisiana Chapter presented the *Louisiana Good Roads* seminar at the LSU TTEC Auditorium in Baton Rouge. This event was cosponsored with the Louisiana Transportation Research Center and the Louisiana Asphalt Pavement Association. The topic of the seminar was how the Louisiana highway network affects the economy and how the highway network is funded; seminar speakers were Ken Perret (FHWA retired) and Mary Stringfellow (FHWA).

In May 2013, the T&DI Louisiana Chapter co-hosted the *Mississippi River Navigation and Marsh Restoration* seminar with the Louisiana Chapter of the Coasts, Oceans, Ports and Rivers Institute (COPRI). The seminar was co-sponsored with the ASCE Acadiana Branch and was presented at the University of Louisiana at Lafayette. The topic of the seminar was recognizing the link between dredging the River and the need to provide valuable sediment to the starved Louisiana marsh system, while maintaining navigation along the Mississippi River. Nancy Powell, PE (U.S. Army Corps of Engineers), Steve Dartez, PE (Coastal Engineering Consultants) and Gregory Gandy (Coastal Engineering Consultants) were the speakers.

If you are interested in co-sponsoring a seminar at your branch, the T&DI Louisiana Chapter has prepared a Seminar Coordinator's Check List to assist you in your preparation. Contact Dan Aucutt, PE, at djaucutt@gmail.com for a copy of the checklist. Our seminars are two hours in length and are typically presented from 5:30-7:30 pm in either the New Orleans or Baton Rouge area. As indicated, we are open to co-hosting seminars in additional Louisiana cities, with proper planning. In keeping with the intent of the Institute to provide training and networking opportunities for all professionals involved in transportation projects, the Chapter is planning the following future seminars:

- Complete Streets and the Policy and Projects underway in New Orleans
- Toll Road Feasibility for I-10/LA 1 connector in Baton Rouge
- Pavement Engineering (Part 2) Rigid Pavement Design
- Pavement Engineering (Part 3) Application of Earthwork and Embankment Materials
- I-49 South Corridor

Branch News

ACADIANA BRANCH

By Eric McClanahan, PE, Branch President

The Acadiana branch has been very active lately and held numerous Luncheons and seminars. We held a dinner at Don's Seafood located in Downtown Lafayette where Bill Gwyn of Eustis Engineering gave an outstanding presentation on Wick Drain Installation and Monitoring. In addition, we held an April 3rd Luncheon at Jolie's Bistro located in Lafayette, LA where Jerry Hauske of HDR provided a superb lecture on Costal Habitat Restoration in Bays and Estuaries. All the attendees were provided certificates for one PDH with positive feedback from the ASCE Acadiana Branch membership. For both of these events the turnout from professionals and students were outstanding.

The ASCE State Section with help from the ASCE Acadiana Branch put together a presentation in the Lake Charles area, which was held on at Pat's of Henderson on Wednesday, March 19th from 10:00 A.M until 2:00 P.M. Seminars covering Ethics and the Calcasieu Ship Channel Salinity Control Project were provided for our members in the Lake Charles area. Justin Owens and Tyson Ducote gave a great presentation on Ethics. Joe Cancienne and Benjamin Richard of Tetra Tech Inc. provided the group with insight on the Calcasieu Ship Channel Salinity Control Project. Turnout of professionals and students for the event was outstanding! It was great to see so many people there and I have no doubt that the Louisiana Section along with the ASCE Acadiana branch will work to put together another seminar in Lake Charles in the future.

The ASCE Acadiana Branch is currently seeking nominees for our annual awards Luncheon and new ASCE Acadiana Branch Board of Directors inauguration. The award categories are: Wall of Fame, Lifetime Achievement, Outstanding Civil Engineer, Civil Engineering Educator, Outstanding Young Civil Engineer, and two Life Member awards. Please submit nominees to the ASCE Acadiana branch officers.

The Branch has also provided a seminar for two professional development hours given by T&DI on May 1, 2013. The topic was "Mississippi River Navigation + Marsh Restoration: Different Goals; Common Solutions." The seminar was held at ULL and was followed with a joint crawfish boil. The ASCE Acadiana Branch and IEEE hosted the event in Girard Park. It had an outstanding turnout.

Joint State/Acadiana Branch luncheon in Lake Charles

NEW ORLEANS BRANCH

By Jim Martin, PhD, PE, Branch President

The New Orleans Branch has remained quite busy since our last Branch update.

