THE ENGINEEROGRAm

August 2012

Volume 74, No. 8

President's Message

by Jon Balzer, P.E., President

SYNERGY

“Alone we can do so little; together we can do so much.”

Helen Keller

Y ears ago when my involvements in the ASCE Construction Institute were still developing, I had the opportunity to begin a program for students to compete in a design-build environment. The program focused on subjecting students to preparing and presenting proposals in an industry setting designed to imitate the real world. The program was lofty, and while it began as an idea over coffee, it later turned into an event that has been held in multiple states. Yet, as with many programs, it took time, and the efforts of many people to develop. With each iteration the program had its success and its struggles, but it was during the challenges that some of the greatest lessons were learned.

It is often when faced with challenges that life forces some of the greatest changes and improvements. For the “Student Challenge” program, some of the best ideas and cornerstone improvements were realized during these times of difficulty. Many of the program advocates and leaders that continue to develop and refine student programs today also surfaced during this time. Yet, perhaps the greatest and lasting insight of the program was the value of compound efforts over time. It was the idea that great efforts take the work of many people, and are often not realized until years later. It is a lesson that continues to manifest itself in ASCE today, including the efforts and involvements of the Sacramento Section.

Section Awards Banquet & Getting Involved:

As we approach September in Sacramento schools return to session, and the cool breezes of summer nights serve to remind us that a season change lies on the horizon. Yet, September also serves as a time to reflect and recognize exemplary performances and excellence in the ASCE Sacramento Section. It is a time to recognize student excellence, and it is time to recognize individual achievement. It is a time to acknowledge the sacrifices and commitments made by so many to further the industry and the profession of Civil Engineering. This September 26th at the Firehouse Restaurant in Sacramento marks the ASCE Sacramento Section Awards Banquet, and a time to reflect on the achievements and contributions of so many as the Section looks forward to a new year. Yet, the Awards Banquet is more than a reflection on achievements past, it is a time to continue to pay forward these efforts and strive for tomorrow’s successes.

As the Section enters the close of summer and new faces prepare for office, the importance of our members and the continued efforts towards improvement remain at the forefront. As society evolves to open new fields and considerations for the Civil Engineering profession, the Section must also evolve to ensure the enhancement of the profession through these changes. Student outreach programs, advisors, mentors, and officers are always in need to help promote the growth and strength of the profession. With the change of the season, lies also an opportunity for members to get involved and make a difference. It is an opportunity to discover one’s own leadership, and it is an opportunity to leave a fingerprint in a profession of service. And it is in each of these “fingerprints” left behind that a story is told of how great successes take not only time but also many people to accomplish.

The value of teamwork and the importance of people are not only reoccurring themes for ASCE, they are also fundamental to much of the civil engineering profession, and a lesson in the

Continued on Page 3
The Engineerogram, P.O. Box 1492, Lincoln, CA 95648-1441
(916) 961-2723 (phone and fax) • e-mail: asce@asce-sacto.org • Web site: www.asce-sacto.org

The Engineerogram is the official publication of the Sacramento Section of the American Society of Civil Engineers and made available to ASCE members paying local dues to the Section. It is published regularly at the beginning of the month. To contribute articles, mail, fax, or e-mail to ASCE/Sacramento Section Executive Secretary, Vivian Mevorah, at asce@asce-sacto.org. Deadline for articles is on the 20th of the month prior to the issue.

Advertising Rates:  
- **Full Page** $250 - A page is 7 1/2” x 9 1/2”
- **Half Page** $130 - 1/2 page (either horizontal 7 1/2 x 4 3/4; or vertical 3 3/4 x 9 1/2)
- **Quarter Page** $75 - 3 3/4 x 4 1/4
- **Professional Card** $150 for a full year - 2 1/2 x 1 1/2 (reduced down from 2 x 3 1/2); OR $175 for a full year for 2 x 3 1/2 size business card

**(Classified Ad in Newsletter or Website)** $50/100 words - no logo

**(To our contributing writers:** The Engineerogram reserves the right to make revisions, correct spelling and grammatical errors, to prioritize information and to summarize content. Articles may be shortened as editorial requirements dictate. Questions regarding this policy may be directed to the President of the Sacramento Section. Thank you for your understanding. Editors.)

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### INSTITUTES

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### UNIVERSITIES

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importance of “synergy.” I remember many years ago a teacher describing the meaning of “synergy.” He described it as the idea that the whole is greater than the sum of the parts. However, the true meaning of synergy I did not realize until years later when I was fortunate enough to compete for a track and cross country team in college. While we came from different backgrounds, we were able to accomplish so much together, and found ourselves working towards one goal. Yet, the irony with synergy is how it offers an insight to the potential inside each of us, and how we instinctively try harder, do more, and rise to performances beyond our capabilities when part of something bigger. It is a lesson that transcends professions and backgrounds, and a lesson that links each of us: we can give more, and achieve more - together.

Thank you, and if you are interested in getting involved, have questions about the ASCE Sacramento Section Awards Banquet, or just want to share some thoughts, contact ASCE Sacramento Section at: asce@asce-sacto.org.

Sincerely,
Jon Balzer

President’s Message - Continued from Page 1

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### Capital Branch August 28th Meeting

The guest speaker for the August 28th luncheon is Kenwarjit Dosanjh, PE, who will be speaking on A 30-Story Descent to a Dam Inspection.

For more details about the luncheon, please see Page 6 in this newsletter. For more information about the Capital Branch, you may email or call Alfred R. Mangus at mangusalf@yahoo.com or 916-205-1962.

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### Shasta Branch

For more information about the Shasta Branch meetings, please contact Dale Roper, P.E., at droper@shn-engr.com.

### Feather River Branch

For more information about the Feather River Branch meetings, please contact Amie McAllister at amie.steel@gmail.com.

