



Acadiana Branch

American Society of Civil Engineers
December 2011



For more information concerning the Acadiana Branch, go to our newly updated website at www.asceacadiana.net

Please make note of our newsletter sponsors for again helping make this newsletter an ongoing success! (See page 5)

Merry Christmas



President's Message

Dear Acadiana Branch Members:

I hope everyone had a great and safe Thanksgiving. Allow me to take the time to thank those who attended the November luncheon. We had an excellent turnout.

In addition, I want to thank the members who completed the ASCE-T&DI Seminar Course and Instructor Survey. The top ranked Course and Instructor was the "I-10 Twin Spans Elevation Determination Case Study & the AASHTO Guide Specifications for Bridges Vulnerable to Coastal Storms", by Jeffrey G. Shelden, P.E., with Moffat & Nichol. Depending on Mr. Shelden's availability, the Board plans to host an evening seminar in the month of March or April 2012. If you can make it, I encourage you to attend.

Also, I hope everyone can join us for the ASCE/LES December Joint Engineering Society Social, which will be held at Dean-O's South Restaurant in Lafayette, Louisiana, on Friday, December 9, 2011 from 12:00 pm until you decide to leave. We'll have space reserved in the sunroom near the bar area. ASCE and LES will provide a meal and a nonalcoholic beverage for you and a guest at no cost. We will also have door prizes. **So come catch up on local community news, socialize with friends of our industry, and enjoy great pizza on ASCE and LES.** Please RSVP by responding to the meeting request sent out on November 29, 2011.

As I mentioned during the November meeting, the Acadiana Branch has been working alongside Dr. Chris Carroll with the University of Louisiana at Lafayette to submit a State Public Affairs Grant (SPAG) proposal to ASCE National through the ASCE Louisiana Section. On December 1, 2011, the State Public Affairs Committee informed the Louisiana Section that the Acadiana Branch SPAG proposal has been awarded a grant of \$3,000.00.

As for the month of January, the Board has decided not to have a January luncheon as a result of the 16th Louisiana Joint Engineering Societies Conference that will be held on January 19 and 20, 2012, at the Holiday Inn in Lafayette, Louisiana. You can find additional information for the conference at the following website: <http://www.les-state.org/jesc.htm>.

In closing, I want to remind all of you that the ASCE Acadiana Branch sent out an email to renew business card advertisements in the ASCE Acadiana Branch monthly newsletter, and the deadline to renew is December 31, 2011.

Best Regards

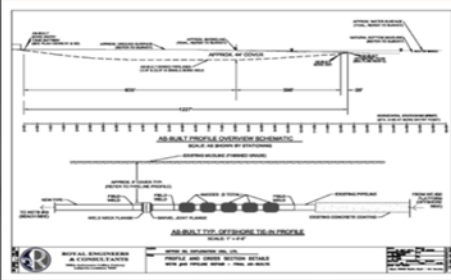
Luke Hebert, P.E.
ASCE Acadiana Branch President

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A new addition to the newsletter will be a highlighted project submitted by our Sponsors! This months project was submitted by our ASCE Secretary Mitch Andrus to kick things off! Mitch will be contacting our Sponsors individually. Your help and interest in this new section of our newsletter is greatly appreciated. Contact Mitch at mandrus@royalengineering.net or (337)456-5351 with any questions.

No December Luncheon



West Cameron Tank Battery #45 Pipeline Repair and Protection

- Project No. 2009-02
- West Cameron Tank Battery #45 Pipeline Repair and Protection
- Location: Johnson's Bayou, LA
- Construction Value: \$2,051,083.65
- Completion Date: April, 2010
- Owner/POC: Nippon Oil Exploration USA

General Scope:

Royal performed engineering analyses and design on the structural performance and environmental protection of hurricane damaged offshore to onshore gas and oil transmission pipelines for Nippon Oil Exploration USA, Ltd's West Cameron Tank Battery #45 Pipelines. The project involved the evaluation of two alternatives to repair and protect the beach approach of the two in-service pipelines with consideration to feasibility, longevity, physical coastal conditions, environmental issues, constructability and safety.

In order to protect the proposed pipelines from wave action and combat damaging coastal erosion processes at the exposed, hurricane-prone site, coastal protection alternatives, such as breakwaters, beach nourishment, and articulated concrete mats were investigated, proposed and

submitted for review through the Coastal Use Permit (CUP) process (Louisiana Coastal Resources Management Act (Act 361, LAR.S49:214.21)).

One of the alternatives which Royal evaluated was the design and construction of three segmented rock breakwaters, which would be an extension to the existing Holly Beach breakwater field. The additional breakwaters alternative would protect the pipelines from further erosion-induced exposure and damaging direct wave action from the Gulf of Mexico. The breakwaters would have been constructed in conjunction with an open trenching operation performed to deepen the pipelines at the beach head and placing minimal additional suitable sand backfill across the local beach therefore providing a simple solution approach which also indicated a lower construction cost through preliminary engineering evaluations. In addition to extending the safe service life of the pipelines this alternative would naturally restore local beach morphology by allowing long term sediment accretion.

The second alternative evaluated and ultimately selected for final design and construction was a trenchless installation via Horizontal Directional Drill (HDD) and pull-through of the proposed pipelines. In accordance with this design the two new pipelines were installed to an overall pre-determined depth of 42' below natural ground from the onshore tank battery facility continuing below the beach to a selected tie-in point located offshore at the two existing in-service pipelines. This chosen trenchless beach approach currently provides significant long-term, safe protection and low maintenance for the new in-service pipeline segments.