Since the recent technical difficulties with our website and membership communications, we have managed to fully implement a Constant Contact system that enables our membership to RSVP and pay online for Branch functions. This has reduced the clerical time for setting up events, confirming attendance, performing head counts, and collecting payments.

We still have the traditional method of payment available (by cash or check via walk up) but the far majority of our members have chosen to use the means available via the new system and the feedback has been outstanding. While our website is still down, the Constant Contact improvements have enabled us to host many events over the last several months.

On January 30, we hosted a Branch lunch where Harley Winer, PE (Atkins) and Jenny Bywater, PE (CDM Smith) briefed the Branch on the status of the local Engineers without Borders Chapter. The New Orleans Branch has been supporters of EWB for several years and the presentation was inspiring. Harley and Jenny discussed details of a project to provide improved access to potable water at a site in El Salvador.

continued on next page

Hydraulics engineer Harley Winer (Atkins) carries water on his head in Toreras, El Salvador for New Orleans chapter of Engineers Without Borders to help design a water distribution system for the village

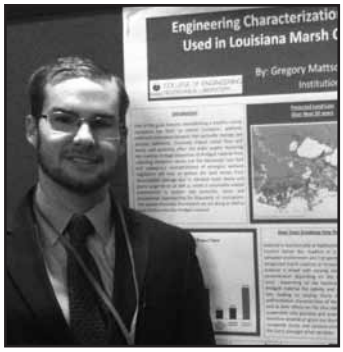
On February 23, in celebration of Engineers week, the Branch assembled volunteers to participate in a Wetlands Planting project at New Orleans City Park. This is the second year that the New Orleans and UNO Student members of ASCE came together to benefit the park. Each year the projects have been educational as well as fun. The Park appreciates our efforts and the Branch enjoys helping to improve and maintain such a magnificent local landmark.

Following the Wetlands Project, participants were brought to the New Orleans Sewerage and Water Board's Carrolton Plant for a guided tour. This is the only water treatment plant for the entire East Bank of Orleans Parish and was of great interest to our members. As the Park was grateful for our help, we in turn were grateful for the Board hosting us.

On March 24, the Board sponsored UNO Engineering Graduate Student Gregory Mattson, as he presented his research to the CNREP Conference in New Orleans. All indications are that Mattson did an outstanding job and represented the University and the Branch very well.

On March 27, the Branch held lunch meeting where attendance was outstanding. Thomas Gardner, Esq gave an excellent presentation on "An Introduction to Indemnity Risks in Professional Services Agreements." Gardner's lecture was interesting, on point and generated a good bit of discussion and follow-up pertaining to an important aspect of how we practice professionally.

On April 10, the Branch participated in an outreach event at the New Orleans Charter Science and Mathematics High School. We spent the morning talking to several groups of students about what engineers do and how they can prepare themselves to consider engineering as a career. In addition we had some fun activities and presentations that held the attention of these bright young minds! On April 17, the event continued as we welcomed the students to UNO for a full day of activities including guided tours of all the lab facilities as well as a tour of the full campus.



UNO Engineering Graduate Student Gregory Mattson presented his research to the CNREP Conference in New Orleans

Thomas Gardner, Esq gives presentation to NOLA Branch

On April 24, the Branch hosted Louisiana State Section Member Bob Jacobsen, PE in which he presented his work on the Southeast Louisiana Surge Hazard Analysis. We had an excellent turnout for this event because it is of interest for so many members living in the region. Bob's work on the topic has already generated news articles in the local papers.

On June 16, the Huey P. Long bridge will fully open and its renovation will be complete. The morning of the opening a 5k race will be run over the bridge (from West Bank to East Bank). The Branch has several members that will be active in the planning, the ribbon cutting, and hopefully the race as well. If you are in the area, we encourage you to please come out for this landmark occasion. If you are interested in participating in the 5k, information can be found at http://hueyprun.com/, all are welcome to participate in the race. The first 1500 registrants will receive a commemorative hat.

The Board and Branch are also excited to note that Ryan Gerken, an undergraduate student at UNO submitted and presented a paper (Credentials and Competency as Qualifications in the 21st Century) at the Deep South conference last month. ASCE's Committee on student Members (CSM) has named his paper the Second place winner of the 2013 National Daniel W. Mead Student contest. This is a great achievement for Ryan and he has made UNO and ASCE's student chapter proud.