### Central Valley Branch Meeting

For more information about the Central Valley Branch meetings, please contact Jason Tokheim at jtokheim@ksninc.com.
Don’t forget to sign up for the ASCE Sacramento Younger Member Forum’s

**Fall 2012 Seismic Principles Seminar**

Held at Sacramento State

*24 Hours of Instruction*

Signup here:

[http://www.sacymf.org/pe-review](http://www.sacymf.org/pe-review)

if you have any questions please email:

[pereview@sacymf.org](mailto:pereview@sacymf.org)

Classes are every Sunday from September 9th through October 7th
Don’t forget to sign up for the ASCE Sacramento Younger Member Forum’s

**Fall 2012 Professional Engineer 8 Hour Examination Seminar**

Held at Sacramento State

*48 Hours of Instruction*

Signup here:

http://www.sacymf.org/pe-review

if you have any questions please email:

pereview@sacymf.org

Classes are every Monday and Wednesday from August 6th through October 8th
A 30-Story Descent to a Dam Inspection, The Libby Dam Hemispherical Bulkhead Inspection:

Speaker: Kenwarjit Dosanjh, PE

Bio:
Mr. Dosanjh is a registered Civil Engineer in the State of California employed by HDR Engineering, Inc. He has been part of the HDR Dams and Hydraulics structures section for over 7 years. The section encompasses a large variety of engineering duties ranging from rope access inspections of hydraulic structures to finite element modeling of hydraulic structures. Many of the findings from the inspections performed by the group have led to retrofits of the structures along with forensic analyses to discover the true mechanism for the critical finding found during the inspection. Mr. Dosanjh graduated from UC Davis in 2002 with a degree in Civil Engineering, and received his masters from CSU, Sacramento in 2009. In 2010 he was named as one of ASCE’s “New Faces of Civil Engineering.”

Topic:
The U.S. Army Corps of Engineers’ 422 foot tall Libby Dam located on the Kootenai River upstream of Libby, Montana began construction in April 1967 and was completed in July 1973. The dam has eight penstocks but the generators in Penstocks #6, #7 and #8 have never been installed. The original construction included giant 20-foot diameter, steel 1/2-ball hemispherical bulkheads which plugged the penstocks for “temporary” closure. There is no record of the bulkheads ever having been inspected since construction. HDR Engineering, Inc. was tasked with inspecting the upstream and downstream side of the bulkheads; the upstream side normally being submerged 100 to 300 feet underwater. The first step in the project was designing and fabricating a temporary drain system that was light enough to be installed on-rope and in a confined space environment, yet strong enough to withstand a possible 300 feet of head. One of the great unknowns prior to attempting to drain the water above the bulkheads was the amount of original constriction debris and accumulated sediment that would be present, potentially clogging the drain system. Those initial challenges and any other unknowns that could surface during the inspection needed to be overcome in order to obtain the ultimate goal of performing both a visual inspection and non-destructive testing on the steel shell members and welds.

Hope to see many of you there!
Alfred R. Mangus, P.E., President, ASCE-Capital Branch
Capital Branch News

by Alfred R. Mangus, P.E.
President, Capital Branch

Continuing Education and Conferences

Introduction: For those of you who do not know me, my name is Alfred R. Mangus, PE, and this is my second time as President of the ASCE Capital Branch (last 2003-2004). My area of interest is orthotropic steel bridges.

Who’s on First: Thor is Past-President, Mario was elected President-Elect, Dick Weitzenberg is Treasurer, Doran Glauz is Secretary, and Vice President of Education is Ajay Sehgal.

We Want you: to provide us with a speech on a diversified ASCE topic. We need speakers for each and every ASCE Institute. Please email us any topic(s) or commitment to aksehgal@comcast.net. We are open to out-of-town visitors who can provide high quality talks.

What’s up?: Please provide us with news about your project in our area. We are also seeking tours including “hardhat” tours of local projects. A portion of your section dues go to funding this newsletter, let’s all utilize this communication resource. Please email us any topic(s) or commitment to our President-Elect Mario.carrecon@att.net. Mario has been mentoring younger engineers. Please also contact Mario if you want to stay with Radisson, now called the “Woodlake Hotel,” or switch to a brown bag meeting location in a government building.

Our Colleague: Our international Bridge Event: The third www.orthotropic-bridge.org will be co-chaired by Ajay and me. Additional volunteers are needed for his committee. It’s planned for the last full week in June 2013 in a hotel between Sacramento and the San Francisco Bay area. Precise dates and the hotel / meeting room have not been selected. The abstracts are due by September 15, 2012. Please see attached flyer.

Presidential Pulpit: Creating and saving our infrastructure:
Creating our infrastructure Caltrans vs. Sacramento Bee on new SFOBB:
The San Francisco Examiner published the Caltrans rebuttal as an optional –editorial “Caltrans: New Bay Bridge is safe, well-tested,” by Malcolm Dougherty on 06/22/12 2:29 pm, which can be found on their website. Video TV links are:

Friday TV Video Clips: http://msmedia.dot.ca.gov/director/20120615_bay_bridge.asf

Saturday TV Video Clips: http://msmedia.dot.ca.gov/director/20120616_bay_bridge.asf

Creating our infrastructure: Two key bills were passed – Highway Bill and the High Speed Rail Bill
1. The $104.4 billion package, (MAP21) “Moving Ahead for Progress in the 21st Century,” a successor to the SAFETEA-LU program that expired in 2009, guarantees federal funding of highway and transit programs through September 2014. The transportation bill passed last week is “A shortsighted measure that delays making hard choices,” say experts. That’s because money to fund the bill is $20 billion short, which means lawmakers will have to raid general revenues to make up the shortfall. Some say it’s time for Congress to raise the federal gasoline tax to help fund infrastructure needs.
2. California’s high-speed rail project is to receive $5.8 billion after Gov. Jerry Brown approved legislation funding construction of the first leg of the system. Part of the money comes from federal funds, and the rest from bonds the state will issue. “This legislation will help put thousands of people in California back to work,” Brown said. “By improving regional transportation systems, we are investing in the future of our state and making California a better place to live and work.”

Arts in River Park cooperated with the River Park Neighborhood Association in organizing the 4th of July Festival. Arts in River Park volunteers included engineers David Schwegel, PE and Paul Des-sau, EIT who had 2 separate booths to provide hands-on activities for the kids. Now in its 10th year, Arts in River Park brings people together across cultures, organizations, interests and talent to share art, conversation and fine foods at events throughout the year.

