



THE LOUISIANA CIVIL ENGINEER

ACADIANA BRANCH • BATON ROUGE BRANCH
NEW ORLEANS BRANCH • SHREVEPORT BRANCH
Journal of The Louisiana Section

Volume 14 • Number 3

May 2006

LSU Student Chapter advances to national competitions

NEWS:

Politics and levees
Tulane dumps engineering
Hurricane conference/forum













FUTURE:

Louisiana Civil Engineering Conference
and Show in Kenner
September 14-15, 2006
Section Annual Meeting
in New Orleans
September 15, 2006

FEATURE:

Natural channel design technology

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CONTENTS

President's Message	4
Case for natural channel design in Louisiana	5
News from the Branches	8
Student Chapter News	11
Section News and Information	15
Politics and levees	16
Tulane dumps engineering	17
Section launches website	21
Allocate your assets to offset market swings	22
Professional Listings	2, 27
Services and Suppliers	28

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PUBLISHER:

Franklin Press, Inc., Baton Rouge, LA

The Louisiana Civil Engineer quarterly journal is an official publication of the Louisiana Section of the American Society of Civil Engineers with an average circulation of approximately 1900. The Section does not guarantee the accuracy of the information provided, does not necessarily concur with opinions expressed, and does not claim the copyrights for the contents in this publication. Please submit letters and articles for consideration to be published by facsimile to (225) 242-4552, by e-mail to jimporter@dotd.louisiana.gov, or by mail to the Publications Committee c/o James C. Porter, PE • 2608 Terrace Avenue • Baton Rouge, LA 70806-6868.

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Zone II consists of Districts 6, 7, 9, 10 and 14. District 14 consists of the Louisiana, Mississippi, Alabama and Georgia Sections.

President's Message

Kim M. Garlington, PE

These messages seem to get closer and closer together and it is more difficult for me to find meaningful words of presidential wisdom to share with you. After the last 9 whirlwind months following the 2 worst natural disasters in Louisiana's history, it is amazing how thankful I am for the slower... the normal... period of time I have experienced in the last few weeks. There seems to be some order returning to most of the lives around me. I know there are still many of our displaced citizens who are dealing with daily hardships and they are trying to achieve the *normal* existence they were experiencing prior to the hurricanes.

I believe that one of the best things we can do to recover from these disasters is to try and find this normal existence again through finding joy in the simple things and positive events as they may occur. The events such as our family functions — weekend soccer/baseball games; dance/piano recitals — the return of crawfish season, a late night on Bourbon Street, the news of the reopening of a much-needed oil refinery that will lead our citizens home again, and the gradual return of the Louisiana flavor to life and the *laissez les bon temps rouler* attitude to our affected communities.

At this time the civil engineering community is leading the way repairing and improving the infrastructure that will facilitate returning life back to as *normal* as it may be possible. I know at the Louisiana DOTD projects in the storm-affected areas have been fast-tracked in the design and construction phases to get the infrastructure back in service to facilitate the recovery. I have been extremely proud of having a small part in this process by serving as a member of the teams in the DOTD that have put forth these massive efforts.

There is a great feeling of accomplishment in applying my engineering skills to serve fellow citizens and to be part of facilitating the recovery — rebuilding of lives and communities — with an infrastructure that will last for decades and directly impact the quality of life. There are civil engineers working on roads and bridges, levees, buildings, ports, commercial properties, pumping stations, and water and waste water treatment systems. Engineers are involved in updating the CORS network, the FEMA flood map and the building codes, and assessing the reasons why and how the infrastructure survived or failed.

Some events indicate that we as a Section are on the path to normalcy. The New Orleans Branch has set the date for the 2006 Louisiana Civil Engineering Conference and Show it has sponsored annually, the Baton Rouge Branch hosted a successful Section Annual Spring Meeting and Conference in March where the election of the Section's Board of Directors for the 2006-2007 administrative year occurred, the Section website is up and running, and the LSU Student Chapter brought home the bacon winning the Steel Bridge and the Concrete Canoe competitions during the Deep South

Conference. Kudos for all of these joys of normalcy in our professional lives!

May I encourage you to make plans now to attend the Louisiana Civil Engineering Conference and Show in September? It is back in its traditional home — the Pontchartrain Center in Kenner. This will be a huge milestone in the recovery of the New Orleans Branch and the Louisiana Section, and it is an important microcosm of the recovery in Louisiana. Tell your peers who are not Section members about this uplifting event and encourage them to participate. There will be, as always, the full slate of high quality technical sessions, a full range of vendor contact opportunities; the opportunity for camaraderie and networking with fellow civil engineers. All this and PDHs too! There will be a lot to talk about at this Conference.

I am pleased that the Section Annual Meeting once again will be hosted by the New Orleans Branch the Friday evening following the Conference. This is when installation of the newly elected Board members occurs with the beginning of the 2006-2007 administrative year. The presentation of the Section's annual awards to the recipients who are among the outstanding civil engineers in Louisiana is celebrated also. There was some discussion about relocating the Section Annual Meeting to where it would not likely be interrupted by another hurricane. I believe that it is extremely important for this tradition to remain in place. More normalcy... More joy!... I am encouraging as many of the new Section officers as it is possible to attend this historic event for our profession and the Society demonstrating the resilience of our civil engineering community.

Norma Jean Mattei, PE, agreed to serve as the Section's first Region 5 Governor. I have submitted her name as the Section's nominee to District 14 Director Steven C. McCutcheon, PE, who will submit her nomination for approval to the national Board of Direction during its July meeting. Norma Jean is the Past President of the Section and has been a steady influence for me during my term as your President. I believe that her upbeat attitude, ethical constitution, technical prowess as a professor of civil engineering, personal and professional interests, and status as a licensed engineer will make her an excellent representative of the Section as a member of the new Region 5 Board of Governors. Please join me in congratulating Norma Jean in anticipation of the Board's approval of her nomination.

During the last Section general membership meeting a discussion was held concerning several bills to be considered by the state legislature. They could have a significant effect on the practice of engineering in Louisiana. Thomas A. Stephens, PE, reported on several bills and I would encourage you to be familiar with and follow them.

- HB 284 provides for significant changes in the engineering registration law
- HB 826 concerns qualification-based selec-



tion

- HB 398 revises tort liability law affecting engineers requiring an affidavit from a third party professional to support any suit against an engineer, surveyor or architect
- HB 1094 is a duplicate of HB 398
- SB 232 attempts to limit design fees charged to rural water systems to no more than 6 percent of the construction costs and
- HB 689 provides protection for land surveyors from trespass claims during the course of their work.

I have asked Tom to follow the evolution of these bills and file a report providing their final disposition during the Section Board meeting scheduled in May.

A final note... The previously mentioned sign of normalcy returning to the Section is its website. It is now up and running with a new address — www.lasce.org. I invite you visit it frequently and familiarize yourself with its features and the information available as they continue to evolve. Some of the features are

- contact information for the Section leadership
- governance documents
- bylaws and constitutions
- student chapter information
- a calendar of events
- Section news

(Continued on Page 12)

About the cover: The LSU ASCE Student Chapter demonstrated what focus, team effort and hard work can accomplish. It swept the concrete canoe and steel bridge competitions during the recent Deep South Conference hosted by the University of Memphis in Memphis, Tennessee. By virtue of these wins in the regional competition they are eligible to compete in the national competitions. Pictured are the Chapter's first place competition concrete canoe "manned" by its co-ed racing team (top) during the concrete canoe racing event and the Chapter's first place competition steel bridge and its construction team (bottom) during the timed construction event. For more details about LSU student chapter and the other student chapters in the Louisiana Section, see the Student Chapter News feature.

Case for natural channel design in Louisiana

By Lee W. Forbes, PE

The concept of *natural channel design* (NCD) only recently has been introduced to the water resources engineering community in Louisiana. Understandably, our water resource infrastructure improvement efforts have been focused on immediate needs such as coastal wetland restoration, drainage, and flood control. There has been little opportunity to examine more closely the effectiveness and the long-term sustainability of Louisiana's extensive and intricate network of natural and improved conveyance channels. They are a seemingly boundless collection of

- rivers
- bayous
- passes
- creeks
- cuts
- canals
- coulees
- swales
- ditches and
- stormsewers

that handle and convey the vast amounts of surface waters with which Louisiana is both blessed and cursed.

Traditional flood control and drainage improvement design processes in Louisiana have focused on maximized conveyance to relatively unconfined outfalls such as the lakes and larger rivers, or to constructed regional detention areas and basins. These designs are rooted in attempts to employ channel configurations of the simplest

geometric forms. This reasonably ensures that the flows through the resulting structures during larger storm events can be predicted accurately and thereby most effectively minimize the potential for flooding. However, such channel designs fail to recognize and manage the intrinsic variability associated with storm flows that — as a result — cannot be accommodated adequately by the resulting engineered structures. It will be attempted herein to demonstrate that it is incumbent on the engineer responsible for water resource design to understand and embrace a new paradigm — natural channel design. This is especially true here in Louisiana with our extensive and intricate network of conveyance channels.

Natural channel design

Natural channel design is an attempt to provide water resource improvements in — and restore impaired streams as shown in Figure 1 to — a state of natural channel stability or *dynamic equilibrium*. This is done through the understanding of *fluvial morphology* and its application via *hydraulic design methodologies*. *Fluvial geomorphology* is the science of the formation of riverbed, flood plain, and stream forms by the action of water. Though it has only become recognized in the United States in the last 10 years, this science is a vital component of water resources management and it is long established, well developed and documented through the extensive studies and writings of Luna B.



Leopold, M. Gordon Wolman, E.W. Lane, David L. Rosgen, Richard Hey, and other hydrologists and fluvial geomorphologists.

The schematic balance shown in Figure 2, developed by E.W. Lane (after Lane, 1955), presents an analogous, qualitative model of the predominant factors affecting stream equilibrium and the natural response of a channel to alterations in these factors in the form of degradation and aggradation. River systems express an inherent and entropic tendency toward minimum total work and uniform work rate in response to the natural variations of water and sediment loads that enter the system.

Natural channel stability is characterized by the ability of a stream — over time and in its present climate — to transport the natural variation of water and sediment loads produced by its watershed in a manner that it maintains its



Figure 1. Post-construction scene of a typical stream restoration project. (Image courtesy of Fuller, Mossbarger, Scott, May Engineers.)

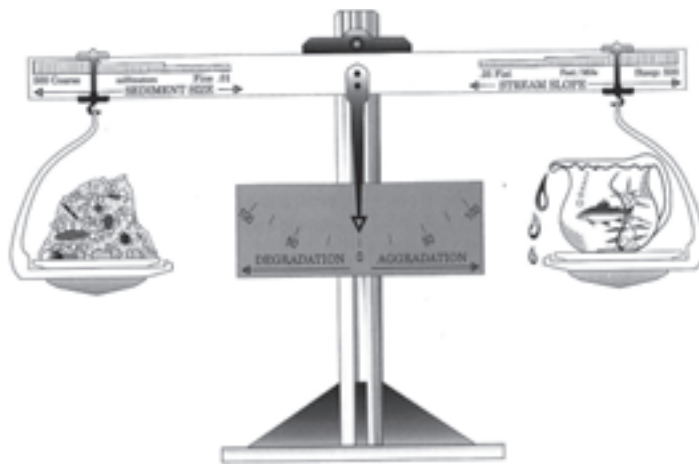


Figure 2. Lanes relationship of stream stability and the factors that affect degradation and aggradation (After Rosgen, 1996).

Lee W. Forbes, PE, earned his BS degree in petroleum engineering from LSU in 1985 and his MS degree in civil engineering from LSU in 1988 with emphasis in environmental engineering. Forbes is a licensed engineer in Louisiana, Texas, Arkansas, North Carolina, and Michigan. Currently employed as a Senior Engineer with Geomatrix Consultants in Houston, Texas, he has over 15 years' experience in private practice with emphasis on environmental assessment and remedial design. In the mid-1990s, Forbes shifted his focus to natural channel design and sustainable watershed management with his work on several landmark projects in Michigan, full-delivery stream restoration projects in North Carolina and the development of natural channel design methodologies for the Gulf Coast region in Louisiana and Texas. He currently serves on the national ASCE Technical Committee for Urban Stream Restoration where he endeavors to integrate the disciplines of natural channel design into conventional engineering practice to improve and sustain water resources.



(a) Subdivision development. (Image courtesy of USDA Natural Resources Conservation Service.)



(b) Sheep grazing. (Image courtesy of USDA Natural Resources Conservation Service.)



(c) Highway construction. (Image courtesy of USDA Natural Resources Conservation Service.)



(d) Logging operations. (Image courtesy of USDA Natural Resources Conservation Service.)



(e) Earthmoving operations. (Image courtesy of USDA Natural Resources Conservation Service.)



(f) Mechanized crop farming. (Image courtesy of USDA Natural Resources Conservation Service.)

Figure 4. Examples of land use and development practices that can result in hydromodification and stream impairment.

dimension, pattern and profile without either aggrading nor degrading (Rosgen, 1996). From a hydrodynamic perspective, the form and dimensions of a stable, natural channel is directly associated with the *bankfull discharge* also

referred to as the *channel-forming discharge*. *Bankfull discharge* is the discharge rate usually expressed as cubic feet per second at which channel maintenance is the most effective in moving sediment — forming or removing bars,

forming or changing bends and meanders, and generally doing the work that results in the *average* morphologic characteristics of the channel (Dunne and Leopold, 1978).