We are still planning our 50th Anniversary Celebration of the New Orleans Branch. We have set up a special email address, asceno50@gmail.com, to collect input from all ASCE members; so please, send us your civil engineering memories of the past 50 years. Pictures and videos are welcomed and encouraged.

It is already that time of year where the Board begins to look for nominations for next year's board. If you are interested in being a part of next year's New Orleans Branch of ASCE, please forward your information to Jim Martin (jmartin@gecinc.com). All nominations are welcomed.

BATON ROUGE BRANCH

By Rudolph A. Simoneaux, III, PE, Branch President

It's hard to believe that Spring is already upon on us! It's been a very busy first quarter for the Baton Rouge Branch in 2013. We had another well-attended Lunch Meeting in February with over 90 members showing up. LAPELS presented engineering ethics rules, regulations, and case studies to our membership. Additionally, we continued our annual tradition by celebrating Engineer's Week with LES by participating in the annual E-Week Banquet. The Branch awarded its annual scholarship at the Banquet to LSU Civil Engineering Junior Nélida Herrera. The scholarship selection was very competitive this year since we increased the award to $1000. Congratulations to Nélida!

LSU Civil Engineering Junior Nélida Herrera is awarded annual scholarship by Branch President Rudy Simoneaux

The big event of this quarter was the Baton Rouge Branch's participation in the 2013 Deep South Student Conference. This annual event, which includes events such as the Concrete Canoe, Steel Bridge, and Survey student competitions, was hosted by Southern University and held in Baton Rouge. I want to begin by recognizing the Southern University students for our their hard work and commitment in organizing and hosting this event. I'd also like to thank our Branch Practitioner Advisor, Kahli Cohran, for all his hard work.

Civil Engineering students from Tennessee, Arkansas, Mississippi, and Louisiana all gathered in Baton Rouge the weekend of March 22 to compete for the Deep South awards, and spots in the National events. The weekend kicked off on Thursday evening with a joint meeting between the Baton Rouge Branch and Deep South student participants at the Renaissance Hotel. Local firms and government agencies participated by setting up career fair booths. The students returned the favor by setting up their Concrete Canoe/Steel Bridge displays and showing off their hard work. The keynote speaker was Maury Chatellier of CPRA who showed some of the larger scale Coastal Restoration projects currently underway. The audience included over 175 attendees, which included a mix of Baton Rouge Branch members and Deep South students.

As a former student participant in the Concrete Canoe competition (circa 2002), I can personally attest that this was one of the most rewarding experiences of my college career. I was fortunate enough to be able to judge this year's Concrete Canoe competition. I was astounded by the amount of hard work, dedication, and professionalism these student teams displayed throughout the weekend. It was even more rewarding to be able to experience this as judge. I highly recommend to our members that if the opportunity to judge one of these events ever comes up to volunteer.

The Baton Rouge Branch would like to congratulate this year's Deep South Winners:

Concrete Canoe – Mississippi State University
Steel Bridge – Arkansas State University
Surveying – McNeese State University
Mead Paper – Mississippi State University
Mystery Event (Quiz Bowl) – Arkansas State University

Our April Branch Meeting included a very informative presentation on Site Optimization Modeling that was attended by over 60 of our members. The Branch also recognized one of its supportive firms for their involvement in ASCE Younger Member functions. As a means of fostering individual Younger Member participation in Society activities, the ASCE Committee on Younger Members (CYM) has developed a program to help Branches recognize those employers who encourage their Young engineers to get involved in ASCE activities. For the 2012 term, the Baton Rouge Branch nominated Stantec (formerly ABMB Engineers) for the CYM National Superior Employer Recognition Award. In February, ASCE National CYM notified the Branch that Stantec won the award and sent us a certificate and letter of recognition, which we presented to them at the April Luncheon.

In May we held one of our biannual Joint Luncheons with LES. East Baton Rouge Mayor/President Kip Holden was our speaker.

Four Baton Rouge Branch Members served as judges for the Deep South Concrete Canoe Competition (left to right): Adam Smith (Past President), Jason Lanclos, Tyson Rupnow, and Rudy Simoneaux (Branch President)

The Southern University ASCE Team poses in front of their canoe during the Deep South Concrete Canoe Competition

The LSU ASCE Team begins the "Swamp Test" on their canoe during the Deep South Concrete Canoe Competition while judges look on

SHREVEPORT BRANCH

By Dave Rambaran, PE, Branch President

The **2013 Annual ASCE Louisiana Section Spring Meeting & Conference was held on April 18-19, 2013 at the Shreveport Convention Center** and was kicked off on Thursday morning with lots to see and interesting presentations. The ASCE conference has been a well-attended function for Engineers across the state and Tri State Area. There were 22 hours of presentation scheduled with a banquet lunch and a Meet & Greet on Thursday evening with lunch provided by the Section. This year we reduced the cost to our members in the spirit of "Giving Back to Our Members" more value for their membership. We know without our dedicated members this would not be possible.