Our next event is on Sat., Oct. 6 for a backyard concert featuring Saxophonist Mark Monreal. The 4 pm event will include appetizers and non alcoholic beverages. Reservations are required. $20 per person. Please make checks payable to: Arts in River Park, and mail to P.O. Box 191312, Sacramento, CA 95819. Contact Brenda Jew Waters at bjewwaters@aol.com, or by calling 916-457-3337. Funds raised will be used for concerts and festival supplies.

Saving our infrastructure: Haiti Engineering Inc. is a nonprofit group created to assist one of the poorest countries in the world.

From edited text written by Mr. Herby Lissade, MASCE Chief of the Office of Emergency Management for Caltrans

“It’s been more than two years since the catastrophic 2010 earthquake hit the tiny island nation of Haiti, but most of the devastation remains unrepaired. www.hatiengineering.org was created by Herby and his colleagues. Its vision: To help reconstruct an island nation that is not restored to pre-earthquake conditions, but one that is reconstructed to sustain its people at levels that are…”

Haiti Engineering is continuing its technical assistance to the Haitian people. That in turn helps us prepare for what could occur in our own state. Christopher Columbus founded the St. Rose de Lima Church and parish more than 500 years ago; it started as a mission. The St. Rose de Lima Church bells once summoned slaves to wake for work; to worship and other community functions.

In addition to its historical significance, the church is one of the few structures in the community that could provide emergency shelter for many of the town’s residents. Haiti Engineering formed a team of professional architects and engineers to design the project. The team includes Haiti Engineering, the Cuningham Group, MHP Structural Engineers, and BETA Engineers.

Haiti Engineering is finalizing design plans that will go to bid, and we hope the new church will be constructed before its 503rd
anniversary next August. Unfortunately, there wasn’t enough funding for the church furnishings.
Thus, Haiti Engineering created Raise the Bells Fund-Raiser Golf Tournament on September 29, 2012 with the mission to raise money for the church’s interior. Corporations or individuals who donate funds will have their names placed on one of the tree’s leaves of the “giving tree.” (The attached is flyer for fund raiser by Haiti Engineering.)

**Herby and Cal Poly Structural Engineering Students will travel to Haiti this summer 2012.**

Just before Thanksgiving 2011, Dana Hendrix, P.E. of Haiti Engineering, an architect from the Cuningham Group; Ken O’Dell, S.E, from MHP Engineering; University of California PhD student Pierre Auza; and Herby traveled to Haiti to meet with Haitian Roman Catholic Church hierarchy. The trip included a visit to Haiti’s Central Plateau to meet with then Sacramento King’s center, Samuel Dalembert of the Samuel Dalembert Foundation. The foundation is building a community center and athletic complex in one of the poorest areas in Haiti, the Central Plateau near Hinche. With its mountainous terrain and huge lake, this beautiful part of Haiti resembles parts of Lake Tahoe or Big Bear.

The need for engineering assistance in Haiti is great. A Structural Engineering firm, Barrish, Pelham and Associates, reviewed the engineering documents and made their recommendations for a peer review of a large school septic tank structure. Haiti Engineering hopes to continue our relationship with Barrish, Pelham and Associates for many years to come.

In January 2012, Haiti Engineering team members returned to Haiti and presented draft plans to rebuild the St. Rose de Lima Church. Haiti Engineering reached a huge milestone when the Catholic Church accepted the draft plans, approved the project for funding, and provided the necessary funding. Haiti Engineering helped raise the Vatican’s awareness of the church’s importance, not only to the Haitian community, but also to the world.

These preliminary plans for the new St. Rose de Lima Church in Leogane, Haiti, show how the church will look from the outside. The new structure is being designed to withstand Haiti’s earthquakes. For more information, please visit Raise the Bells website.

All that remains from the previous St. Rose de Lima Church are the bells. Haiti Engineering is working with the Catholic Church to “raise the bells” and help rebuild the parish’s church.

Continued on Page 9
Haiti’s place in history links to the expansion of the United States. Haiti’s slave revolt was the first and only successful slave revolt in history. And, the Haitian Revolution led to the United States’ size doubling. It was Napoleon’s loss of Haiti that convinced him to sell the Louisiana territory to the fledgling United States.

The Haitian Revolution should be remembered as a celebration of human spirit, of life and the yearning for freedom, and the fight against all odds for that right.

So, if you’re reading this, why don’t you consider some assistance to Herby and his colleagues in rebuilding the St. Rose de Lima Church—one of the iconic institutions founded by Christopher Columbus more than 500 years ago. Please join him and the many other ASCE Members, Caltrans employees, alumni, and friends by raising these bells.

Mr. Herby Lissade, MASCE is Chief of the Office of Emergency Management, Caltrans. He was born in Haiti and immigrated to the USA. Herby’s career started with the New York DOT, and he has been a Caltrans Engineer for over twenty years.

Despite the many hardships that Haitians still face, these two children have fun posing for the camera.
Please vote for one person for each office (write-ins accepted) and return this ballot to the ASCE Sacramento Section by August 10, 2012.

U.S. Mail: American Society of Civil Engineers, Sacramento Section, P.O. Box 1492, Lincoln, CA 95648-1441; FAX: 916-961-2723
EMAIL: asce@asce-sacto.org

Please include your ASCE Membership # Call ASCE at 1-800-5482723 for assistance with membership.

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SACRAMENTO SECTION BALLOT - 2012-2013 OFFICERS

PRESIDENT-ELECT
Candidate Statement For:
Kim Brown, P.E.
I have been actively involved with ASCE in the Sacramento area for the past six years. I held several officer positions for the Younger Member Forum (YMF) and recently served as Junior Director and then Senior Director for the Sacramento Section. Through my involvement in ASCE, I know we are facing difficult times. However, even in these tough times, we need to continue to promote the civil engineering profession and work to secure civil engineering jobs for the future. As President Elect, I aim to bridge the gap between the students, YMF, branches, and institutes. In addition, I would like to focus on promoting our profession to K-12 students. I believe in the benefits of ASCE and I am looking forward to representing the Sacramento Section as President-Elect.