From a geomorphological perspective, the

average morphologic characteristics of the channel that result from the bankfull discharge are represented by the *bankfull channel*. Figure 3 depicts a typical natural, stable stream system, including the baseflow channel, bankfull channel and the adjacent floodplain. *Baseflow* is the continuous flow in perennial streams associated with the slow recharge to the stream from the adjacent groundwater table. In intermittent streams, the baseflow may disappear completely during dry periods as the groundwater table drops below the stream bottom elevation. In stable channels, the bankfull channel is completely occupied during the bankfull discharge. Any discharge rates higher than the bankfull discharge will overflow the bankfull channel onto the adjacent floodplain, where the excess flows immediately experience a drastic reduction in flow velocity dropping/depositing their entrained solids as sediment over the floodplain. This hydrodynamic relationship between the bankfull channel and its adjacent floodplain are critical to the ability of the channel to achieve and maintain natural channel stability in response to the natural variations of water and sediment loads.

Hydromodification

A primary goal of the Clean Water Act of 1972 (CWA) is to restore surface waters to a level of cleanliness suitable for their intended uses. When addressed holistically, it is obvious that in Louisiana, as in most other states, one

particular, dominant, and systemic condition can be identified that must be addressed to meet this goal, namely hydromodification.

Watershed *hydromodification* is the result of the land use and development practices that have typically been employed to accommodate our country's growth. Several examples of these practices are shown in Figure 4. Silviculture, farming, highway and infrastructure construction, urbanization and suburbanization all result in watershed hydromodification. A *watershed*, as schematically depicted in Figure 5, is an area of land that is a bounded hydrologic system or a drainage basin within which all living things are inextricably linked by their common water course and where, as humans settle, this simple logic demands that they become part of a community (Powell, 1895).

In general, the exposed landscapes and linear, manmade drainage ditches associated with civil works result in rapid erosion of surface soils, entrainment of the eroded sediments in stormwater runoff, and the rapid conveyance of these sediment-laden stormwaters to the receiving rivers, streams, and channels. The unfortunate result is hydrodynamically unstable receiving channels with *flashy* stormwater flows as characterized by the two hydrographs in Figure 6 showing the difference in flow between a typical stable, natural channel and an urbanized channel responding to hydromodification. Flashy stormwater flows result in flash floods as

(Continued on Page 23)

Definition Quick Reference

Natural channel design

is an attempt to restore impaired streams to a state of natural channel stability, or dynamic equilibrium, through the understanding of fluvial morphology and its application via hydraulic design methodologies.

Dynamic equilibrium

is the entropic tendency of river systems toward minimum total work and uniform work rate in response to the natural variations of water and sediment loads to the system.

Fluvial geomorphology

is the science of the formation of riverbeds, flood plains, and stream forms by the action of water.

Natural channel stability

is the ability of a stream, over time, in the present climate, to transport the sediment and flows produced by its watershed in such a manner that the stream maintains its dimension, pattern and profile without either aggrading nor degrading. (Dave Rosgen, 1996)

Bankfull discharge

corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which moving sediment, forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphologic characteristics of the channel.



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2006 National Membership Annual Dues Schedule:

FELLOWS	\$235
MEMBERS	\$200
ASSOCIATE and AFFILIATE MEMBERS: Recent recipients of a baccalaureate degree based on the year the degree was granted:	
Through first year after graduation:	\$50
Second year after graduation:	\$75
Third year after graduation:	\$110
Fourth year after graduation:	\$150
Fifth year after graduation and thereafter:	\$200
STUDENT MEMBERS:	\$0 (free)

News from the Branches

SHREVEPORT

By Ashley T. Sears, EI, President

The January Branch membership meeting held in the Petroleum Club of Shreveport was well attended. Our guest speaker was Gene Sims of Miller Fall Protection, a subsidiary of the international company, Bacou-Dalloz. He made an informative presentation titled *The ABC's of Fall Protection* that proved to be interesting and full of surprising statistics! Gene provided us with the product information available for the equipment that can prevent falls and even deaths on job sites. Thanks, Gene, for educating us on such an important issue!

Chapter President-Elect Elba Hamilton and Treasurer Rusty Cooper traveled to Tampa, Florida in January to attend the ASCE Zone II Leadership Conference. Elba and Rusty brought back valuable information about ASCE resources for Branch leadership and their availability. Of particular interest was the information about

- diversity in the ASCE
- recruitment of young engineers and
- effective communication with members.



From left are Branch President Ashley Sears, Louisiana Tech scholarship recipients Kristin Jerome and Amanda Marshall, and Section President-Elect Tim Ruppert.

— net surfing —

ASCE national organization:

<http://www.asce.org>

Note: Most ASCE-related pages can also be addressed through links at this website. All section and branch officers are listed at:

<http://www.asce.org/gsd/localofficers>

ASCE Acadiana Branch:

<http://www.asceacadiana.net>

ASCE Baton Rouge Branch:

<http://branches.asce.org/batonrouge/index.htm>

ASCE New Orleans Branch:

<http://www.asceno.org>

Louisiana Tech ASCE Student Chapter:

<http://www.latech.edu/tech/orgs/asce/>

UNO ASCE Student Chapter:

<http://www.uno/~engr/asce/asce.html>

ULL ASCE Student Chapter:

<http://www.engr.usl.edu/cive>

Tulane ASCE Student Chapter:

<http://www.tulane.edu/~asce>

LSU ASCE Student Chapter:

<http://www.ce.lsu.edu/~asce>

ASCE Louisiana Section:

<http://www.lasce.org>

Louisiana Engineering Society:

<http://www.les-state.org>

Louisiana Professional Engineering and Land Surveying Board:

<http://www.lapels.com>

Thanks, Elba and Rusty, for attending the Conference. Your willingness to lead effectively and expedite the growth of our branch through the training and networking with your fellow ASCE leaders provided by this Conference is truly appreciated.

Thank you to all who attended the February Branch membership meeting at the University Club of Shreveport in the Morgan Keegan tower downtown. The meeting was the most successful in numbers attended this year. We were pleased to have guest speaker Richie Follette of Grace Construction Products who informed us about the strength and other characteristics of fiber reinforced concrete versus conventional reinforced concrete. Richie gave a fantastic presentation and we all left with a much greater understanding of the benefits of using fiber reinforced concrete.

During the February membership meeting, we were excited to have several civil engineering students and professors from Louisiana Tech in attendance with us. We were also pleased to present the Life Member certificate to Freddy L. Roberts, PE, who is the T. L. James Eminent Scholar Chair and a Professor of Civil Engineering at Louisiana Tech University. Roberts has been a professor of engineering at Louisiana Tech for several years and many members of the Shreveport Branch studied under his tutelage. What a privilege it was to be able to present a previous professor with his ASCE Lifetime Achievement Award! Congratulations, Dr. Roberts.

The April membership meeting will be hosted once again in the Associated General Contractors' building on Southern Avenue near

downtown. In our search for a new venue, this location has so far proven to be the most comfortable and convenient. We will have lunch catered by Podnuh's and a presentation by guest speaker Steven Manning of Shoreguard. We look forward to Steven's presentation and are eager to learn more about sheet piling.

As the Chapter leadership plans for the spring, we look forward to our annual fund raising golf tournament. This year's tournament is scheduled for May 8th at Southern Trace Country Club in south Shreveport. Each year, we hold this tournament to raise money for the two \$500 scholarships the Chapter presents annually to Louisiana Tech Civil Engineering students.

Past President Kurt Nixon and I traveled to Louisiana Tech February 13th to present the Branch's two annual \$500 scholarships to the civil engineering student recipients. These scholarships are presented during the students' Winter Banquet. One scholarship is awarded to an outstanding junior and the other to an outstanding senior. The student recipients are recommended to the Branch by their professors and this year's recipients were

- **Amanda Marshall**, Outstanding Junior and
- **Kristin S. Jerome**, Outstanding Senior.

The guest speaker for the Winter Banquet this year was our own Section President-Elect, Timothy M. Ruppert, PE. It was a pleasure to have Tim present the students in attendance with the information regarding hurricanes and their characterization by *category* and then answer the many eager questions his presentation inspired from the students and professors in the audience. Fantastic job, Tim!

BATON ROUGE

By Thomas T. (Tommy) Roberts, PE, President

An ongoing issue being discussed is the Baton Rouge Engineers Selection Board Task Force. The Task Force had two meetings, and developed and presented a draft report to the Metro Council's Finance and Executive Committee on March 12th. The Task Force has since met two more times, completed its review and the final report and forwarded it for consideration of the full East Baton Rouge Parish Metropolitan Council. The only significant change from the draft report was the implementation of a score sheet. A score sheet will be included in the selection process for a trial period. If the process change is positive, it will become a permanent part of the selection process. The final report was on the agenda of the April 12 Council meeting and deferred to allow more review time. It is scheduled to be brought before the Metro Council on April 26 for review and consideration for implementation.

There have been quite a few significant events concerning civil engineers here in Baton Rouge during the first part of 2006. In February, the Branch joined the Baton Rouge Chapter of the Louisiana Engineering Society for its annual Engineers Week banquet to celebrate the accomplishments of the engineering profession. During this event, held at the Baton Rouge Country Club, the Branch awarded 2 scholarships to civil engineering students. One student

was from LSU and the other from Southern University. On behalf of the Branch I wish to express our appreciation and gratitude to the Baton Rouge Chapter of the LES for the opportunity to participate in this event.

In March, the Branch hosted the Section Annual Spring Meeting and Conference. I would like to thank everyone who attended for their support and I hope that they enjoyed the Conference as much as I did. Wednesday evening, we had a unique icebreaker social function on the roof garden terrace of the Tsunami Restaurant that overlooks the Mississippi River. The following 1-1/2 days were packed with interesting technical sessions that were presented by various engineers and others who represent numerous organizations throughout Louisiana. We also enjoyed the presentations of prominent keynote speakers during the Conference. They including Scott Angelle, Secretary of the Louisiana Department of Natural Resources, who stressed his undying sense of "passion and focus," State Senator Walter Boasso who discussed his efforts to consolidate the levee boards in Louisiana, and a U.S. Army Corps of Engineers representative from Dan Hitchings' office. On behalf of the Branch, I would also like to thank the speakers and presenters for taking the time out of their busy schedules to inform and educate us.

Additionally, on behalf of the Branch, I would like to thank Branch Past President André M. Rodrigue, PE, for coordinating the entire conference. He was individually responsible to put on this event and I am sure he received much support from his fellow employees from ABMB Engineers and we owe him and them much gratitude. Thanks, Andre!

During the April Branch membership meeting and luncheon, we were joined by Baton Rouge Mayor-President Melvin "Kip" Holden. He has been kind enough to speak to the Branch on a yearly basis, and we are very grateful that he is willing to take this time out of his busy schedule. He discussed several issues pertinent to the engineering profession in East Baton Rouge Parish. They included the

- Green Light Plan
- Baton Rouge Sewer Rehabilitation Project and
- need for a North-South bypass route.

Following the luncheon, Bryan K. Harmon, PE, Chief Engineer for the City-Parish Department of Public Works, made a presentation regarding drainage design requirements for submittals to the DPW. We are very appreciative of both the Mayor and Bryan for their informative presentations.

ACADIANA

By Dax A. Douet, PE, President

The Branch is planning its program to be implemented in April that will promote the civil engineering profession as a career choice for high school students. This program is focused on introducing high school juniors to the opportunity and challenge in the field of civil engineering. In May, the Branch will join both Lafayette Chapter of the Louisiana Engineering Society and the Lafayette Section of the IEEE in a jointly hosted spring crawfish boil at Girard Park in Lafayette.

The Branch has been moderately active over the last couple of months with membership meetings in March and April. The March membership meeting featured a presentation by Walid

R. Alaywan, PE, with the Louisiana Transportation Research Center. Alaywan's presentation summarized all of the current research projects that are active under the auspices of the LTRC.

The April membership meeting featured Tony R. Tramel, PE, Director of Transportation for the Lafayette Consolidated Government. He discussed a technology that the City is considering using. It is an automated means to detect vehicles running red signal lights at critical intersections in the City of Lafayette. It includes digital cameras that capture the images of the vehicles in the act of running red signal lights.

The Branch would like to express its special

congratulations to Jasmine Galjour, a student in civil engineering at the University of Louisiana at Lafayette, for being selected and recognized as the Outstanding Civil Engineering Senior Student by the Louisiana Section. The announcement was made during the awards banquet that was part of the Section Annual Spring Meeting and Conference that was recently held in Baton Rouge. Jasmine as a student member in both has actively participated in the University's ASCE and LES student chapters. Through her leadership and service she has been instrumental in keeping them vital organizations in the university community while maintaining an outstanding grade point average.

NEW ORLEANS

By Deborah Ducote Keller, PE, Past President

Hurricane Katrina continues to affect the New Orleans Branch as our membership deals with their personal losses and/or hectic work schedules for recovery and rebuilding projects so closely associated with civil engineering. Chapter President William H. (Bill) Sewell, PE, and his fellow Branch officers

- Christopher L. Sanchez, EI, President-Elect
- Ronald L. Schumann, PE, Vice President
- Nathan J. Junius, PE, Treasurer

- Benjamin M. Cody, PE, Secretary
 - Muhammed Tavassoli, PE, Director and
 - Jonathan G. McDowell, PE, Director
- continue to juggle the more pressing obligations in their lives and work with their ASCE duties to keep the Branch functioning.