The annual ASCE Shreveport Branch Classic Golf Tournament at Olde Oaks Golf Club will be held in the Fall this year. It will be a great time to cut loose, relax and play a little golf. On behalf of the Branch, I would like to invite Sponsored and Participants in this year's tournament. The funds raised from this tournament helps provide annual scholarships to Louisiana Tech students. Thank you for your continued support in our endeavors.

Louisiana
CIVIL ENGINEERING
Conference & Show

SAVE THE DATE!

Call for Potential Speakers and Exhibitors!

We are proud to announce the dates for the 23rd Annual Louisiana Civil Engineering Conference and Show. This event, a joint effort from the New Orleans Branch of ASCE and the Louisiana Chapter of ACI, is the premiere gathering for the Civil Engineering community in the Greater New Orleans Area. We are in the process of soliciting sponsors and exhibitors to establish the technical program for the fall conference which will be held on September 25-26, 2013, at the Pontchartrain Center in Kenner, Louisiana.

For additional information on the conference, please visit our web site at www.LCECS.org

Shreveport engineers and engineering companies are grateful that Bossier Parish Community College has started a 2-year program for Engineering. ASCE Shreveport Branch will support the students by inviting them to the lunches and functions and participating in their functions.

The students of Louisiana Tech had their Annual Banquet and ASCE Shreveport Branch awarded 3 scholarships to the outstanding Senior, David Chatelain; and, outstanding Juniors, Kari Madere and Kimberly Latino, in the amount of $1,000, $500, and $500 respectively. We are proud that the students of this college continue to excel and achieve.

Our past Secretary Haibo Cao, PhD, PE and President Dave Rambaran, PE attended the Leadership Conference in Road Island during the winter storm. It was a difficult trip and we hope in the future the venue will be in a more accommodating climate.

Robert Osborn of the Shreveport Airports presented to us "Aviation and Civil Engineering, why we matter". Again this presentation was well attended. Both our airports have seen growth and are undergoing renovations/ expansions and Robert is in the middle of it all. His presentation gave us valuable information on what engineers need to provide to be competitive with other airports and engineers in other regions.

ASCE Shreveport Branch was a sponsor for **Engineering Week for the LES annual Banquet.** We are very grateful for other engineering organizations that help us in promoting our discipline.

"Allowable Helical Anchor Application & Review of ICC-ES ESR-2794" Presentation by Jason Herron, Josh Lindberg, and David Parttridge and was one of the best-attended meetings in January. Our members are eager to learn new techniques and applications to better serve our clients and community.

I would like to thank our members for the great turnout this year and the participation of the engineering companies and the supporting suppliers. There have been so many times that individuals have stepped up to support our Branch when they see the need. The other officers and the past presidents have been the backbone of our success this year. I would like to thank Patrick Furlong, Elba Hamilton, Daniel Thompson, Mitch Guy, David Smith, Ali Mustapha and Hibo Cao for their support.

ASCE-SEI New Orleans Chapter News

By Om Dixit, PE, FASCE, Newsletter Editor

Since our report in February 2013 issue of this magazine, ASCE SEI New Orleans Chapter was busy hosting 2 seminars and has planned the following future seminars in New Orleans.

First seminar was held on February 26, 2013. SEI New Orleans Chapter invited **Jeffrey W. Coleman, PE, Esq** (Coleman, Hull & van Vliet, PLLP; Minneapolis, Minnesota) to present seminar ***"Lessons Learned: From Structural Problems that Ended in Litigation***". Coleman is unique combination of lawyer and an engineer. He cited several case studies to point out the deficient structural details and specifications. He advised the attendees to simply add all notes and instructions in Specification and/or on plans to avoid costly litigations. The seminar was attended by 67 members.