Check Box to select Candidate

Other Write-ins Accepted:

SECRETARY
Candidate Statement For:
Keith Jukes, EIT
I am currently running for the Secretary position. I am originally from Hollister, then Murphys, CA. I graduated from CSU, Sacramento in 2008. I am looking forward to another year of service in the Sac Section, as this last year has proven educational. I am anxious to aid in the realization of our goals to help streamline and make the Sac Section an exemplary organization.

Work Experience: Project Engineer with 4 years experience
Work Title: Project Engineer, Employer: GEI Consultants Inc.
Work Location: Sacramento, CA
ASCE Experience: 2011-2012 Sac Section Secretary, 2007-2008 Sac State Professional Coordinator.

Check Box to select Candidate

Other Write-ins Accepted:

JUNIOR DIRECTOR
Candidate Statement For:
Kristy Chapman
My name is Kristy Chapman and I am currently running for the Junior Director position of the Sacramento Section ASCE. I am originally from Sacramento and graduated from California Polytechnic State University. I am a project engineer at Blackburn Consulting.

While attending Cal Poly, I became involved in ASCE through the student chapter. Upon graduating I moved back to Sacramento and became involved through the younger member activities. After meeting lots of people and learning about what ASCE did for the Sacramento area, I became more and more involved with the Sacramento Section Younger Member Forum and Geo-Institute.

I am honored to have been selected to run for Junior Director. I feel that this opportunity is a great privilege to be part of. I continue to be amazed by the energy our officers are bringing to the Section and I am excited to see how this group can move forward in the future.

Prior ASCE/Professional Activities Involvement

- 2012 Sacramento Section ASCE YMF Executive Director
- 2011-2012 Geo-Institute Local Involvement Committee
- 2011 Sacramento Section ASCE YMF President
- 2011 Sacramento Section ASCE Geo-Institute Past Chair
- 2010 Sacramento Section ASCE YMF Vice-President
- 2010 Sacramento Section ASCE Geo-Institute Chair
- 2009 Sacramento Section ASCE YMF Secretary
- 2009 Sacramento Section ASCE Geo-Institute Vice-Chair
- 2009 Region 9 Outstanding Younger Civil Engineer Award
- 2007-2008 Sacramento Section ASCE YMF Programs Chair

Check Box to select Candidate

Other Write-ins Accepted:
**TREASURER**

**Candidate #1**

Candidate Statement For:

**Mauricio Luna, E.I.T.**

I have been actively involved in ASCE, Sacramento Section for the past two years. I have attended monthly lunch meetings hosted by the section’s Capital Branch and different events hosted by the Younger Member Forum. As a younger member of ASCE, attending these events has helped me develop new contacts and stay informed about projects in the region which will benefit me as I advance my career. I have been looking for an opportunity to volunteer and be more involved within the Sacramento Section of ASCE, and I believe the Treasurer position is a good fit. I am aware of the general duties and expectations that the Treasurer position entails. As Treasurer I will maintain the Sacramento Section in good financial standing, assure the entire Section Board has a clear understanding of the yearly budget, keep a transparent and current book of transactions, be accessible to whoever may need the services of the Section Treasurer, and provide organized reports to the Section Board. I plan to meet these goals by meeting and maintaining communication with the past Treasurer, reconciling bank statements and expense invoices/receipts in a timely manner, and developing a good relationship with fellow board members.

Check Box to select Candidate

**Candidate #2**

Candidate Statement For:

**Kyle Sanford, PE**

Kyle is a Bridge Engineer for HDR Engineering. In addition to structural design, he assists with national bridge inspections and local construction support. Kyle also currently serves on HDR’s Mentoring Committee, is active in Toastmasters, and is President of his church’s men’s organization. Kyle graduated with a Bachelor and Master of Science degree from Brigham Young University and has been a member of the ASCE Sacramento Section since coming to California in 2008. When not engineering, he prefers his family, sports, and photography.

Check Box to select Candidate

**EXECUTIVE DIRECTOR**

Candidate Statement For:

**Oscar Serrano, P.E.**

As Executive Director of the Sacramento Section of ASCE I will strive to provide leadership and support to the Section Board. I have been involved with ASCE for many years and have several years of ASCE experience as an officer including Section President (2010/2011). All this experience will prove to be a valuable asset to the board.

Check Box to select Candidate

Other Write-ins Accepted:
This Month in Sacramento - ASCE Region 9

by Richard Markuson

Senator Noreen Evans (D - Santa Rosa) has suspended her SB 907 that would create the Master Plan for Infrastructure Financing and Development Commission, consisting of specified members, and would require the commission to prepare and submit a strategy and plan for infrastructure development in California that meets certain criteria to the Legislature and the Governor by December 1, 2013. The commission would dissolve 30 days after submission of its final report. Region 9 supported the bill and was disappointed when the bill stalled out last year and hoped the bill would be brought back this year. Several other “study and planning” bills were vetoed by Governor Brown who believes these functions should be performed by existing administrative agencies. This argument is undercut by the failure of the Department of Finance (part of the Brown administration) to complete work required by existing law.

Existing law requires the governor to annually submit a five-year infrastructure plan to the Legislature. The plan must contain identification of infrastructure requested by agencies; aggregate funding for transportation; infrastructure needs for K-12 education; instructional facility needs for UC, CSU, and the Community Colleges; and the cost of providing the infrastructure, sources of funding, and impact on the state’s debt position. The last five-year infrastructure report was issued in 2008, and the Brown Administration says that it will issue an updated report in 2012.

Governor Schwarzenegger issued the California Strategic Growth Plan in 2007 and 2008, which outlined the state’s infrastructure needs over the next two decades.

Existing law also requires the Governor’s Office of Planning and Research to prepare a State Environmental Goals and Policy Report every four years, which looks at state growth and development over the next 20 to 30 years and includes approved environmental goals and policies. The last Environmental Goals and Policy Report that a Governor approved, however, was An Urban Strategy for California in 1978.