The Branch held its first post-Katrina membership meeting and luncheon on March 22, 2006 at Byblos Restaurant. The topic was the FEMA Public Assistance Program presented by Ronald

Schumann of DMJM Harris. The FEMA is part of everyone's vocabulary whether personally or professionally, as was evidenced by the large turnout. For many Branch members, it was their first opportunity to catch up with each other since the storm.

For our student chapters, Tulane University and the University of New Orleans, it has been a challenging school year. The student chapters of

(Continued on Page 10)

Highlights of the Spring Meeting and Conference

The Baton Rouge Branch hosted the Section Annual Spring Meeting and Conference.

State Senator Walter J. Boasso, representing Senate District 1 that encompasses St. Bernard Parish, Plaquemines Parish, a portion of southeast St. Tammany Parish, was the Section's guest speaker during the awards banquet. Senator Boasso initiated the bill that resulted in the levee board reorganization law in southeast Louisiana that creates the Southeast Louisiana Flood Protection Authority - East and West Bank. His presentation was knowledgeable, candid and insightful — rare and refreshing for a Louisiana politician.

Boasso discussed in depth the political experience/frustrations he suffers as a businessman in the state senate both in the general sense and more specifically as they related to the levee reorganization bill. He reminded his audience that the constitutional amendments to institute the statutes passed have yet to be considered by Louisiana's voters. Boasso asked Section members to consider supporting the subject amendments that he believes represent the best compromise possible at this time in Louisiana's political climate.

(Continued from Page 9)

both civil engineering departments sent student members and faculty to the Deep South Conference in Memphis, Tennessee. Due to damage to equipment, laboratories, and the disrupted fall semester of 2005, they were not able to enter the competitions in which they usually participate. Many students are still displaced and living in temporary arrangements due to the loss of their homes or apartments.

ASCE's Hurricane Katrina Relief Fund will provide some financial assistance to both schools toward the cost of transporting their canoes to Memphis. The New Orleans Branch and its Structures Committee (Institute) will provide supplemental assistance, if it is needed. Due to the storms, the students were unable to successfully solicit sponsors — many of whom are displaced — to defray their expenses to participate in the competition.

A letter was sent to Chancellor Timothy P. Ryan of the University of New Orleans endorsing its College of Engineering and Civil and Environmental Engineering Department. During this time of financial crisis at our universities, the Branch felt compelled to be on record with the University's leadership regarding the importance of its engineering school to the community.

The Branch leadership looks forward to resuming its activities of monthly membership meetings and luncheons, jump starting the Louisiana Civil Engineering Conference and Show planned for September 14 and 15, 2006, and beginning its many other activities. Look for our continuing community outreach booth at the Jazzfest promoting civil engineering in the kids area.

The election of Branch officers will be held on schedule as usual this spring.

The Section members who became Life Members in 2006 were invited to the awards ceremonies during the awards banquet to receive their Life Member certificates. They and their respective home branches are

- **Raymond R. (Rick) Avent, Jr.**, PE (Baton Rouge)
- **Shashikant M. Suthar**, PE (New Orleans)
- **John C. Stone, III**, PE (New Orleans)
- **U. Jens Lorenz**, PE (New Orleans)
- **William W. Carver** (New Orleans)
- **Kenneth L. McMains**, PE (Acadiana)
- **Adrian J. Combe, III**, PE (New Orleans)
- **John R. Shortess**, PE (Baton Rouge)
- **C. Warren Stelly** (Acadiana)
- **Freddy L. Roberts**, PE (Shreveport)
- **Peter A.O. Casbarian**, PE (New Orleans), and
- **Herbert C. Sanders**, PE (New Orleans)

Accepting the Section's invitation, **Kenneth L. McManis**, PE, received his Life Member certificate during the Section's awards ceremonies.

The 2005 Outstanding Section member

awards that were scheduled to be presented during the 2005 Section Annual Meeting in New Orleans that was cancelled because of Hurricane Katrina were presented as part of the Spring Meeting and Conference awards banquet. They and their respective home branches are

- **Donald C. Makofsky**, PE (New Orleans), Outstanding Civil Engineer
- **Kurt M. Nixon**, PE (Shreveport), Outstanding Young Civil Engineer
- **Ali M. Mustapha**, PE (Shreveport), Outstanding Government Civil Engineer
- **William B. Conway**, PE (New Orleans), Lifetime Achievement
- **Norma Jean Mattei**, PE (New Orleans), Outreach Award
- **Walter E. Blessey**, PE (New Orleans), Civil Engineering Wall of Fame
- **E. Raymond DesOrmeaux**, PE, President's Award

Accepting the Section's invitation, **William B. Conway**, PE, received his Lifetime

(Continued on Page 22)

May 28, 2005

Dear Chancellor Ryan,

As you well know, the hurricanes of 2005 devastated southeast Louisiana. No aspect of our society was untouched in the New Orleans metro area. Our educational institutions, so critical to the recovery of our region, are now faced with unprecedented losses. Leaders, such as you, are faced with difficult choices as the economic reality of the short-term de-population, coupled with the long-term financial needs, stretch the resources of educational institutions.

Some universities have eliminated long-standing programs and reorganized or eliminated some of their colleges. Some high schools have been forced to permanently relocate their campuses. The New Orleans Branch understands and appreciates the enormity of the situation. The Branch Board feels compelled to address the importance of the College of Engineering, and especially its Civil and Environmental Engineering Department at UNO — one of Louisiana's premier colleges.

From its inception, the UNO College of Engineering has produced outstanding engineering graduates. Both private sector companies and the government sector at the federal, state, and local levels seek out its graduates. With programs fully accredited by the ABET, the College of Engineering is an invaluable resource for the advancement of the science and the technology of engineering in the region.

A critical component of Louisiana's and particularly the New Orleans area's recovery is an available pool of qualified engineers educated with regard to the urban environment and the physical attributes of our unique soils, hydrology, coastal environment, etc. Civil engineering — more than any other field of study — tends to be site-specific. The challenges of our past, present and future demand engineers who understand our region. The UNO Civil and Environmental Engineering Department's educational objectives include supporting the urban mission of the university and the specialized disciplines serving the New Orleans area.

The ASCE at every level is committed to the nation's civil engineering programs. We provide funds for student activities, such as participating in regional conferences, coordinating student field trips, awarding scholarships, inviting faculty and students to attend seminars, and providing practicing civil engineers as advisors to the Department's faculty and students. Our Hurricane Katrina Relief Fund has already given financial assistance to students for qualified expenses.

The Branch has enjoyed a close relationship with both Tulane University and the University of New Orleans. Most recently we canvassed our membership to find housing for faculty and students during the UNO housing crisis. With the announcement of the loss of the Tulane engineering programs, the Branch wants to be on record before UNO makes any recommendations/decisions concerning its school of engineering.

We ask that the significant contributions of the College of Engineering and its Civil and Environmental Engineering Department, including its academic research, be carefully considered. New Orleans and Louisiana cannot stand another tragedy, especially as we face what may prove to be the greatest engineering challenge in our history.

Sincerely,
Deborah D. Keller, PE
Past-President, New Orleans Branch

STUDENT CHAPTER NEWS

UNO

By Daniel Donahoe, President

After a semester away from campus, UNO students returned to the Lakefront this spring. FEMA trailers intended for displaced faculty and students were still unoccupied as of mid-semester, but thanks to the support from the New Orleans Branch, a few homes and apartments were opened as temporary housing for those unable to find accommodations on such short notice.

While the UNO campus was not flooded, the Engineering Building did sustain significant water damage to its first floor that included the laboratories and the mechanical and electrical systems that required repair. The building did not officially re-open until early April. In the interim, many classes and meetings were held outdoors or elsewhere on campus.

Although Hurricane Katrina created many challenges, it could not dampen the enthusiasm of the returning students. This was demonstrated by the spirit of the faculty and students who attended the Deep South Conference in Memphis, Tennessee March 31 through April 2, 2006. They were Daniel Donahoe, President; Rebecca Scherer, Vice President; Mark Middleton, Treasurer; Alton Guillot; Joshua Hutchinson; Stephanie Keller; Mark Merideth; Melissa Montz; Chris Rau and Donald E. Barbé, PE Chair, Department of Civil and Environmental Engineering, and Gianna M. Cothren, PE, Faculty Advisor.

Due to the disruption caused by the hurricane, the student chapter was unable to build a competition steel bridge and concrete canoe, and to prepare for the other competitions. However, the Chapter was able to race last year's concrete canoe and did quite well under the circumstances. The concrete canoe racing team won first place in the women's endurance race and second place in the women's sprint race. The men took first place in the sprint race. The coed team won second place in the coed sprint race. The Chapter entered the Mystery Event which challenged students to creatively use duct tape to fasten a chair to a wall and see which "design" stayed attached to the wall the longest with a student seated in the chair. Although the Chapter had an advantage with the lightest student of all, there just was not enough adhesion to win the event.

The April meeting featured Deborah D. Keller, PE who gave a presentation on smart choices in residential design featuring lessons learned from photographs of homes damaged by Hurricane Katrina. Election of officers for the 2006-07 academic year were also held during the April Chapter meeting. The newly elected officers are

- Rebecca Scherer, President
- Melissa Munch, Vice President
- Mark C. Middleton, Treasurer
- Stephanie C. Keller, Secretary

Serving as senators representing the Civil Engineering Department on the UNO student government council are Josh Hutchinson, Chris Rau, and Andrew Scorsone.

As the UNO and the metro New Orleans area recover from Hurricane Katrina, the faculty and students are dedicating themselves to reviving their student chapter activities for the next academic year.

❖ Quote ❖

Environment: ...When Congress passed the Clean Water Act, it gave the Corps of Engineers certain authority over the discharge of fill material "into navigable waters." Then Congress murkily defined navigable waters as the "waters of the United States." This was not a term of art. Judges were puzzled. Who knew what meaning lurked in the heart of these "waters of the United States"?

The Corps of Engineers knew. It gradually defined the term to embrace not only navigable lakes and rivers, but also every "mudflat, sandflat, slough, prairie pothole, wet meadow or wetland" in the whole United States, the degradation of which "could affect" interstate commerce. I'm not making this up.

-James J. Kilpatrick
Columnist



The UNO Student Chapter concrete canoe competition team pictured with their canoe dubbed "Flood Insurance." Kneeling from left are Stephanie Keller; Rebecca Scherer; Melissa Montz; Mark Middleton; and Alton Guillot. Standing from left are Gianna M. Cothren, PE, Faculty Advisor; Christopher Rau; Josh Hutchinson; Mark Meredith; Daniel Donahoe, Chapter President; and Donald E. Barbé, PE, Chair, Department of Civil and Environmental Engineering. This picture was taken during the Deep South Conference in Memphis, Tennessee.

McNEESE STATE UNIVERSITY

By Chris Cabaniss and Magen Daughdril

The Chapter was represented by 16 of its members and its faculty advisor during the Deep South Regional Conference in Memphis, Tennessee. The Chapter competed in 3 events - the Mystery Event, and Concrete Horseshoes and Surveying competitions.

The only thing known about the Mystery Event before the competition started was the Chapter could have a 4-member team. Our Chapter President, who was a member of this team, spent the previous night in the emergency

room getting stitches in his thumb. The competition was to tape a chair to a wall in 12 minutes after which a member of the team must sit in the chair for 3 minutes or until the chair falls. Our team members, Chris Cabaniss, President; Magen Daughdril, Vice President; Marina Gando, Secretary; and Steven Hollier, Treasurer, managed to tape the chair to the wall well enough to hold Marina for 13 seconds. Though this was not sufficient to place in the competition, it was a fun, light-hearted event. Thumbs

up for us!

The Concrete Horseshoes competition required that before the trip we make 3 separate batches of concrete horseshoes. The third batch proved to be the strongest and it was the one used in the competition. Our Concrete Horseshoes team was Joy Abshire and Jerratt Trahan. They played a round of horseshoes and by the scores and durability they earned a second place finish in the competition. Great job, guys!

(Continued on Page 13)



Marina Gando "participating" in the Mystery event.



Joy Abshire tossing horseshoes in the competition.



David Minton and Matt Morris participating in the Surveying competition.



From left, David Minton, faculty advisor Jay Uppot and Renus Kelfkens with third place trophy for the Surveying competition.

(Continued from Page 4)

- Section journal files and
- hurricane relief application.

Acknowledging that we still have a long way to go in our recovery from the storms, I would like to leave you with a quote that has helped me many times when I feel overwhelmed. It has become a mantra that I repeat to myself.

To defeat an army of ten thousand: You must fight them one at a time.

Miamoto Musashi, Japanese Samurai Warrior

A Book of Five Rings

In our efforts to return to normal I believe that we must realize that *victory* is in the awareness of the normal everyday events where we will rediscover and recenter our lives and moderate our sense of loss, uncertainty,... Dealing with the enemy one victory at a time will ultimately lead

us down the right path. For me, participation in the ASCE is one of those steadfast actions that can facilitate finding the balance needed in my professional and social life to more effectively move forward and make this state an even better place to live and practice my profession. If you are not actively involved in the ASCE at this time, may I invite you to join me?