A major environmental component of the project was the removal of approximately 2433 linear feet of the four (4) existing hurricane-damaged pipeline segments and contaminants with minimal damage to the beach and in accordance with all federal and state environmental requirements and regulations. Because two of the four pipelines were in active status with flowing hydrocarbons prior to shut in for construction, many environmental and safety issues needed to be addressed. Some of the issues addressed were: identifying each line; performing field testing; obtaining samples for NORM and asbestos lab testing; reviewing asbestos lab results; abatement of asbestos-contaminated pipe coating; safely cutting pipelines; pig-flush-cleaning lines with detergents to remove residual hydrocarbons; containing residual fluids; monitoring LEL readings; capping lines; and ultimately safely removing the pipeline segments from onshore to the offshore tie-in location. Other challenging factors included the zero visibility of the waters on location, close proximity of the four pipelines, and rapidly changing seas.

Royal performed all preliminary and final engineering analyses, design and project oversight. Oversight involved coordination of geotechnical investigations, pipeline location surveys, final design and bidding, field inspections, and reviewing change orders for approval. Royal also obtained and/or coordinated necessary permits with the LDNR, LDEQ, USACE, DOT and the USFWS including a Coastal Use Permit (CUP), Section 404 Permit, and Asbestos Disposal Permit. Other permits addressed but ultimately not required were NORM Disposal Permit and Hydrostatic Testing Water Discharge Permit.

All pipeline engineering analyses and design work were in accordance with ASME Codes for Pressure Piping; B31.4 and B31.8, API Standard 1104 for Welding of Pipelines and Related Facilities, and DOT regulations for oil & gas pipelines. Royal also coordinated pre- and post- Hydrostatic Pressure Testing and Non-Destructive X-Ray Inspection of the new pipelines, the evaluation and disposal of the asbestos containing material (ACM) laden pipe following 40 CFR Part 763, Section 1, and the testing of generated waste materials for Naturally Occurring Radioactive Material (NORM) following Louisiana Department of Environmental Quality manifesting protocols (LA DEQ RPD-37).

Project Specific Disciplines

- Reconnaissance Studies
- Engineering Design
- Shoreline Erosion Protection
- Environmental Compliance
- Geotechnical Engineering
- Construction Support Services
- Structural Testing
- Field Inspection
- Hazardous Materials Testing

ASCE–T&DI–2012 SEMINAR

Tentative Date: March 2012

Course Topics Voted on at November Luncheon– Results and Rankings from Highest to Lowest

Course Topic	Speaker	Ranking
I-10 Twin Spans Elevation Determination Case Study & the ASSHTO Guide Specifications for Bridges Vulnerable to Coastal Storms	Jeffery G. Shelden, PE, Moffat Nichol	14
Huey P. Long Bridge Widening Project	John P. Brestin, PE, SE, HNTB Sean T. Cooney, PE, HNTB Tim Todd, PE, Louisiana TIMED Managers	10
Roundabout Intersection Safety and Design	Mr. Hadi Shirazi, PE, DOTB	6
Toll Road Feasibility for the Interstate 10 to LA-1 Connector, West Baton Rouge Parish, LA	Huey Dugas, Capital Area Planning Commission	6
NEPA: What Do I Wish I had Know Sooner?	Ms. Noel Ardoin, Environmental Administrator, DOTD	4
Design-Build Delivery		3
Green Highways and Green Streets: America's 21st Century Infrastructure	Neil Weinstein, PE, RLA, AICP Director , The Impact Development Center, Inc.	3
Linking Rail Systems in SE Louisiana	Randy Carmichael, AICP, Burk Kleinpeter, Inc. Kevin Keller, PG, CGWP, HDR Engineering Stefan Marks, AICP, New Orleans Regional Transit Authority John L. Renne, Ph.D., AICP, UNO Transportation Studies	2
Pavement Engineering Services, Part 1 of 3: Pavement Engineering, Asphalt Mixture Design and Analysis	Dr. Louay Mohammad, LSU, LTRC	2
DOTD Traffic Impact Study Policies	Dwight Fox, PE, Statewide Traffic Impact Engineer, DOTD	1
Program Management– the Green Light and other Road Program Management Projects	Brad Ponder, CSRS	1
Pedestrian and Bicycle Evaluation Tools in the 2010 Highway Capacity Manual & AASHTO Highway Safety Manual	Mr. Jamie Parks, AICP, Kittleson & Associates	0
New Orleans Transportation Center and ITS	Mr. Steve Strength, P.E., DOTD District 02 Traffic Engineer	0
Accelerated Construction Project Delivery Methods	Jeff Lewis, PE, FHWA Resource Center, Sacramento, CA	0
Pavement Engineering Services, Part 2 of 3: Pavement Engineering, Concrete Mixture Design and Analysis	Dr. Tyson Rupnow, PE, DOTD/LTRC Mr. John Egger, PE, DOTD	0
DOTD Project Delivery Stages: Highway Construction from Start to Finish	Dr. Eric Kalivoda, P.E., Assistant Secretary Office of Planning and Programming, DOTD	0

Schedule of Events

- ◆ December 17, 2011—UL Graduation
- ◆ December 17, 2011— UL vs. San Diego State
- ◆ December 25, 2011—Christmas
- ◆ January 9, 2012—National Championship—LSU vs. Alabama
- ◆ January 16-17, 2012—LAPELS Board Meeting—LES State Office
- ◆ January 19, 2012—LES Board Meeting - Lafayette, LA
- ◆ January 19 & 20, 2012— 16th LA Joint Engineering Societies Conference (Earn 12 Professional Development Hours— Pre-registration ends Jan. 6th)

December 2011

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January 2012

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December 2011



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