Evans told ASCE: “The bill will not move this year. Unfortunately because of the economy there is extraordinary resistance in the Legislature toward any new initiative that would cost the state money. While we tried to minimize new costs, the hurdle is still there. Treasurer Bill Lockyer and I agreed to shelve the proposal for this year and look to the next legislative session. Thanks for your support. I’ll make sure to contact you in the future when this good idea resurfaces again.”

SB 975 has been amended to address objections from construction unions. The bill would provide that the California Architects Board and the Board for Professional Engineers, Land Surveyors, and Geologists have the sole and exclusive authority to license and regulate the practice of professions and vocations regulated by those boards pursuant to provisions of that code, and that no licensing requirements shall be imposed upon a person licensed to practice one of those professions or vocations other than under that code or by regulation promulgated by the applicable board through its authority granted under that code. The bill would prohibit a city, county, city and county, school district, other special district, a local or regional agency, joint powers agency, or state agency, department or other state office, except for those boards, from imposing a licensing requirement upon a person licensed to practice a profession or vocation regulated by one of these boards. The bill, sponsored by ACEC, is intended to prevent other entities such as the SWRCB from imposing new practice standards on engineers. Region 9 supports the policy established by SB 975.

Several California construction unions are attempting to impose new restrictions on contractors and workers who perform acceptance testing of lighting and HVAC systems through the California Energy Commission - by passing the Legislature and the Contractors License Board - and would have been thwarted by SB 975 - thus the amendment to restrict the bill to only architects, engineers, geologists and land surveyors. The bill is set for a July 3 hearing.

Region 9 supported ACA 23 that reduces to 55% voter approval, the imposition, extension, or increase of a special tax by a local government for the purpose of providing funding for local transportation projects.

Existing law authorizes school districts, community college districts, or county offices of education to incur school bonded indebtedness with the approval of 55% of the voters voting on the bond measure, requires bond proceeds only be used for purposes specified in the Constitution, and requires an audit to ensure that the funds have been expended only on the specific projects listed.

Lowering the constitutional vote threshold for special taxes and bond indebtedness has been tried several times in past years. ACA 7 (Nation) from the 2005-06 legislative session would have lowered the constitutional vote requirement from two-thirds to 55% for any special tax. ACA 10 (Feuer) of 2008 would have created

Continued on Page 13
an additional exception to the 1% ad valorem property tax for transportation projects with 55% voter approval. There were several measures introduced in the 2009-10 session that would have revised constitutional voting thresholds for different purposes, including ACA 10 (Torlakson), ACA 15 (Arambula), SCA 12 (Kehoe), ACA 9 (Huffman) and SCA 6 (Simitian), none of which were enacted.

Opponents argue that bringing the vote-threshold needed to approve a special tax out of conformity with requirements needed to approve other special taxes will undermine the will of the people. While the Assembly Local Government Committee approved the bill - it is unlikely to garner the 2/3-vote approval of the Legislature to be placed on the ballot.

Several bills Region 9 is tracking were recently amended and will be reviewed by the Transportation or Water Committees. They include: AB 441 (Monning) that requires the California Transportation Commission (CTC) to attach to its guidelines for preparing regional transportation plans a summary of policies, practices, or projects that promote health that metropolitan planning organizations (MPOs) can use in regional transportation plans (RTP); SB 1549 Authorizes San Diego Association of Governments (SANDAG) to use specified alternative project delivery methods for public transit projects within its jurisdiction.

Recent Reports

The CA Manufacturers & Technology Assn. released “Cost Impacts of California’s AB 32,” finds CA’s families “will be forced to pay $2,500 annually and lose $900 in earnings per year by 2020 as a result” and “losses to employers and the state’s economy will be counted in the billions.”

The CA Natural Resources Agency reports the National Research Council has released “Sea-Level Rise for the Coasts of California, Oregon and Washington: Past, Present and Future,” finds for the CA coast south of Cape Mendocino, “sea level will rise 4-30 cm (1.5 inches to 11.8 inches) by 2030 relative to 2000, 12-61 cm (5.9 inches to 23.6 inches) by 2050, and 42-167 cm (16.5 inches to 65.3543 inches) by 2100.”

The CA High Speed Rail Authority has released a study conducted by the Bay Area Council Economic Institute, finds “modernizing the Caltrain commuter service would create the equivalent of almost 9,600 jobs-years of new employment” and generate “immediate economic activity of almost $1 billion.” Contact: info@hsr.ca.gov.

The Delta Science Program of the Delta Stewardship Council has released its report on a partial review of the “Phase 2 draft Bay Delta Conservation Plan Effects Analysis” conducted April 30-May 1.

California High Speed Rail Authority releases report by TransForm, “California’s largest transportation nonprofit,” finding that system is designed “to support early upgrades” to regional rail lines including Caltrain and Metrolink, “allowing those systems to go faster and attract more riders.”

UC Berkeley’s Center for Law, Energy and the Environment releases “Transitioning to Clean Local Energy,” provides policymakers with “straight forward pathway for attaining Gov. Brown’s goal of 12,000 megawatts of local renewable energy by 2020.”

Delta Vision Foundation (formerly Governor’s Delta Vision Blue Ribbon Task Force), has released its third annual “Delta Vision Report Card,” says state decision makers are “making inroads on planning, but lagging on implementation of solutions to fix the beleaguered Sacramento-San Joaquin Delta,” implementing agencies evaluated for “their leadership, strategic direction, coordination, results, and accountability.”

Environmental Defense Fund releases report, “Seven Growth Sectors Driving California’s Clean and Efficient Economy,” finds energy growth sectors (generation, storage, investment etc,) are “a safe, recession proof bet for continued growth and prosperity throughout the state.”

The Legislative Analyst’s Office releases analysis of The Nuclear Waste Act of 2012, proposed initiative that would prohibit generation of nuclear power in California until federal government has approved technology for fuel rod reprocessing plants and identified permanent disposal sites, findings include loss of San Onofre plant would lower electricity generating capacity for Los Angeles Basin beneath state and local reliability standards, increasing risk of rolling blackouts.