SOUTHERN UNIVERSITY

By LaDan Johnson and Ineaka Carbo

The Chapter has made many strides toward success during the past semester. In January, 4 Chapter leaders and our faculty advisor attended the Zone II Workshop for student chapter leaders in Tampa, Florida. They came back with renewed enthusiasm and great ideas for having a successful year. During the last weekend in March the Chapter participated in the Deep South Conference in Memphis, Tennessee. A group of 12 Chapter members participated in 4 events. The Chapter would like to thank Habib P. Mohamadian, PE, Dean of Engineering, and Patrick E. Carriere, PE, Chair of the Civil and

Environmental Engineering Department, for their generous contributions to sponsor our travel to Memphis.

As part of the Daniel Mead competition, Jacques Gilbert presented a paper discussing the relationship between cost and time management and engineering risk management as they relate to ethics. The Surveying competition team was LaDan Johnson, Jonathan May and Brandon DeJean. They were given the point of curvature (PC) and the point of tangency (PT) of a horizontal curve and its tangential distance. They were required to locate its point of intersection

(PI). The trick was that the PT and PC were not accessible - they were in a lake.

The Mystery event team, Tyneka Hampton, William Roberson, Alexander Serrano and David Nash, was presented with a wall to which they were to secure a chair using duct tape, after which a team member was to sit on the chair for up to 3 minutes or until it came loose. The limitations for securing the tape as well as the time factor made this an intense competition. It was fun for those who participated and for the audience.

(Continued on Page 19)



Ineaka Carbo pitches concrete horseshoes during the Conference competition as team member Derwin Young (far left) looks on.



Posing after the awards banquet with their 3rd place trophy for the Concrete Horseshoes competition are (from left) Ineaka Carbo, Yvette Weatherton (Faculty Advisor), David Nash, Quenton Richardson, Brandon Johnson, William Roberson, Jonathan May and Jacques Gilbert.

(Continued from Page 12)

The Surveying competition was pursued by our surveying team of Renus Kelfkens, David Minton, and Matt Morris. They spent 8 hours measuring angles and distances using a Theodolite and a measuring tape, and performing advanced trigonometry. The team won third place because of their hard work and the super-

detailed field book they produced. Our team was by far the hardest working. Fantastic job, guys!

In all, the conference was a great success and a great learning experience for our Chapter members who attended. Our chapter suffered a major setback as a result of Hurricane Rita and its aftermath. As a result, we were not able to compete

in the Concrete Canoe competition during the Conference as we had originally planned. However, we are already making plans to come back better than ever. We will be gearing up for the 2007 Deep South Regional Conference that will be hosted by the Louisiana Tech University Student Chapter.



McNeese State University Student Chapter members.



From the left are Chris Little, Chris Cabaniss and Megan Daughdril — the hospital team.

By Matt Blackwell

The Chapter focused its attention this past semester on this year's Deep South Conference regional competitions. The hard work paid off with both the steel bridge competition team and the concrete canoe competition team taking first place in the Conference.

The Chapter's steel bridge competition team placed first overall by placing

- 1st in aesthetics
- 1st in lightness
- 1st in structural efficiency
- 2nd in construction speed
- 2nd in construction economy and
- 3rd in stiffness.

The Chapter would like to congratulate its steel bridge competition team, Jason Fennell, Captain, Jose Pineda, Jacob Brasher, Brent

Jones, Daniel Boyd, Ryan Hedlund, Joseph Marino, Nick Okubo, and Danielle Chabaud, for the success they experienced in Memphis. With this regional win, the team qualifies to compete in the national steel bridge competition to be hosted by the University of Utah. It is scheduled for May 26-28th.

The concrete canoe competition is judged based on 4 criteria. They are a design paper, an oral presentation, the quality of the final product, and the race results. Each category makes up 25 percent of the total score. This year's competition canoe was named *The Tempest* in honor of this year's hurricane victims. The concrete canoe competition team managed to place first overall by placing

- 1st in design paper

- 1st in oral presentation
- 1st in final product quality and
- the race results:
 - 1st in men's endurance
 - 1st place in co-ed sprint
 - 2nd place in men's sprint and
 - 3rd place in women's endurance.

The chapter would like to congratulate its concrete canoe competition team; Garrett Sutley, Captain, Matt Blackwell, Jason Grzych, Erin Malone, Katie Spansel, Bridget Scheyd, Elizabeth Holloway, Jourdan Despot, Paul Govan, P.J. Kocke and Neil Marinello. With its first place finish, the team earned a berth to compete in the national concrete canoe competition to be hosted by Oklahoma State University June 15-17th.



LSU Student Chapter concrete canoe competition team during the Deep South Conference in Memphis, Tennessee.

UNIVERSITY OF LOUISIANA AT LAFAYETTE

By Joshua Broussard, President

This semester was very busy and eventful for the chapter. On March 29th, the College of Engineering held its Engineering and Technology Week event. It hosted over 700 high-school students from throughout Louisiana on Wednesday, March 29. The Acadiana Branch donated 2000 hot dogs to this event for which the University is truly appreciative. The Chapter provided all of the cooking and preparation for the hot dogs. The leftover food was donated to St. Joseph's Dinner which is a nonprofit organization that serves food to people who are in need. Overall, this year's Engineering and Technology Week was deemed a tremendous success.

Numerous state and federal agencies and local firms participated and represented the local civil engineering community.

The Friday and Saturday of Engineering and Technology Week, 12 Chapter members attended the ASCE Deep South Regional Conference in Memphis, Tennessee. Although the Chapter did not place in any of the events in which it participated, there was a lot of knowledge and experience gained about the regional and national ASCE student chapter competitions. Plans are already under way in the Chapter for a renewed effort to compete effectively next year in both the concrete canoe and steel bridge competitions,

and there is hope that the Chapter will again be successful enough to have the opportunity to compete at the national level in the near future.

Mark Zappi, who was previously the Dean of Engineering at Mississippi State University, has become Dean of Engineering of the University of Louisiana at Lafayette. With his presence as our new Dean, we see a bright future for the College of Engineering. With the support of Dean Zappi and the civil engineering community in Lafayette through the Acadiana Branch, I believe that the Department of Civil Engineering has a great opportunity to gain in prominence.

Section News and Information

Highlights of the February Board of Directors meeting

The final proposed Section budget for the 2005-2006 administrative year was reviewed in detail by the Board as a committee of the whole and approved. This budget was scrubbed to more accurately reflect the expectations and needs of the Section's committees and programs and to account for the anticipated effects on the Section's income and expenses wrought by Hurricanes Katrina and Rita. It was decided not to disburse the Section's surplus funds to the branches due to the uncertainty of future Section revenues and expenses and based on the surplus of funds that each of the branches reported in the Section annual report.

The New Orleans Branch reported that it suffered substantial impact on its budget in loss of revenue as a result of the cancellation of its 2005 Louisiana Civil Engineering Conference and Show. This event has over the years become a substantial source of income to the Branch and the programs that have been developed and supported over the years are dependent on the revenues from this event. The New Orleans Branch was requested to develop a request to the Section to fund the programs consistent with those that would likely be acceptable for funding according with national ASCE policy/guidance to the amount representative of the expected funding

shortfall. This request would be reviewed by the Board and adopted as appropriate as a request for national ASCE support from the disaster relief funds available.

The Section is actively involved in the Region 5 transformation task force that is crafting the bylaws, rules and procedures for its governance and organization. Region 5 is scheduled to supplant District 14 and District 10 according to the recently amended ASCE Constitution.

Two substantial issues appeared to be a concern of some the sections in the Region. The first was the assessment of the member sections to fund the operations of the Region 5 in lieu of funding them from national ASCE revenues. The concern was that depending upon the nature of the Region's functions, section funding may essentially transfer the costs of national functions to the sections. The second concern was the stated mission of the Region 5 Director in the proposed governance document. It was apparently to serve and facilitate national ASCE objectives and not represent the interests of the constituent members of the Region.

Changes in wording to obligate the Region 5 Director to represent the constituents of the Region that elect him/her and a proposed requirement that at least 75 percent of the section

presidents in the Region must approve the Region 5 budget and the section assessments for the operation of the Region appear to have eliminated the stated impediments. Their resolution appears to have moved the process for the approval and organization of Region 5 forward.

The Structures Committee of the New Orleans Branch that essentially served also as the Section's Structures Committee has opted to revise its name and organizational reporting. It is now the Structures Institute and it is connected to the ASCE through the national Structures Institute. The exact relationship and obligations that may have occurred as a result of this act did not appear to be clear at this time but the ultimate effect was believed to be of minimal or no effect.

The challenge to the qualifications-based selection process used by the East Baton Rouge City-Parish Department of Public Works to select professional engineers has been withdrawn. However, the principal issues that were raised during the controversy will be studied further by a committee. The issues are the need for a formal means for an unsuccessful applicant to challenge a selection and the need to define a minimum process to be used to document each selection.

Highlights of the March Board of Directors meeting

The national ASCE has a fund available to pay the membership dues of members who may be in temporary financial distress and unable to pay their annual membership dues. This benefit is available on request by the individual member and there are probably hurricane-impacted ASCE members in the Section that may qualify for this benefit. Information about the availability of these funds is on the ASCE national website www.asce.org.

There were no State Public Affairs Grants applied for by a branch in the Section in time for the deadline. Norma Jean Mattei, the Chair of the New Orleans Branch Outreach Committee, noted that neither the Branch nor she was in a position to prepare a SPAG application in the aftermath of the hurricanes and that they have recently discovered that the New Orleans Jazzfest will be held this spring and the Branch-sponsored Box City event for children during the event is being planned for.

The anticipated and typical costs to the Branch are approximately \$500 for volunteer tee shirts and \$2000 for the boxes used in the event. It was noted that all of the SPAG funds will have been distributed by the time a request could be made. However, in the event that branch operating funds were to be seriously impacted in financing such an event, the national ASCE had informal ways of monitoring the situation and assisting where it may be practical.

Attention to updating the *Section Operating*

Guide that has become progressively out of date was discussed in some detail. Ray DesOrmeaux has independently annotated a copy noting the out-of-date or missing contents of which he is aware. Tim Ruppert has spent time similarly reviewing and identifying out-of-date and missing contents in the *Guide*. The possibility was discussed of having an approximately 2-hour session set aside during a Board meeting to comprehensively review the *Guide* as a committee of the whole. The goal would be to develop some consensus concerning its out-of-date and missing contents and to develop a general knowledge of its contents.

Note: The *Section Operating Guide* was developed by the Board over 20 years ago with the intent to document the details of the Section's management and committee operations that are not documented as part of its constitution and bylaws. This is because of the perceived vulnerability to the loss of the Board's corporate memory that may occur in the event of a serious discontinuity in its membership. The digital version of the *Guide* published on the Section's website, www.lasce.org, is easily preserved and maintained as an updated version. This is facilitated by the fact that changes do not require formal action by the Board since it is an internal, informational document for the Section's elected leadership. It is anticipated that updates and additions will be made on the fly as they occur keeping the *Guide* up to date and avoiding the

conditions that exist.

The Region 5 transformation was discussed to some extent. It was noted that there was some lack of effective communication between the delegates serving to expedite the transformation. Some of this also happened between the Louisiana participants and between some sections in the new Region 5. There were significant concerns about the mission of Region 5 as it would be established by using the recommended wording for the region governing documents. Timothy M. Ruppert, PE, and others worked out wording that was satisfactory to all concerned. There were other concerns about the section funding obligations for Region 5 operations that were also resolved.

The transition from the District 14 and District 10 leadership to the Region 5 leadership is anticipated with Florida Section member, Kathy J. Caldwell, who has served as a major expeditor of the Region 5 transformation effort, becoming the first Region 4 Director. The Louisiana Section was not prepared to appoint its Region 5 Governor to represent the Section on the Region 5 Board of Governors. There are further concerns about how leadership will be developed in the new regional governance for service at the national level.

There is a Hurricane Relief Fund of approximately \$65,000 being held in escrow in an inter-

(Continued on Page 16)

Politics and levees

State Senator Walter J. Boasso, R-Arabi, jump-started the legislative processes moving forward to create a single, regional levee district/board that would consolidate eight levee districts replacing the parochial levee boards that consist of political appointees with no qualifications required and that appear to have performed inadequately and/or inappropriately over the years that led up to the levee failures and the resulting flooding that followed Hurricane Katrina. Boasso, whose Senate District 1 covers portions of St. Bernard, Plaquemines, Orleans and St. Tammany parishes that suffered much of the devastation from the storm and the flooding, developed a preliminary draft of a Senate Bill published January 31, 2006 for consideration during the first extraordinary session of 2006.

It was noted in the local press that Governor Blanco withheld her support for Boasso's first bill to reform the levee boards replacing them with a state agency. Filed in the November special legislative session, it may have had its best chance to pass with the Governor's support. However, without her support, the Senate picked the bill apart and the House killed it.

In the current special legislative session, Boasso's SB 8 faced strong opposition with the Governor's belated support. Opponents of SB 8 had manifold means other than just attacking the measure. They had alternate levee reform choices to consider. One would not create a new state agency but place the levees under the management of the existing Louisiana Department of Transportation and Development. Considering Congress' unwillingness to invest billions on levee work overseen by politically appointed, local levee boards with a reputation for bribery

and ineptitude, business as usual supported by the Legislature probably will mean no business at all.