Second seminar of the 2013 David Hunter Lecture was held on April 4, 2013. SEI New Orleans Chapter invited **Basile G. Rabbat, PhD, SE, (Structural Engineering Consultant, Mt. Prospect, IL)** to present ***"What to Expect in the Reorganized ACI 318-14 Building Code".*** Over past 50 years the ACI 318 Concrete Building Design Code has become big and tedious to use and engineers have complained about it. ACI has listened to all these complaints and decided to reorganize the Concrete Building Design Code scheduled to be published in 2014. Dr. Rabbat showed examples of the various sections needed to be referred to for a concrete member design using 318-11 code. He also showed how the reorganization effort converts the Code from a behavior-based to a member-based design approach. Dr. Rabbat presented a summary of reorganized Code chapter contents including a new chapter on the design of diaphragms and collectors. The seminar was attended by 82 members.

ASCE SEI New Orleans Chapter sponsored the Coaches Lounge at the Regional Mathcounts competition held at the University of New Orleans and provided a few volunteers for managing the competition.

The ASCE SEI New Orleans Chapter sponsored awards at Greater New Orleans Regional Science Fair held in February 2013. The award winners were:

Junior Division

The First Place ($150) award was given to **Justin Hamilton** for his project *"How does the angle of a truss bridge affect the total amount of stress?"* The Second Place ($100) award went to **McKenzie Herron** for his project *"Arch and Beam Bridge Designs"*

Senior Division

The First Place ($150) award was given to **Richard Allen** of John Curtis Christian for his project **"***Weld Direction: Up, Down, Left or Right?"* The Second Place ($100) award was given to **Anthony Williams** of John Curtis for his project **"***Truss Bridge Choices?"*

This year the awards of $50 were also given to the Teachers of the first place project's school for encouraging their students to do a Structural Engineering project. These teachers were **Mary Crane** and **Cathy Boucvalt**.

The committee is looking for good topics and speakers for future presentations. Members with expertise in the field of structural engineering would be welcome to join the Executive Committee. For any suggestion and information on joining the Executive Committee, contact Chairman Anthony Goodgion, PE at agoodgion@lhjunius.com.

All seminars are held at the University of New Orleans. Seminar dates, pertinent information, and registration can be found on the New Orleans Branch website at www.asceneworleans.org. To add your name to our mailing list, e-mail Om P. Dixit, PE at om@fenstermaker.com.

SEI New Orleans Chapter Seminar presenters, Jeffry Coleman, Esq, PE and SEI New Orleans Chapter Member Om Dixit, PE

2013 David Hunter Lecture presenter Basil Rabbat, PhD, SE receiving the plaque from Richard VanWotten, PE, of Linfield Hunter Junius with seminar coordinator Om Dixit, PE on the right

UNIVERSITY OF LOUISIANA AT LAFAYETTE

By Callie Coulon, Student Chapter President

The student chapter has continued to excel through this spring semester. Numerous students have put forth great effort in participation and service to the community as well as the University.

The students attended the Annual Joint Engineering Society Conference held January 23rd and 24th in order to assist the Louisiana Engineering Society with any help they needed during the conference. Students introduced the speakers before their presentation, handed out documents, and enjoyed the presentations and company displays.

Members of the student chapter have also made efforts to attend the monthly ASCE Acadiana Branch meetings. The student chapter has also held meetings this spring semester. Guest Speaker, Lynne Roussel, PE from Terracon Consultants, Inc. in Baton Rouge gave a very informative geotechnical presentation this March. The April speaker was Brandon Hays from the Concrete & Aggregates Association of LA on mass concrete.

ULL's College of Engineering hosted their Annual Engineering Week this past month on March 18th – 22nd. The Civil Engineering Department participated in various events throughout the week with the main focus being on Wednesday, Engineering and Technology Expo Day. For Engineering Day, approximately 1,200 high school students were in attendance along with approximately 40 companies from around the area. The week was definitely a success leading to the Civil Department winning third place in Quiz Bowl, Mystery Design, Best Student Project, and second place overall for the Dean's Cup.

Engineering Day in the Highways lab while students were on tour of the Civil Engineering Department

The Annual Deep South Conference was held March 22nd and 23rd at Southern University in Baton Rouge, LA. ULL had 30 students in attendance along with Dr. Chris Carroll and Dr. Matthew Fadden. The Surveying Team did well finishing with a 0.02 error of closure on their leveling circuit. The Concrete Canoe Team successfully passed all the tests and competed in races. The Steel Bridge Team placed 1st in Structural Efficiency and 2nd overall, which qualifies them for the National Steel Bridge Competition in Seattle, Washington this summer.