Outstanding Student Chapters, Student Leaders, and Advisors

by Camilla M. Saviz, P.E., Ph.D., MASCE Governor-At-Large

Each year, ASCE Student Chapters are recognized with various Society-level awards based on the Chapter’s previous year of activities as documented in their Annual Report. These chapters and individuals are successful in large part because of the help they receive from their alumni, local engineering firms, and ASCE Sections, Branches, and Younger Member groups, but they can always use more support – and that goes far beyond funding! Student Chapter activities include meetings, field trips, service projects, competitions, workshops, professional activities, and social activities that build the Civil Engineering community. If you are not already engaged in some way with a student group, please consider contacting the chapter or your local Section, Branch, or Younger Member Group to identify ways to support the next generation of Civil Engineers. If you know any student chapter members, leaders, or advisors who received an award, please congratulate them and consider recognizing them at your next meeting.

Awards are presented by the Society President upon recommendation of the Educational Activities Committee. Congratulations to the 2012 Student Chapter award recipients from Region 9:

Continued on Page 14
Finalist: Ridgway Student Chapter Award. The Ridgway Award was established in honor of Robert Ridgway, ASCE Society President in 1925. The Ridgway Award winner is selected among a group of finalists.

California Polytechnic State University, San Luis Obispo (Ridgway Award Winner in 2009, 2010, and 2011)

Distinguished Chapter Award. This award recognizes the most outstanding Student Chapter within a Region. The Robert Ridgway Award winner is ineligible for this award.

California Polytechnic State University, San Luis Obispo

Certificate of Commendation. These certificates may be awarded to recognize up to five percent of Student Chapters for the quality of their general Chapter activities.

California State University, Chico
University of California, San Diego

Letter of Honorable Mention. Student Chapters that miss receiving a Certificate of Commendation may be recognized with a Letter of Honorable Mention for notable activities.

California State Polytechnic University, Pomona
San Diego State University
San Jose State University
University of the Pacific

Finalist: Richard J. Scranton Outstanding Community Service Award. Student Chapters with a distinguished record of service to the community, the Society, and the profession can be selected as finalists for the Society’s Richard J. Scranton Outstanding Community Service Award. Finalists receive a letter of recognition acknowledging their service.

California State University, Chico

Faculty Advisors and Practitioner Advisors provide guidance, continuity, and support, playing key roles in the success of ASCE Student Chapters. The Society recognizes the voluntary effort provided by these dedicated individuals through Advisor Awards and Certificates of Commendation. Award recipients are selected based on nomination letters submitted by Student Chapter members. Congratulations to the following Region 9 Student Chapter advisors who were recognized in 2012:

Outstanding Faculty Advisor Award. This award recognizes a single faculty member within a Region for their outstanding service as Faculty Advisor to the Student Chapter.

Gregg L. Fiegel, Ph.D., P.E., G.E., M.ASCE (California Polytechnic State University, San Luis Obispo)

Faculty Advisor Certificate of Commendation. This certificate is awarded to ASCE members who provides notable service as Faculty Advisor to the Student Chapter.

Seema C. Shah-Fairbank, P.E., M.ASCE (California State Polytechnic University, Pomona)

Two Society-level awards recognize student members for their participation and leadership. For the second year in a row, a student member from Region 9 was awarded first place in the Daniel Mead Student Contest! ASCE Region 9 is pleased to recognize the following student members who received awards in 2012:

Daniel W. Mead Student Contest. The Daniel W. Mead contest, established in honor of the 67th ASCE Society President, allows young civil engineers to address ethical issues facing the profession. In 2012, students submitted paper on the topic, “Ethics and Globalization.” Authors of the top five papers selected receive awards that include a cash prize and a plaque or certificate.

1st place: Jay R. Pastor, S.M.ASCE (California State University, Northridge)

Student Leadership Award. This award recognizes an ASCE member who has demonstrated leadership as a student. Recipients are selected based on letters of nomination from the Faculty or Practitioner Advisor, Department Head, or Section/Branch officer.

Jeniene Knight, S.M.ASCE (University of California, San Diego)

Congratulations to all award recipients and thank you for your work on behalf of the profession!
Sacramento Section Officer Installation & Awards Banquet

SAVE THE DATE!!

Wednesday, September 26, 2012

The Firehouse, 1112 Second Street, Sacramento, CA
5:30 PM No Host Reception—6 PM Dinner & Awards

Sponsored by
ASCE Sacramento Section

More information will follow in the coming weeks.
Contact Natalie Calderone, natalie.calderone@aecom.com with questions.
ASCE Sacramento has supported the work of Engineers Without Borders at UC Davis in Uganda for many years. Sanitation and hygiene are a critical need in Uganda, where 17% of children under five years old die from diarrheal diseases and less than 35% of the rural population has access to improved sanitation (WHO, 2006). In September 2011 the UC Davis student-led team took their sixth trip to the town of Nkokonjeru (literally translated, “white chicken”), where they began work on a long-awaited new public toilet in the central marketplace.

**Nkokonjeru Marketplace Latrine**

Throughout rural Uganda, full latrines are commonly abandoned because they cannot be emptied effectively, as was the fate of the old pit latrine in the Nkokonjeru marketplace. The EWB-Davis goal is to end this unsustainable cycle while meeting the sanitation needs of local residents and over 1,000 visitors to the weekly market who have been without a usable public toilet for over a year.

Developed through extensive communication with the Nkokonjeru Town Council, the marketplace latrine design enables easy access for removal of solid waste. The innovative latrine design consists of a male urinal and six stalls (three in use at one time) with access to two below ground rectangular vaults constructed using reinforced concrete beams and columns. A rendering of the facility, still under construction, is shown below.