Amazingly, the first draft of Boasso's bill failed to directly address what the leadership of the Louisiana Section ASCE considers to be one of the most important goals of a future regional levee board. It had been expressed by the early proponents as a required part of a consolidated district board's character — a membership of technically competent people with the knowledge and skills to discern and appropriately manage the poignant flood protection issues. Technically competent management as the damaged levee system is reconstructed and/or repaired and maintained on into the future should be nonnegotiable. There was no provision in the nominating process to reasonably assure that a civil engineer specializing in flood control and flood control structures — a member of the civil engineering profession that is technically responsible for the design and development of flood protection systems.

There was good news to follow as the proposed bill moved onto the Senate calendar as a prefilled bill (SB 8) of the first extraordinary session of 2006. The ASCE was added as one of the nominating organizations to nominate one of its own members. Prior to this, the following observation was made by Deborah D. Keller, PE, Past President of the New Orleans Branch:

People do not realize how important board members are to all the boards in this state, whether it is a levee board, airport, port authority for example. The boards hire their directors/CEOs, they set policy and procedures for hiring consultants, they set

the budget allocating or not allocating funds to engineering design, maintenance, planning, and they allocate or not allocate the human resources to do the work that the board is charged with carrying out.

Historically, board members are not always appointed for their leadership skills, integrity, dedication to public service, or related experience they can bring to a board. And when the key ingredients are missing, it shows. If the nominees for every board in this state were selected based on these essentials, I believe that Louisiana would not be at the bottom of every list as a state.

There is a line in the movie *Annapolis*, where an underdog cadet from Arkansas tells another underdog, "You're my Mississippi." He explains that as long as there is Mississippi, Arkansas will never be last in anything. Unfortunately, Louisiana has been referred to in that way by those in Mississippi.

The bill (SB 8) supported by Governor Blanco was expected to have some momentum to pass following the Hurricane devastation that clearly demonstrated the consequences of the inadequacies exhibited by the current levee districts. The bill would have combined the levee districts in 8 parishes under the Southeast Louisiana Flood Protection Authority — a professional board. In early action on the floor of the Senate, the various parochial levee districts were being stripped from the bill by the senators from their districts where the levee districts are located.

Timothy M. Ruppert, PE, President-Elect, in

(Continued on Page 17)

(Continued from Page 15)

est-bearing account at the national ASCE level for the Louisiana Section. This Fund is conditionally earmarked to serve the members of the Louisiana Section who are in need and who have been directly impacted by the destruction of Hurricanes Katrina and Rita. It was noted that Section members who appear to clearly qualify for these funds have continued to be reluctant to apply for them or to accept them if they are approached by others to consider applying for and accepting the aid.

It was proposed to disburse a substantial portion of this Fund by contributing to graduate fellowships for the master's graduate programs in the 4 Louisiana universities that offer them. They would go to civil engineering students who are impacted by the hurricanes and limited to civil engineering graduates of a Louisiana University who are residents of the storm-affected parishes.

It was estimated that the total funds for the graduate fellowships would be \$12,000 per year for 2 years distributed to the 4 schools or approximately \$96,000. The Section would contribute approximately \$48,000 with the schools matching a portion of the fellowship funding amounting to 50 to 60 percent of the total fellowship.

There was concern that the University of

New Orleans was giving consideration to dropping its civil engineering program. In the interim, this has ceased to be an issue and the University intends to continue its civil engineering program. The Section was requested to send a letter to the Chancellor of the University of New Orleans supporting the continuation of its civil engineering program. Though the issue appears to be moot, the Board voted to send the letter if to do nothing else reinforce its support of the program.

The Section's financial support of the student chapters traveling out of state to participate in the Deep South Conference was discussed in substance and method, and in depth. The issue was whether to provide support directly out of the Section's funds or out of the branch funds for the student chapters located in their region. It was decided that Section support should come directly from the branches. Since the Section annually disburses its excess surplus funds to the branches, this would be a worthy application of these funds and the apparent reserves in each branch that would appear to be substantial for this purpose according to their last annual reports.

The student chapters should provide to the branch documentation of their income and

expenses devoted to attending the Conference and that portion of their expenses for which they are seeking reimbursement. If a branch does not have the reserve based on its budget to cover the student chapter expenses it deems appropriate, the Section would provide the funds to cover that portion the branch is unable to support.

The ASCE national annual dues are scheduled to be increased by \$10. It was presented as the dire consequences of eliminating the programs the national Board of Direction had chosen to eliminate if the \$10 annual dues increase was not forthcoming. Without being able to see what programs were proposed to be funded with the annual dues less the \$10 increase, it was felt the Section was being asked to ratify the proposed national dues increase with a half truth. A recent survey indicated that the majority of ASCE members valued the individual member services that are typically provided by the role of the sections and branches rather than the services provided by the national ASCE organization. This sense of value may play a factor in balancing the financial resources collected and expended by the national ASCE organization and the sections.

Tulane dumps engineering

By James C. Porter, PE

Tulane University announced that it will discontinue its Civil Engineering program after over 110 years of service to the profession and community. It is part of a restructuring effort in the aftermath of Hurricane Katrina. Other programs in Tulane's School of Engineering that will also be phased out by June 30, 2007 are Computer Engineering, Computer Science, Electrical Engineering, Environmental Engineering, and Mechanical Engineering. Applications to these programs are no longer being accepted. However, undergraduate and graduate-level degree programs in Biomedical Engineering, Chemical Engineering and Biomolecular Engineering will continue to be offered.

The reasons cited by Tulane University President Scott S. Cowan are that the 6 engineering programs being discontinued serve less than 200 students and the massive investment required to bring them to a position where they would make a difference locally or nationally was no longer a priority. He noted that some of the best engineering programs are offered in public institutions and that some of the best private institutions that Tulane will tend to emulate do not offer engineering programs at all.

With Tulane's engineering programs, the state of Louisiana supports — if not very poorly — the operation of more civil engineering and other engineering programs per capita than all but one other state in the southeast. While the loss of such a high quality though very small school of engineering is regrettable, for the prospective civil engineering student that may have considered attending Tulane University there will be no shortage of convenient in-state engineering education options provided by the 6

remaining state-supported universities in Louisiana.

Without agreeing or disagreeing with Tulane's decision to jettison its school of engineering, the sad truth may be that the standard of quality and the level of funding committed to public education in Louisiana is apparently on a different plane of reality than is found in the goals of a private institution like Tulane. A reason most of the outstanding private institutions that Tulane plans to emulate do not support schools of engineering is their very high operating cost are subsidized by public funds in the public institutions. In the private institutions, tuition is used to subsidize them and it tends to make them too uncompetitive in a market with public institutions.

Another extreme in the public education strategy is offered in the state of Georgia that

until fairly recently supported only one school of engineering at the Georgia Institute of Technology. Its school of engineering is arguably one if not the most prestigious among all of the schools of engineering in the same 13 southeastern states. When I visited there several years ago, I could not help but notice the large number of out-of-state and international "competitive" students that were matriculated at Georgia Tech. Upon further analysis it appeared that per capita, Georgia Tech had more "competitive" students from Louisiana than any of the other 13 southeastern states. So it would appear that for what Louisiana's public education strategy fails to offer its potential engineering students, there are reasonably convenient options outside of Louisiana that are used by those with the gifts to take advantage of them.



The Tulane Engineering Forum 2005 is rescheduled for June 2, 2006 and it will be housed in the New Orleans Hilton Riverside. Originally scheduled for September 30, 2005, it was cancelled in the aftermath of Hurricane Katrina. The theme of the Forum — Engineering in a Coastal Environment — and its program remain essentially unchanged. Much of

the technical program for this day-long event provides concurrent sessions and participants can earn a maximum of 7 professional development hours. For more information about the Forum and registration please visit the Tulane University School of Engineering website at www.eng.tulane.edu. The registration fee for the Forum is \$200.

(Continued from Page 16)

his comments to the Section leadership about SB 8 indicated,

Good news! I do not know how, but the ASCE is back in the levee board bill... The bad news is that the board is still proposed to be 11 members with only 5 engineers "...or a professional in a related field." The good news is that the 3 at-large spots could be engineers, so it is possible that engineers might be a majority on the board. Further, with the additions to the nominating committee, it looks like 7 of the 12 groups doing the nominating will almost always be nominating an engineer to the board.

The final version of the levee reform bill passed the Senate after much controversy. It appears to provide the byzantine organizational structure typical of Louisiana politics. It consists of two separate levee districts consisting of the same 8 parishes — one on the east bank and one on the west bank of the Mississippi River. The members of both the Southeast Louisiana Flood Protection Authority — East and Southeast Louisiana Flood Protection Authority — West will be nominated by the same nominating committee to which the LSU Dean of Engineering has been added.

Four regions are defined — of which 2 are

the 2 new authorities and 2 consist of 4 other existing levee districts each. All of the authorities/districts will answer to a higher authority — the Coastal Protection and Restoration Authority that will consist of 4 members representing each of the regions and who are selected from/by the presidents of the authorities/districts in the 4 regions. All of which would appear to easily form a management shell game for conducting politics as usual.

The State Senate unanimously passed SB 8 and a companion bill SB 9 to place the changes in the State Constitution and both measures go to the House of Representatives that is working on similar bills that originated in the House. Ruppert observed that

Of the 13 designated members serving on the nominating committee, I believe that 8 of them will favor nominating licensed engineers for as many seats as it is possible. I believe that the bill designates the national organization of the ASCE to appoint the ASCE member to the nominating committee, but I am relatively sure that the national ASCE will defer to the Section.

He further observed

It would appear that there is disagreement as to whether SB 8 satisfies the Federal

mandate for a *single authority* for federal funding. I am of the opinion that the President and many in the Congress are looking for an excuse to not fund an improved levee system and this legislation may be providing them just such an excuse.

While in the torrent of self-congratulatory celebration among the Senators following passage of the bills, it is sobering that Ruppert's concerns were reflected earlier by the backers of the bill who said that such a plan fails to show the Congress and the nation that Louisiana is serious about the needed reform demonstrated in the wake of Hurricane Katrina.

❖ Quote ❖

Innovation: For design firms, mutation — and subsequent division — may be a more effective market strategy than the popular strategies of... mergers and acquisitions... which may be good for market penetration but not necessarily for innovation... Getting big and diverse causes value destruction, by among other things, diverting productive experimentation toward management and coordination issues.

-Ellen Flynn-Heaps, President

SPARKS: The Center for Strategic Planning

The Show is back

When Hurricane Katrina passed through New Orleans in August of 2005 devastating the city, it led to the cancellation of the planned 2005 and 15th Louisiana Civil Engineering Conference and Show sponsored by the New Orleans Branch. Demonstrating the remarkable energy and resilience we in the Section have come to know and expect of the New Orleans Branch membership, they are prepared to sponsor its 2006 Louisiana Civil Engineering Conference and Show. For over a decade, the Branch had sponsored without interruption this annual conference in conjunction with its tradi-

tional hosting duties for the Annual Meeting of the Section typically held in September.

In recent years the Louisiana Professional Engineering and Land Surveying Board implemented its mandatory continuing professional development requirements for its licensees resulting in the attendance at the Conference to grow significantly. The Conference is a magnet for civil engineers who have to meet these requirements. The attraction to this conference is the combination of its high quality, diverse technical sessions that are provided at very reasonable costs that are supplemented by corporate

sponsors, vendors and by the volunteer efforts of the Branch members who provide the conference planning and hosting.

On February 23, 2006 it was announced by the Branch that "the 2006 Louisiana Civil Engineering Conference and Show is a go!" The Board of Directors of the New Orleans Branch during its meeting earlier in the week decided to launch plans for the 2006 Conference returning to its venue for the recent conferences, the Pontchartrain Center in Kenner. The Conference is scheduled for September 14-15, 2006.

- Career Benchmarks -

Section members **Raymond R. Avent, PE, Peter A. Casbarian, William W. Carver, Adrian J. Combe, III, PE, U. Jens Lorenz, PE, Kenneth L. McManis, PE, Freddy L. Roberts, PE, Herbert C. Sanders, PE, John R. Shortess, PE, C. W. Stelly, John C. Stone, III, PE, and Shashikant M. Suthar, PE** reach the status of Life Member in the ASCE this year.

Section members **Usama S. El Shamy, PE, Jeffrey P. Morrison, PE, Frank T. Tsai, PE, and Ross A. Twidwell, PE**, recently earned their professional engineering license in Louisiana. If you are in contact with them, please offer your congratulations on their accomplishment.

Louisiana residents **Simon Angelle Jr., PE, Warren A. Berthelot Jr., PE, Julianne M. Birdsall, PE, Ronald B. Desormeaux, III, PE, Michael T. Donmyer, PE, Charles F. Dugger Jr., PE, Josh M. Eldridge, PE, Kurt M. Goodwin, PE, Ryan P. Gremillion, PE, Randall B. Griffin, PE, Matthew B. Jones, PE, Ned M. Juneau Jr., PE, Vijay K. Kunada, PE, Richard A. Nehme Harb, PE, Michael D. Paul, PE, and Qiang Wu, PE** recently earned their professional engineering license in Louisiana and they are not members of the ASCE. A copy of this issue of the journal is sent to them as an informal introduction to the Section. If they wish to join and/or find out more about the ASCE, they are hereby invited to visit the ASCE

national website, <http://www.asce.org>. If you are in contact with any of these engineers, please consider formally introducing them to the Section by inviting them to attend a branch meeting as your guest.