UL Lafayette Concrete Canoe Team at the Deep South Conference

UL Lafayette Steel Bridge Team at the Deep South Conference

As the steel bridge team prepares to compete at the national competition in Seattle there is a lot of work to be done. The team continues to reevaluate the design of their bridge looking for any area for improvement including reduction of weight as well as an improved assembly time. The steel bridge team is working hard to represent not only the department of Civil Engineering but the University as well. The National Competition will be held May 31-June1 in Seattle, WA and the costs to get there are mounting. The Steel Bridge team in conjunction with the ASCE student chapter is asking for assistance with these costs. Any donation is accepted and is very much appreciated as the team attempts to elevate the reputation of our department and university.

The student chapter wrapped up a successful year with an ASCE/Chi Epsilon banquet in May. The chapter would also like to congratulate the nineteen seniors that graduated this May and wish the steel bridge team best of luck as they embark on the national competition.

If you wish to contact the UL Lafayette Student Chapter, the email address is ullafayetteasce@gmail.com.

UNIVERSITY OF NEW ORLEANS

By Stuart Hart and Christina Melara, UNO ASCE Steel Bridge Co-Captains

On February 22, 2013, the Civil and Environmental Engineering (CEE) department at The University of New Orleans (UNO) organized the ***Tests of Engineering Aptitude, Mathematics and Science (TEAMS)*** competition for local High School students to showcase their ***Science Technology Engineering and Mathematics (STEM)*** skills. Organized by Technology Student Association (TSA), TEAMS is an annual competition that gives middle and high school students an opportunity to discover engineering, and how knowledge in Engineering can help them make a difference in the world. An annual theme tailored by TSA provides the focus for the competition. In 2013, the theme of the competition is "Engineering a Secure Cyberspace." During the competition, students work collaboratively to solve real-world engineering challenges, applying their mathematics and science skills in practical and creative ways. The competition winning teams vie for local, state, and national rankings, and awards with the chance to be named "Best Overall" in the country.

This year, at UNO, Forty (40) students representing St. Mary's Dominican High school, Northshore High school, and De La Salle High school competed in both 9/10 and 11/12 levels and applied their classroom knowledge to challenges facing our global society. Each team participated in a multiple-choice-question session in the morning and a short essay writing segment in the afternoon. Dr. Gianna Cothren and Dr. Malay Ghose Hajra, faculty members of the CEE department, also organized a mystery event during the lunch break and challenged each team of students to build a tower from recycled materials that will withstand the weight of a tennis ball and sustain wind load from a portable fan. Northshore High School secured first place in both 9/10 and 11/12 levels of the TEAMS competition. They also took home the trophies from the mystery event in both categories. At the end of the event, each student participant was awarded a certificate of participation from TSA in recognition of their dedication, hard work, and commitment to STEM education.

American Society of Civil Engineers – New Orleans chapter co-sponsored the event with CH2M Hill to cover expenses for breakfast, lunch, and the student awards. The high school students and their teachers had a great time at the event and plan to participate in next year's event at the University of New Orleans.

Ryan Gerken, UNO Student Chapter Member, was notified by the ASCE Director of Educational Activities, Ping Wei, MA.ED, CAE, A.MASCE April 3, 2013 that the Committee on Student Members had selected his paper "Credentials and Competency as Qualifications in the 21st Century" for the second place winner of the 2013 National Daniel W. Mead Student Contest. In recognition of this honor, Ryan was awarded a check for $800. Great Job Ryan! Thanks also go out to the UNO Student Advisor Dr. Gianna Cothren.

— CALENDAR OF EVENTS —

JUNE 2013	
June 2-5, 2013	TAC Cold Regions 2013 – Anchorage, AK
June 9-12, 2013	T&DI Highway and Airfield Pavement Conference – Los Angeles, CA
June 23-26, 2013	Pipelines Conference 2013 – Ft. Worth, TX
AUGUST 2013	
August 25-28, 2013	COPRI-PORTS Conference 2013 – Seattle, WA
OCTOBER 2013	
October 10-12, 2013	143rd Annual Conference 2013 – Charlotte, North Carolina
October 18, 2013	Lake Pontchartrain Causeway will be dedicated as an ASCE National Historic Landmark
NOVEMBER 2013	
November 1-3, 2013	T&DI Green Street & Highways Conference – Austin, TX
November 17-20, 2013	T&DI ICUTS – Paris, France

Please check for latest updates online: **http://www.lasce.org/calendar.aspx**

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