**Operations and Maintenance**

While humanure for agriculture can provide environmental as well as economic benefits, it can potentially be a source of enteric and other pathogens transferred via the fecal-oral route. Safety concerns are focused on the de-

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Make checks payable to: Arts in River Park no later than Oct. 3. No refunds. Mail to: Arts in River Park, P.O. Box 191312, Sacramento, CA 95819

For more information contact: Brenda Jew Waters at B jewwaters@aol.com or 916-457-3337. The location in River Park will be provided at the time payment is received. Proceeds to benefit the ongoing activities and events of Arts in River Park, now in its 10th year.
Old Marketplace Latrine, now closed. New latrine site is to the left of the picture frame.

EWB members discussing drawings with members of the Nkokonjeru Town Council.

Measuring progress on the excavation.

Brickwork begins for the walls of the two vaults.

Access doors were installed after EWB-Davis’s departure.
The 14th Annual ASCE Charity Golf Tournament took place on Monday, July 9 at Catta Verdera Country Club in Lincoln, CA. The golfers got to network on the golf course while contributing to a charitable cause.

Thanks to the generous support of the hole sponsors, a donation of more than $8000 will be made to the local chapter of the Make-A-Wish Foundation. One hundred percent of this money is used by the Foundation to grant wishes for children with serious life threatening illnesses. This donation goes to a very worthy cause that provides terminally ill children with a chance to realize one of their dreams. Thank you to everyone who participated.

Given the continued economic challenges facing engineering companies throughout the Sacramento area we would like to extend a special thanks to all hole sponsors, without whom we would not be able to provide a donation to Make-A-Wish. Tournament organizer, James Pangburn, as well as all YMF executive officers, would like to personally thank all of the donors and volunteers who contributed to the success of this year’s tournament. We look forward to your support next year.

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**YMF PE REVIEW**

The Sacramento ASCE Younger Members Forum is proud to announce that online registration is now open for the Civil PE Exam Review Courses. Review courses include: NCEES National Exam (General 8-hour), Engineering Surveying, and Seismic Principles. 8-hour course classes will run every Monday and Wednesday from August 6th to October 8th. Seismic classes will run every Sunday from September 9th to October 7th. Visit sacymf.org to sign up or email pereview@sacymf.org if you have any questions.

**UPCOMING EVENTS**

- PE Review Classes Begin @ CSUS, Monday, August 6th, 6 pm
- August Mixer @ Michelangelo’s Italian Art Restaurant, Wednesday, August 1st, 5:30 pm “Understanding the Geometry of Rainstorms”

For more information, visit www.sacymf.org
This double-deck rail and auto bridge is completing its first century of service spanning one of the last major rivers before reaching the Pacific.

Sacramento’s
I Street Bridge:
Completing the Westward Expansion

by Howard Payne, P.E., and Jim Talbot

THE 100-YEAR-OLD, STEEL, I Street Bridge in Sacramento, Calif., carries rail, auto, and pedestrian traffic across the Sacramento River. A double-deck steel truss, the bridge consists of three fixed spans—two 167 ft and one 109.6 ft in length—plus a 394-ft span that swings open over a center pivot. The heaviest swing bridge in the U.S., its overall length is 2,194 ft, including approaches. The bridge has about 30 ft of clearance over low water and about 100 ft of clearance on each side of the pivot pier for barges and pleasure craft.

Railroad width clearances of 14 ft per track on the bottom deck originally determined the 30-ft width of the bridge. The upper deck provides 9-ft lanes for vehicle traffic bracketed by 5-ft sidewalks for pedestrians. To cope with the narrow passage, truckers and bus drivers sometimes turn in their rear view mirrors while on the bridge.

Today the bridge is on the main line of the Union Pacific Railroad. It carries about 40 trains a day, 32 of them being Amtrak transcontinental passenger trains and Caltrain commuters, and the remainder Union Pacific freights. It is busy enough that two trains at a time can be seen on the bridge. On the upper deck the I Street bridge carries about 10,000 vehicles a day, serving the north area of West Sacramento and downtown Sacramento. Openings for rivercraft today are minimal, but were frequent early in the 20th century when commerce was primarily waterborne.
The bridge also serves rail traffic for the inland Port of West Sacramento. Situated 79 nautical miles from the Pacific Ocean, this barge and ship facility moves rice, wheat, corn, lumber, machinery, and containers. The ship canal is currently being dredged from 30 to 35 ft, which will accommodate 75% of the world’s fleet.

**Historical Background**

Sacramento and West Sacramento were originally parts of large Mexican land grants. In 1848 John Sutter, Jr., made the city’s first block plan, beginning development of the city’s waterfront and ports. The California Steam Navigation Company, one of the first major businesses in the area, built docks and warehouses. Sacramento became the focus of the 1849 gold rush, and West Sacramento was its agricultural supplier. Farmers provided grain, corn, livestock, melons, and potatoes, and operated commercial salmon fishing. In 1856 the Sacramento Valley Railroad was built toward the east from Sacramento to Folsom.

The steel bridge sits on the site of multiple timber bridges constructed in the latter part of the 19th century. Earlier bridges resulted from efforts by railroad companies to push west to the San Francisco Bay Area. All of the railroad’s metal work originated in the eastern United States and was shipped around Cape Horn. This led to the development of large railway shops in northwest Sacramento, which became the major industry in the west for many years.

By 1869 the Central Pacific Railroad ran from the eastern side of the Sacramento River to Promontory Point, Utah. The Sacramento terminal served as a convenient off-loading point for railroad materials. But the railroad did not cross the Sacramento River, which meant passengers and goods had to be transferred to river boats.

Over a little more than 50 years, four timber bridges preceded the present structure.

- In 1858 a toll swing bridge carried pedestrians and loaded wagons across the river. It had distinctive, curved laminated truss chords and a swing span supported by a timber tower and cables.
- In 1869 the California Pacific Railroad Company bought the first bridge and replaced it with a new Howe truss timber bridge with a 200-ft draw span, a single railroad track and mixed traffic.

Howard Payne, P.E., was a bridge engineer with Caltrans for 18 years. Now retired, he also has served as a docent at the California State Railroad Museum, located next to the I Street Bridge in Sacramento. Jim Talbot is a freelance technical writer living in Ambler, Pa.
The Central Pacific Railroad took over in 1876 and rebuilt the bridge. As the railroad yards and shops grew, this bridge became a one-track bottleneck within the two-track system.