Kenneth A. Perret, PE, recently joined C. H. Fenstermaker & Associates as a Senior Engineer in its Engineering Division. Located in

Baton Rouge he will market engineering, environmental and surveying services in Louisiana, Arkansas and Mississippi. Perret will also assist with ongoing projects to ensure excellence in quality, productivity, and customer service. He has extensive experience in all aspects of roadway and bridge engineering. Perret, a former Assistant Secretary, Office of Planning and Programming with the Louisiana DOTD, was responsible for strategic and intermodal transportation planning, environmental processing, bridge and pavement management systems, data collection and analysis, and traffic safety programs. Perret was previously employed by the FHWA holding positions in Baton Rouge; Washington, D.C.; Chicago, Illinois, and Little Rock, Arkansas. He is a member of the National Society of Professional Engineers, the Louisiana Engineering Society, and the ASCE.



Editor's note: There are three disciplines that are licensed by the Louisiana Professional Engineering and Land Surveying Board and that may be considered closely related to civil engineering. They are the environmental, structural and architectural engineering disciplines. As of January 2006, the active engineering licenses conferred by the Board were approximately 6049 in civil, 743 in environmental, 35 in structural and 4 in architectural.

Hurricane relief fund

The hurricane relief fund for the Louisiana Section is administered by the Section's Disaster Recovery Committee, an ad hoc committee of the Section consisting of the following members of the Section Board of Directors:

- Norma Jean Mattei, PE, Past President
- Timothy M. Ruppert, PE, President-Elect
- E.R. (Ray) Desormeaux, PE, Vice President

The hurricane relief fund is being held in escrow by the ASCE national organization in an interest-bearing account of the ASCE Foundation. These funds are available for specified needs generally governed by a memorandum of understanding between the Section and the national ASCE. When requests for assistance are received, the Committee attempts to carefully weigh the needs of the individual Section members — including student members — against the conditions expressed in the mem-

orandum and Committee has collaborated with Thomas Smith, the ASCE Managing Director and Corporate/General Counsel, when there have been questions about qualification.

The Hurricane Relief Fund and its sources follow:

• ASCE - National	10,000.00
• East Central Branch (Florida Section - ASCE)	2,000.00
• Younger Member Committee (Southern Nevada Branch - Nevada Section - ASCE)	800.00
• Younger Member Committee (Kentucky Section - ASCE)	665.00
• TOTAL	13,465.00

As of March 9, 2006 disbursements from the hurricane relief fund have amounted to approximately \$7,700.00

❖ Quote ❖

Environment: A (roadside) ditch is a federal waterway. This is the law according to Humpty-Dumpty... The 4th Circuit... asserted federal authority over a (3-foot-wide) ditch along a 2-lane country road (because) sediment created by the ditching "potentially" could reach navigable water 8 miles away. Under the Circuit's decision, the Clean Water Act reaches the top of every mountain and the end of every street in the country. When a 3-foot ditch gets the respect accorded the Mississippi River, we have floated into Wonderland indeed.

-James J. Kilpatrick
Columnist

Commencement address

By E. R. Desormeaux, PE

Dean Zappi, Members of the Faculty and Administration, Honored Guests, and Graduates. In my family, as I am sure it is in yours, *Where were you on a particular day?*... has been a frequent question at many family gatherings. In my lifetime, there have been several dates with enormous meaning:

- December 7, 1941 A date that will live in infamy. — the attack on Pearl Harbor
- June 6, 1944 D-Day — the allied invasion of Europe
- August 6, 1945 Hiroshima — the first atomic bomb
- November 22, 1963 President John F. Kennedy assassinated
- July 20, 1969 Neil Armstrong lands on the moon
- September 11, 2001 destruction of the World Trade Center — 9/11

There are some natural disasters in our country with a similarly enormous meaning:

- October 17, 1989 Loma Prieta Earthquake in San Francisco
- January 17, 1994 Northridge Earthquake
- August 29, 2005 Hurricane Katrina

As an infant or young child when Pearl Harbor and some other events I listed occurred, I

was too young to remember them as a firsthand experience. However, in our extended family, especially with so many uncles who served in World War II, the conversations I overheard during family gatherings usually revolved around what the older family members were doing on a particular day in history.

The day President Kennedy was assassinated, I was a young project engineer, sitting in my car on the runway of the Lafayette Airport observing the construction work being performed. My wife called me with the news. *She was crying. And so did I.*

When Neil Armstrong landed on the moon, I was sitting in my home watching it intently on my television with great anticipation as Walter Cronkite kept us updated.

During 9/11, I was on a job site watching steel erectors install steel columns and beams for a building. This was while evil men destroyed 2 great buildings — *Ironie!*

For days before and after Hurricanes Katrina and Rita, I sat in my office or in my home with eyes fixed on the television. I watched the devastation of coastal Louisiana with awe and particularly the devastation of a great city.

If someone asks, *Where were you?*... each one of you remembers and probably will remember where you were and what you were doing on 9/11, and especially on August 29, 2005.

In the subsequent weeks following Hurricanes Katrina and Rita, I was never so proud to be an engineer. I witnessed the many engineers throughout the United States and the world at their best responding to the needs of fellow engineers and other citizens of Louisiana.

Many of us serving in the professional engineering societies began to receive calls from people we knew, and from some we did not know. All of them wanting to know how they could help.

I received calls and e-mails from engineers in Switzerland, the Netherlands, and France expressing their deep sorrow for our dilemma in the great catastrophe. They wished that they could be here to lend whatever help they could.

We received contributions — money and services — from engineers throughout the USA, including Las Vegas, Kentucky, and Florida, just to name a few. An engineer from Indiana — an owner of a large consulting firm — took a special vacation. He drove to New Orleans with his wife who is a nurse. He spent 10 days assisting where he could while his wife worked in a triage unit. That man — a person I did not know before Hurricane Katrina — has now become a good friend.

As proud and thankful as we are about the great response of the American people, and our

(Continued on Page 20)

(Continued from Page 13)

The Concrete Horseshoes event is the only event in which the Chapter placed. We came in 3rd. The team, Ineaka Carbo, Brandon Johnson, Derwin Young and Quenton Richardson, spent a great deal of time preparing the horseshoes to specification.

Constructing the concrete horseshoes was a challenging and a fun experience because we were able to create something using our knowl-

edge of materials and problem-solving skills. The competition gave us hands-on experience with the trial-and-error that is often involved in engineering design.

We had to try different concrete mixes, but designing an effective mold for the horseshoes was also a challenge. We made our first mold out of wood, however, the problem was reproducing horseshoes that would meet the specified dimen-

sions. The wood mold presented other problems. Our second mold was sloppy but effective - only if we were creating a horseshoe that would easily break. With the help of our school technician Rory Nettles, we developed a mold using hog casing. It was very smelly and nasty but a great idea. Because the casing was so thin we were able to form a perfectly sized horseshoe, but we were not able to stuff the casing because of the concrete mix we were using.

A couple of weeks before the competition we came up with the brilliant idea of creating a mold from the kids' toy, *Play-Doh*. Using this mold, we were able to create perfect horseshoes in dimension and weight once the mix was perfected. In fact, ours was the only team who had all seven shoes meet the size and weight requirements. Other teams had to make adjustments such as shaving to make some shoes meet the specifications. After all of the other teams had broken all 6 of their competition horseshoes, we still had 3 left. It is too bad the competition was not based strictly on durability. We would have taken 1st place for sure!

Preparation for some events required us to spend a lot of time together working as a group, and it really made us grow as a chapter. If we maintain our momentum, we will finish this semester and this year on a pretty high note.

The Chapter is planning a crawfish boil for the weekend of May 6th to celebrate our accomplishments and reward our chapter members and our seniors. We plan to hold an Order of the Engineer ring ceremony early in the fall semester, and to attend the ASCE National Conference in Chicago this year.



Jacques Gilbert presents paper during the Daniel W. Mead competition.



Tyneka sat on a chair on the wall; Tyneka could have had a great fall; But William and Alex caught chair and all!

many friends in other countries, we must also be concerned about the comments and attitudes of some elected officials and the media. Although the media provided outstanding coverage of the devastation, and kept the public well informed, a sense of whether the constant criticism was warranted is an individual assessment for each of us. For me, the finger pointing and the blaming was unwarranted, unnecessary, and inexcusable. While it may be true that Louisiana was not well prepared for events that occurred, it is also true that the lack of preparation at all levels of government resulted in failure to some degree.

It is important to know that for years engineers have been expressing concern about the possible consequences of a major hurricane. These engineers were not crying *Wolf!* And I am not *sheepish* in telling you how I feel. For years, Congress did not invest in the needed improvements. Louisiana may not have been as prepared for such powerful hurricanes. But was California prepared for the earthquakes that were major events even though they pale by comparison to the hurricane devastation?

Media reporting on the hurricanes seemed to focus on who did — or did not — do what. Although legitimate criticism should be expected, the personal attacks should be an affront to all of us. Did you have the impression as I did that some of the reporting bordered on sensationalism?

The good news was that one of Louisiana's own, Russell Honoré — an army general from Lakeland, Louisiana — arrived on the scene and took charge. From that time forward the unfortunate, the homeless and those who could not help themselves were given the timely assistance they needed. I am particularly amused by some of his candid comments, especially the one where he told a news reporter, *You know your problem is that you're stuck on stupid.*

A hurricane affects all. It does not distinguish between the rich or the poor, educational attainment, nor racial or ethnic background. It is ironic, isn't it, that out of this devastation great opportunity will occur. The greatest opportunity may be in the social change that will occur. The opportunity for those who are less fortunate to get a better education and to live in a social climate that promotes family values.

In the months and years ahead, there will be great opportunities for people with technical and engineering skills such as the skills of the graduates in this room.

- Professors will continue to do needed research, publish papers, create the necessary models, and advise those in responsible charge on what is required.
- Technicians and engineers in transportation, water and sewage treatment, structural engineering; and others involved in housing, planning, electrical power generation and distribution, communications, mechanical systems, chemical and petrochemical industries and levee and coastal restoration will design and construct the needed infrastructure. Not only will they replace that which was lost but also provide for future growth. I am humbled by the great minds and intel-

lect among us in this auditorium today. I believe that they have prepared you well. I am envious of you who are graduating. The future holds such great promise for you. Approaching the afternoon of my career, I sometime long for it to be the morning of my career because of your opportunities ahead.

The future is yours, not mine. More than ever, you will have an impact on the quality of life of your fellow beings by making Louisiana better than ever. Many of you may be involved in the rebuilding process. I know that you will bring competency, integrity and a desire to succeed to the rebuilding process.

I am astounded by the comments of some elected politicians in other areas of our country who have questioned whether New Orleans and the Gulf Coast from Venice to Cameron should be rebuilt. How New Orleans and the Gulf Coast *should* be rebuilt is a debatable topic. *If* it should be rebuilt is not. I am inclined to say, *How dare they!* 9/11 may ultimately cost in excess of \$100 billion. The 15-second Northridge Earthquake resulted in

- \$44 billion in damage
- \$800 billion replacement value on taxable property
- 25,000 dwellings uninhabitable
- 29,000 buildings needing renovation
- 9 hospitals, 9 bridges and 9 parking garages collapsed
- portions of 11 major roads into Los Angeles closed and
- 22,000 people homeless.

This natural calamity, although extremely serious, pales in comparison to the devastation of the recent hurricanes on the Gulf Coast. Instead of the 15 seconds, South Louisiana was subjected to days of hurricane wind and rain, breached levees, rising waters, and the loss of over 1000 souls.

- Instead of 22,000 people homeless there were 200,000 or more and
- instead of 25,000 dwellings uninhabitable there were over 125,000.

Today, California's infrastructure is basically restored. Are we in Louisiana now being told that California is more important than Louisiana? I certainly do not think that is being said or suggested. But if it is, I do not agree. Did anyone suggest that the people should move out of California, as some are suggesting about New Orleans? Or, is all of this just the usual political rhetoric or posturing? Today, the concerns I express here and my motive for expressing them are not political but humanitarian.

In the past, this magnificent nation of ours has a tradition of responding to every global crisis faced both at home and abroad such as

- earthquakes on every continent
- famine in Africa
- the tsunami of 2004 in the Indian Ocean
- earthquakes in California and
- 9/11.

It responds with financial support and physical resources and it is done with great humanitarian incentive and pride.

Instead of finger-pointing as many have done, engineers need to raise the hand and say,

Count me in. It is now time to help our own here in our backyard ...in these United States. ...*our people ...our home ...our Louisiana!*

If this great country of ours can spend \$40 billion in California, \$100 billion in New York and billions in tsunami relief in places over 10,000 miles from its shore then surely it can spend the needed amount on its own Louisiana. Again, I believe that the question is not *if* — it is *when*. Thankfully, this past Thursday, the President authorized \$3 billion for levee reconstruction in New Orleans. It is a good start. Thank you, sir!

At the base of the statue of Liberty, a plaque reads:

Give me your tired, your poor, Your huddled masses yearning to breathe free, The wretched refuse of your teeming shore. Send these, the homeless, tempest-tossed, to me: I lift my lamp beside the golden door.

How appropriate it was then, and it is now! The *golden door* is this great land — these United States of America. Let us make sure that the door is and remains open.

So — as you begin your professional careers, the question I posed at the beginning *Where were you?* may not be the right question. The better question might well be *Where will you be?*

- this year
- the next 5 years and so on.

Where will you be as we begin the process of rebuilding and building a better Louisiana ...a better way of life for all who call Louisiana home.

Each of us in this room must be involved. In some way, each of us is negatively impacted by these natural disasters. Each of us can and must make a positive contribution if we are to uphold the obligation, dignity and honor of our respective professions and preserve our natural and cultural legacy. I ask that you join your fellow engineers as I have in doing our part in the rebuilding effort. Let us stand together and be counted.

As you leave this auditorium and *commence* with your careers, do so with the pride that you follow in the footsteps of some great engineers who attended this university. Engineers who not only continued to hone their professional skills, but became *leaders*. Recognize that your continuing education should include extending that which you have learned and this includes the communication, social, and political skills of leadership. You have every reason to leave this institution with honor, commitment, and professionalism as your legacy. Your family is proud as you are proud of your accomplishment. And, I am sure that this university takes great pride in awarding such worthy candidates the degrees they have earned.

It has been both an honor and a privilege to address you today. Thank you.

Editor's note: This address was published in part in the February 2006 issue. However, a substantial and important part of it was unintentionally truncated when it was placed in the manuscript. It is reproduced here in its entirety.

Section launches website

The Section website www.lasce.org has once again been launched. You will be welcomed on the website shortly by the Louisiana/Section map image. It will delineate the parish and the branch boundaries. You will be able to click on the map title to advance to the Section Home page or click on to a branch map image and advance to the branch website if available or to the branch leadership information on the Section website.

The Section current news and activities appear and will continue to appear on its Home page. The current and several past issues of the Section journal, *The Louisiana Civil Engineer*, are also provided in downloadable files. The full intention of the Section website is to supplement the Section journal with more timely communications of announcements and news to Section members than provided by a quarterly published journal. Also it provides the Section leadership and membership access to comprehensive documentation of — and access to — the Section's business, operations, organization and governance.

The guts of the old website www.lasce.com were salvaged as best they could be and you will recognize its format if you had visited it in the past. However, most of the files on the old website had been corrupted and had to be re-established along with the new ones.

Our website designer and webmaster, Joel Bonnette, is following an ongoing plan to further improve the website and revise its format in the near future. In the meantime, the Section's newly launched website has been recently linked on the ASCE national website bringing an end to the temporary Section website.

While on the subject of websites, you should be aware if you are not already that the Acadiana

Branch website www.asceacadiana.net is under active development and maintenance by its webmaster Kimberly D. Landry, EI. As a result, it is an excellent resource to its members and other inquirers about Branch and other ASCE activities and news including Branch meeting announcements and newsletters.

The New Orleans Branch website www.asceno.org has a long history as an active and serviceable utility site supporting its extensive technical/professional activities. It provides a sign up for nonmembers to the Branch mailing address database. This is for nonmembers interested in attending Branch-sponsored technical activities. It also supports registration form download and online registration for the Branch-sponsored annual Louisiana Civil Engineering Conference and Show.

Temporary website

The Section's temporary website was graciously and remarkably established and developed by ASCE Georgia Section member, **Jay Kuppaswamy**. He also served as its webmaster from shortly after Hurricane Katrina in August 2005 when he established it according to the specifications of the Louisiana Section's leadership. Jay provided this asset in the vacuum created by the Section's lack of the same to effectively serve its members in a time of crisis. In the end the Section's members were served well by Jay's efforts during a most trying time and to the extent that the temporary website garnered a national ASCE award.

Jay's service continued until mid-April 2006 when the Louisiana Section's website was launched. On the news of the launch of the Section's website Jay sent the email message that is shared herewith.

To Section Leadership
Dear Colleagues,

I wish to extend my hearty congratulations on your launching the excellent website for Louisiana Section.

I am very glad that I was given the opportunity and privilege to develop and maintain your temporary website for a short period. I was able to do it solely because of the encouragement, support and guidance I received from all of you and in particular from Steve McCutcheon, Barbara Featherston and Ray DesOrmeaux.

Your Section's extraordinary assistance and relief work in collaboration with ASCE District 14 Director Steve McCutcheon in supporting the civil engineering community and the university students — our future civil engineers — in a time of such a great crisis deserves a great applause. I am sure it will stand out as an unique accomplishment.

Once again, I feel very proud of my association in working with you, and I thank you all for (your expression of) the same.

Sincerely,

Jay Kuppaswamy, Chair
Department of Engineering
and Technology
Savannah State University
Savannah, Georgia

- Deaths -

Blaise M. Carriere, PE

The engineering community loses an outstanding leader and role model in Blaise M. Carriere, PE, who died March 29, 2006 after suffering a stroke. A native of New Orleans he was 67. Blaise was employed by the Louisiana DOTD as its special projects assistant after previously serving as its Deputy Secretary.

Blaise earned his BS and MS degrees in civil engineering from LSU. During his 45-year career as a licensed civil engineer he was employed by the Louisiana Department of Highways as a bridge design engineer, the New Orleans Department of Streets as its Director, the engineering firm Howard, Needles, Tammen and Bergendoff as vice president of its Baton Rouge office, and the engineering firm Waldemar S. Nelson and Company as principal engineer.

Blaise was active in both his community and the engineering profession. He served his profession through its societies in various capacities including President of the ASCE Louisiana Section and President of the Louisiana Engineering Society. He was a licensed engineer in Louisiana, Mississippi and Alabama.

Blaise is survived by his wife Marilyn deMahy Carriere, sons Daren and Christopher

Carriere, daughter Angele Romig, his sister Helena Morvant and 9 grandchildren. In a statement that truly characterizes Blaise's relationship with many who knew him, Louisiana DOTD Secretary Johnny Bradberry said, "He loved his work and brought a level of energy and commitment that was second to none..."

Rasoul Nazermalek, PE

Rasoul Nazermalek, PE, President and founder of Sephan Engineering Group, LLC in Shreveport, died April 1, 2006 after a lengthy and courageous battle with cancer. He was a licensed engineer and very active in his community and engineering societies. Rasoul served as the President of the ASCE Shreveport Branch and in the Louisiana Engineering Society he served as an elected officer of the Shreveport Chapter and volunteered on many of its state and local committees.

Prior to founding Sephan Engineering, Rasoul was employed by the City of Shreveport in the office of the City Engineer where he was in charge of the design and construction of numerous public works including road, bridge and drainage projects. Rasoul was later employed by ARE Consultants and later

Alliance, Inc. where he served as a project engineer and project manager on various civil engineering projects.

Rasoul's presences and example in his community and profession will be deeply missed in Shreveport and in Louisiana. The engineering community hereby expresses its deepest sympathy to Rasoul's family.

Did you know...

...that one project being envisioned is a trans-Atlantic — New York-to-London — neutrally buoyant, vacuum tunnel submerged 150 to 300 feet below the surface and anchored to the seabed. It would provide the means for a magnetically levitated train to reach speeds upward of 4000 mph and traversing the Atlantic in a little less than an hour. Its estimated cost is between \$25 million to \$50 million per mile, and safety is an issue. Given is the premise that humans are driven to build on a grand scale requiring substantial resources and organization and provided the technology available. When such extreme engineering projects are visualized they often give insight into the cultures that come up with them. - *Popular Science* 4/04

Allocate your assets to offset market swings

By Thomas R. Thurmond

As many investors have learned the hard way in recent years, building wealth while preserving principal is not about riding the hot sectors or even picking the *best* investments. It is about investing regularly over the long term with a diversified portfolio. Your portfolio's asset allocation — the mix of investments you choose — is key to achieving diversity and maximizing risk/return efficiency perhaps even more than your choice of actual investments. Whether you dream of retiring in style, sending your children to the university of their choice or starting your own business, how you allocate your assets will be critical to achieving your goals.

Finding the right asset allocation for you

A diversified portfolio begins with 3 main asset classes: *stocks*, *bonds* and *cash*. Each of these performs differently in different situations. They also offer different levels of risk and potential returns. The tricky part is deciding what mix of investments is right for you.

When it comes to building your own portfolio, your investments should reflect your age, your individual needs and goals, and the overall economy. But since these factors are fluid, allocating your assets is truly an ongoing process. You should review your asset allocation regularly to make sure it is still in line with your current situation. Also, it is important to remember that asset allocation and diversification do not assure a profit or protect against a loss.

Stocks. Stocks represent shares of owner-

ship in the companies that issue them. As between stocks, bonds and cash, stocks historically have proven to be the best opportunity for long-term growth (rather than short-term income). Though more risky than bonds or cash, stocks have produced higher average annual returns over time and generally offer the best long-term potential hedge against inflation. According to Ibbotson Associates, a respected

financial services consulting firm, there has been no 15-year or longer period where stocks, as represented by the S&P 500 index, did not see a gain. Of the past 76 years 54 have seen the stock market gain money. It should be noted, though, that past performance does not guarantee future results.

(Continued on Page 23)

(Continued from Page 10)

Achievement Award during the Section's award ceremonies.

The Section's *Distinguished Civil Engineering Senior Students* nominated by their student chapter Faculty Advisor and Civil Engineering Department Chair were acknowledged. The Deep South Conference region of ASCE student chapters meeting in Memphis, Tennessee was concurrent with the Section Annual Spring Meeting and Conference and all of the recipients were participating in the Conference and could not attend the awards ceremonies. They are

- **Quincy Alexander** (Louisiana Tech University)
- **Kevin D. Cowan, Jr.** (Southern University)
- **Marina A. Gando** (McNeese State University)
- **Daniel C. Donahoe** (University of New Orleans)
- **Evan V. Yost** (Tulane University)
- **Jasmine R. Galjour** (University of Louisiana at Lafayette)
- **Paul J. Kocke** (Louisiana State University)

From among these nominees the Section's 2006 *Outstanding Civil Engineering Senior Student* is selected by the Section. She is **Jasmine R. Galjour** of the University of Louisiana at Lafayette.

— Calendar of Events —

June 4-7, 2006

Louisiana Engineering Society Annual Meeting and Multi-State Conference, Point Clear, Alabama. For more information visit LES website: www.les-state.org.

June 8-9, 2006

ASCE Conference * What every engineer and project manager should know about NEPA, Orlando, Florida.

June 8-9, 2006

ASCE Conference * Residential land development practices, Houston, Texas.

June 12-13, 2006

ASCE Conference * Wetlands and 404 permitting, Dallas, Texas.

June 14-16, 2006

ASCE Conference * Joint International Conference on Computing and Decision Making in Civil and Building Engineering, Montreal, Canada.

June 15-16, 2006

ASCE Conference * Joints bearings and devices, Memphis, Tennessee.

July 13-14, 2006

ASCE Conference * Structural condition assessment of existing structures, Dallas, Texas.

July 15-16, 2006

ASCE Conference * Wind loads for buildings and other structures, Houston, Texas.

July 27-28, 2006

ASCE Conference * Low impact development, Memphis, Tennessee.

September 14-15, 2006

The 2006 15th Louisiana Civil Engineering Conference and Show, Kenner, Louisiana. For more information visit the ASCE - New Orleans Branch website at www.asceno.org.

September 14-15, 2006

ASCE Conference * Financial management for the professional engineer, Orlando, Florida.

September 14-15, 2006

ASCE Conference * Residential land development practices, Jacksonville, Florida.

September 20-22, 2006

ASCE Conference * HEC-RAS Computer workshop for unsteady flow applications, New Orleans.

September 21-22, 2006

ASCE Conference * Assessing project performance and implementing recovery plans for troubled projects, Orlando, Florida.

September 28-29, 2006

ASCE Conference * Advanced detention routing: Improving the operation and effectiveness of detention facilities, Atlanta, Georgia.

September 28-29, 2006

ASCE Conference * Leadership development for the engineer, Atlanta, Georgia.

October 15-19, 2006

ASCE Conference * Electrical Transmission Conference - Transmission Line and Substation Structures, Birmingham, Alabama.

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Figure 7. Flash flooding in an urbanized watershed. (Courtesy of Harris County Flood Control District.)



Figure 8. Sediment-laden channel water resulting in a sediment plume in the receiving lake water. (Courtesy of USDA Natural Resources Conservation Service.)

(Continued from Page 23)

of the CWA to restore the surface waters to a level of cleanliness suitable for their intended use.

At the turn of the century, Congress once again re-authorized the CWA and specified that each state must recognize and implement Sections 303(d) and 305(b) of the CWA. The resulting regulations require the states to develop plans to bring all of their surface waters back to a level of cleanliness suitable for their intended uses. This included the mandate for developing standards to achieve these goals, referred to as Total Maximum Daily Loads, and expanded regulation and permitting through the NPDES. The NPDES regulations and permitting were extended to the remainder of the Municipal Separated Storm Sewer Systems (MS4s) and construction sites that were not included in the original Phase I NPDES stormwater regulations. These were primarily small and medium MS4s and all but the smallest construction sites. The lack of regulation of these remaining MS4s and construction

sites were found, cumulatively, to be a major source of water pollution — a result of their inadequate stormwater management practices.

The CWA concurrently charged the EPA and the Army Corps of Engineers to ensure “no net loss of wetlands” through Section 404 of the CWA. Section 404 regulates discharges of dredged and fill materials into the waters of the United States and requires compensatory mitigation for any unavoidable impacts. Studies and subsequent reports published in 2001 by the National Academy of Sciences and the General Accounting Office provided a critical evaluation of the effectiveness of wetlands compensatory mitigation for the authorized losses of wetlands and other waters under Section 404 up to that point.