In 1893 the Central Pacific became the Southern Pacific railroad. It built a larger and stronger timber bridge that had the same configuration as the present bridge—two tracks on the lower deck and a wagon road on the upper deck.

Enter Steel

Construction of a new $786,000 steel bridge began in 1910 with John D. Isaacs as consulting engineer for the railroads. Design of the fixed spans incorporates vertical members with diagonals that slope downward toward the center. Additional bracing in the lower sections characterize these spans as Baltimore trusses, a subclass of the Pratt truss. The swing-span design follows that of the Howe truss, with vertical members and diagonals that slope upward toward the center. It also has additional bracing in the lower section.

Loading specifications for the lower deck followed the Harriman Lines common standard rail model. The design for highway traffic on the upper deck supports 100 lb/ft². The Missouri Valley Bridge and Iron Company, supplemented with Southern Pacific workforces, built the pier foundations. The American Bridge Company, located in Western Pennsylvania, furnished the steel superstructure, totaling about 4,500 tons. Weight of the swing span topped out at 3,374 tons. The cities of Sacramento and West Sacramento shared in the cost and maintenance of the upper deck.

The piers extend down about 55 ft, penetrating a layer of boulders and gravel prevalent in the region. A principal structure is the 42-ft diameter center pier built on an octagonal-shaped caisson, 54 ft in diameter and 80 ft tall. This pier stood taller than any buildings in Sacramento at the time. Crews set the caissons for the remaining stream piers inside of cofferdams.

Workers constructed timber fender piers upstream and downstream from the center pier, completing it in August, 1911. They erected the swing-span truss on this pier in the open position, using a straddle leg traveler, with access from the west side. Slowed by the difficulties of winter construction in the stream, and the time it took to cast and cure the concrete deck, the bridge finally went into service in April 1912. But the date commonly accepted for bridge construction is 1911, which is cast on a steel plate on the diagonals over each truss portal frame.

The trusses consist of shop-fabricated and field-riveted built-up box sections made from web plates and angles, cover plates, and lattice bars. Canted eyebars over the center pier support the trusses in their cantilever position, and give the bridge its distinctive profile. An operator in the central control house opens and closes the bridge.

In the open position, the calculated deflection of the cantilevered ends was about 5 in. Designers shortened the supporting eyebars to raise the deflected bridge ends about 4 in. while open, making the bridge continuous over the center pier and keeping some tension in the eyebars. As the span closes, wedges lift the ends into place and locks provide stability.

The bridge design ensures that the swing span always achieves balance over the pivot pier. The original center bearing was a phosphor bronze crowned disk, having a 52-in. diameter and 6-in. thickness. It sat between two nickel-steel bearing plates 5.5 in. thick.

The swing span was designed to open in either direction and powered by two 75 HP direct current electric motors. The motors sat near the center of the span, driving a gear train. The span takes about five minutes to open, and another five to close and restore traffic. A set of balance wheels run about ½ in. above a steel perimeter track to keep the cantilevered ends from tilting. The wheels carry no weight except that to overcome forces such as wind. A powered automatic latch at each end of the span assists in centering the bridge.

Improvements

In 1993 the bridge's center bearing began to chatter. While the entire swing span was jacked up during bearing replacement, new hydraulic motors were installed in place of the original DC motors.

Originally the roadway at the west end of the bridge jogged abruptly as it moved away from the track alignment, a configuration that caused numerous accidents and fatalities. In 1937 and again in 1959 this roadway section was lengthened with modern, safer curves.

A white navigational stripe runs along the bottom chord in sharp visual contrast with the weathered, dark brown superstructure. Fortunately, the steel suffers minimal rusting in the dry Sacramento Valley climate.

What of the future? The I Street Bridge is listed in both the California Register of Historical Resources and the National Register of Historic Places. The bridge is well maintained mechanically, and its weathered look is simply evidence of a century of aging gracefully. Meanwhile, the nearby Tower Bridge on Capitol Avenue, or M Street, has become a city symbol that gets all of the publicity. A lift bridge with architectural towers, the Tower Bridge was built in 1935 and has since been painted gold. But it’s the I Street Bridge that still carries the mainline load, a true Centurion.
The Construction Institute Chapters of the Sacramento and San Francisco Sections, ASCE will be awarding Construction Scholarships for the 2012/2013 academic year. Up to 10 scholarship awards ranging between $1,000 and $2,000 each will be made. The number and value of the awards are at the discretion of the Awards Committee. The awards will be deposited to the Awardees’ account with the Financial Aid Office of his or hers Educational Institution. Scholarship Funds must be used for tuition and/or living expenses. Awardees must be U.S. Citizens or Legal Residents and must furnish their Social Security number.

Qualification and selection criteria are:
- Enrollment in a Civil / Environmental/ Construction Program as a Junior or First-Year Senior within the San Francisco and Sacramento Section boundaries to also include Cal-Poly San Luis Obispo and University of Nevada, Reno.
- Student Membership (Current or Upcoming) in the Construction Institute or an ASCE Student Chapter or a Contractor’s Association Student Chapter is required.
- Summary of Extracurricular Activities including working and professional experience
- Transcripts are required for ALL applications
- Applicant’s Signature is required

Calendar:
- Awardees will be notified of their selection by September 14th, 2012
- Scholarships will be awarded on September 26th, 2012 at the ASCE Awards Banquet in Sacramento.
- Applications for the ASCE CI Scholarship can be found on the ASCE CI website located at: http://www.asce-sacto.org or http://www.asce-sf.org and are entitled: “CI 2012 Scholarship Application.”
- E-Mail your complete Application package containing bio-data, essay, Extracurricular Activities/ Work Experience Summary, Transcripts and Signed Application by September 7th, 2012, 5:00 p.m. to jyoloye@ebmud.com and jon.balzer@gcinc.com

Please Contact our Scholarship Directors (Jimi or Jon) for more information.