These independent analyses and other commentaries highlighted a number of shortfalls of — and identified a variety of technical, programmatic, and policy recommendations for — the federal agencies, states and the other parties

involved. An interagency team drafted the National Mitigation Action Plan endorsing the goal of no net loss of wetlands and outlining specific action items that address the concerns raised in the National Academy of Sciences and General Accounting Office reports, and other independent evaluations. One of the primary directives of the Plan was to integrate mitigation into the watershed approach, as promulgated in the Corps’ Regulatory Guidance Letter (02-2) with the following wording:

Districts will use watershed and ecosystem approaches when determining compensatory mitigation requirements, consider the resource needs of the watersheds where impacts will occur, and also consider the resource needs of neighboring watersheds.

This and associated guidance required that impact to a functioning stream and its riparian corridor (buffer) must be mitigated by the restoration of a similar (functional) system within the same watershed... or, in other words, a



Figure 9. (Above) Channel erosion in an open drainage ditch.

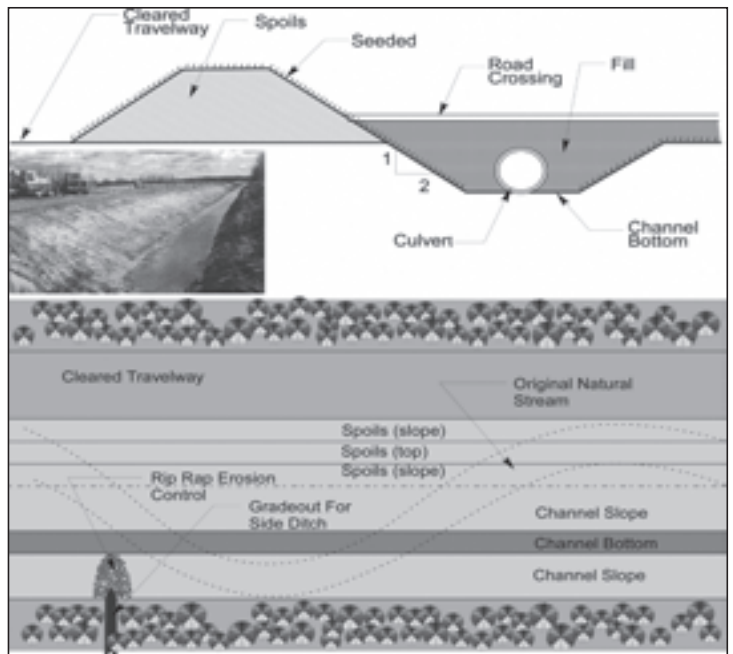


Figure 10. (Right) A typical replacement of a natural stream with a straight trapezoidal channel.

stream for a stream and not a wetland for a stream.

Stormwater BMPs not enough

In recent years, industry standards in the industrial and construction sectors have attempted with admirable success to address their hydro-modification problems through the improvement and implementation of Best Management Practices (BMPs) as required by the CWA. Unfortunately, these measures, such as silt fences, detention/retention ponds, hydro-mulching and sodding, serve only to mitigate their individual, future impact on the watershed and they are external to the receiving channels. Applied only to the drainage basins, they do not directly address the regulated receiving conveyance channels such as ditches, streams, and rivers that are the water resource foundations of our communities.

The science of fluvial geomorphology helps us to understand the natural response of our receiving conveyance channels to the dramatic watershed hydromodifications experienced since early in the 20th century. The channels altered their forms, most commonly through erosion and sedimentation, in an attempt to accommodate their new hydrologic conditions. Unfortunately, this natural process of transition to a new state of equilibrium occurs much slower than the rate of watershed hydromodification to which they have been subjected. As a result, virtually all of our receiving conveyance channels have been subjected to an almost continuous state of instability as they slowly respond to the rapidly changing conditions caused by watershed hydromodification. As a result they are subject to flash floods, high sediment and pollutant loads, highly incised (entrenched) channels, over-widened channels, unstable channel banks, and an inability to maintain vegetation.

Our past attempts to address these issues through traditional hydraulic engineering practices as exhibited in Figures 10, 11, and 12, have only exacerbated the problem. Such channels/systems are designed using the simplest geometric forms without recognition of — and not in harmony with — basic fluvial geomorphological principles. Armoring engineered



Figure 11. Armoring a channel with concrete liner to prevent erosion.

channels with concrete liners does not eliminate the erosion/sedimentation problems, it just moves them downstream. As a result construction of new civil works often modifies the watershed and immediately places the conveying and receiving channels in a state of instability as the natural forces immediately begin their long process to re-establish stability or equilibrium as shown. The evolution to re-establish equilibrium invariably involves erosion and sedimentation, both of which are diametrically opposed to the intent of the original design to establish a stable channel configuration. This would appear to lead to the conclusion that NCD is the only means to effectively minimize or eliminate long-term channel instability.

Approaches to NCD

The advantages and disadvantages of natural channel design provided in the sidebar are usually intuitive to the engineer who has spent any time in the field observing both hydrodynamically stable and unstable channels. Figure 3 schematically demonstrates the characteristics and components of a stable natural channel that are to be emulated in a NCD. When compared to the engineered channel, the disadvantages of NCD are the additional costs of the design process, and the additional right of way required to provide for the riparian floodplain and the inability to accommodate development such as housing in the riparian floodplain.

The state-of-the-technology and -practice in NCD as described is in its infancy. As such, it is understandable that the evolving design methodologies in the field are far from any universally accepted standards. The debate concerning the value and validity of NCD is ongoing between the fluvial geomorphologists who have addressed the subject based on this new and validated science, and those who are educated exclusively in conventional hydraulic engineering. In the author's mind, the knowledge and collaboration from both camps is critical to effectively merge the science and technology needed



Figure 12. Storm sewers ostensibly alleviate all problems associated with channel instability by totally enclosing the flow.

to expeditiously develop the practical ability to implement NCD on a large scale in Louisiana and across our nation.

Hydrologist and fluvial morphologist Peter B. Skidmore recently provided a succinct description of the natural channel design protocols that are currently being employed.

- The *analog design approach* replicates historic or nearby reference channel characteristics as shown in Figures 13 and 14, and assumes equilibrium between channel form

(Continued on Page 26)

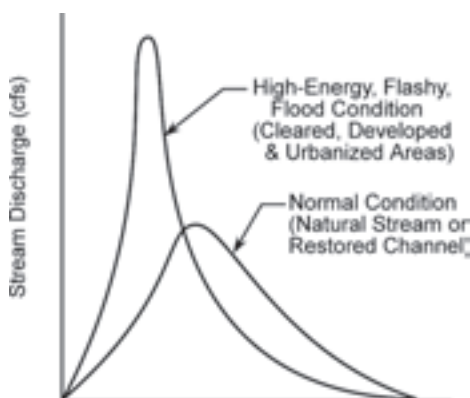


Figure 6. Typical hydrographs of a stable natural stream and an unstable urbanized channel.

Natural Channel Design Engineering

Advantages are

- a self-sustaining system that requires minimal maintenance — no net erosion or sedimentation
- a tendency toward dynamic equilibrium that produces a multi-stage system capable of supporting healthy ecosystem during storm, normal and low flow events
- a naturally formed flood plain that accommodates all storm waters — high energy and volume — during major storm events and prevents erosion of baseflow channels and flash conditions.
- a riparian corridor buffer that maintains high water quality and
- a baseflow channel able to support aquatic biota even during dry periods.

Disadvantages are

- complex design and construction
- additional right of way required to accommodate flood plain and
- development within the flood plain is not possible.



Figure 13. Example of a stable reference reach in equilibrium that could be used in the analog design approach.

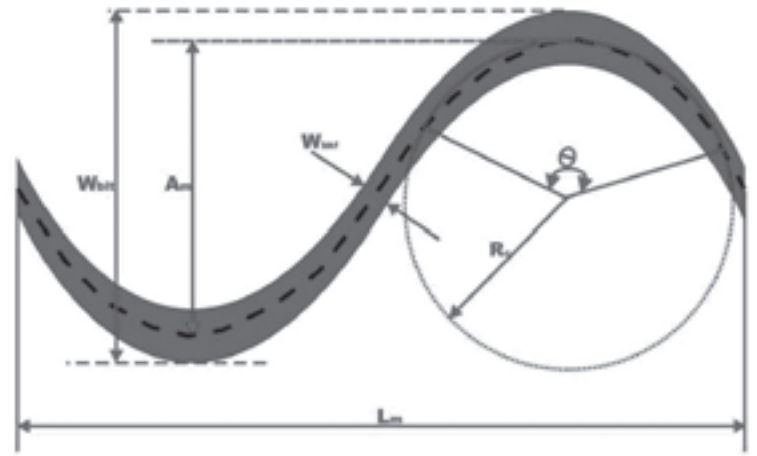


Figure 14. Schematic showing analog design parameters obtained from adjacent stable natural channels and used for estimating a stream alignment.

(Continued from Page 25)

and sediment and hydrologic inputs in the reference stream reach. This approach is widely known as the Rosgen carbon copy or reference reach approach.

- The *empirical design approach* uses empirical equations that relate various channel cross-section hydraulic geometries to bankfull discharge or drainage basin area derived from *regionalized* or *universal* data sets as demonstrated in Figure 15. Like the analog approach, it assumes equilibrium between channel form and sediment and hydrologic inputs in the stream reaches used to develop the empirical equations. This approach is widely known as the regional curve approach.
- The *analytical design approach* makes use of the continuity equation, roughness equations, hydraulic models, and a variety of sediment transport functions to derive channel conditions assuming that equilibrium of sediment and the hydrologic conditions will result. It is thus applicable to situations where historic or current channel conditions are not in equilibrium and where applicable

analog or empirical solutions are not available.

Conclusions

The incorporation of natural channel design in the engineering processes for the development and preservation of the natural water resources must become an integral part of the education and practice of civil engineers providing these services. This practice, along with valid best management practices to mitigate hydromodification from civil works and other practices in the watersheds, was essentially put into place by the evolving Clean Water Act of 1972. This evolution through the reauthorization of the CWA is expected to ultimately achieve the original goals of the CWA to restore surface waters of the United States to a level of cleanliness suitable for their intended use. Louisiana has a large portion of the surface water resources in the United States and thereby its engineering community will have an equally large investment in accomplishing these important goals.

Acknowledgements

The author wishes to acknowledge and thank

both C.H. Fenstermaker and Associates, Inc. and FMSM Engineers, Inc. The author's collaboration on several natural channel design projects with these firms, and the expertise and input they shared respectively was invaluable to the development of this article.

(Continued on Page 27)

Did you know...

...that the U.S. Army Corps of Engineers released its final report and programmatic environmental impact statement on the Louisiana Coastal Area Ecosystem Restoration Study. The total first cost of the plan to restore Louisiana's coastal wetlands is \$1.9 billion of which the federal share is estimated at \$1.28 billion. The Louisiana Department of Natural Resources will be the non-federal cost-sharing sponsor. Still, the funding remains a big question because the federal money is tied up in a water resources bill that hasn't cleared Congress. Four million acres of coastal wetlands were built up in Louisiana over several 1000 years by the nutrients and sediments in the Mississippi River floodwaters that were eroded from the lands of the vast Mississippi River basin and deposited on the continental shelf at its mouth. Most of the Mississippi River's floodwater is now channeled by a levee system into the deep waters of the Gulf of Mexico, bypassing the coastal wetlands where they would otherwise naturally build land and nourish the estuarine ecosystems. This has resulted in a loss of 0.9 million acres of land along the state's coast since the 1930s. Past and continued loss of Louisiana's coastal wetlands significantly affects the ecology, society, and economy of the region and the nation and diminishes their ability to act as a buffer to major storms increasing the threat to energy, transportation, and other infrastructure in the region. The current rate of loss for Louisiana's coastal wetlands is about 16,000 acres per year though it has been as high as 25,000 acres per year in the 1970s. - U.S. Army Corps of Engineers news release no. PA-04-23 11/08/04

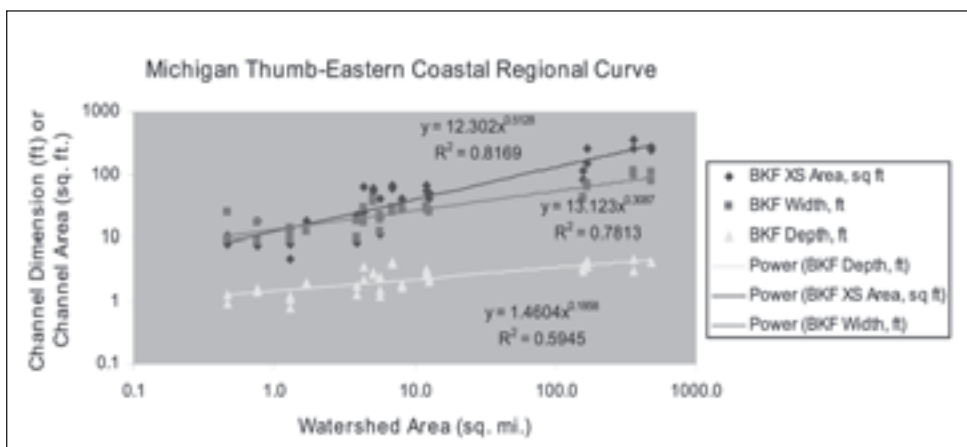


Figure 15. Typical regional curve data for hydraulic geometries.

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(Continued from Page 26)

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