President's Message

By Jon Balzer, P.E., President

MAKING THE GRADE

It is perhaps one of the most understated and often underappreciated influences of our life today. It shapes nearly everything in the world around us, from our roads to our buildings, and from our water to our waste. Yet beneath the surface is something far greater, it is a focus that has shaped our history, and arguably lies at the heart of our advancements as a society. Our nation’s infrastructure has not only been a cornerstone of our past, but maybe the platform of our future.

The importance of our infrastructure and the role it plays in our lives today was further illuminated on January 25, 2011, when President Obama cited the 2009 ASCE Report Card for America’s Infrastructure in a State of the Union Address. He noted that “our infrastructure used to be the best, but our lead has slipped,” and that “when our own engineers graded our nation’s infrastructure, they gave us a ‘D.’” The President’s message was a call upon Congress to recognize the critical importance of our infrastructure and increase infrastructure investments to not only improve public safety, but also enhance economic growth and development. Thus, the address was a reminder that in a time of economic hardship, our nation’s infrastructure is at the core of our standard life, including our prosperity and financial well being.

Yet, it was also a reminder that as engineers our profession lies at the heart of this issue. On February 29, 2012, at the State Capital in Sacramento, the 2012 ASCE California Infrastructure Report Card was unveiled to revisit the new “grade” of our infrastructure, along with some of the updates since the 2006 ASCE California Infrastructure Report Card.

ASCE California Infrastructure Report Card 2012:

During the unveiling of the 2012 ASCE California Infrastructure Report Card, it was quickly recognized that while the overall grade of our state infrastructure appears to have improved, the annual investment needs have grown from the 2006 results (see Figure A). The 2006 Report Card for California indicated an overall infrastructure grade of a “C-” with an annual investment need of approximately $37 billion; however, the 2012 Report Card for California indicates an overall infrastructure grade of a “C” with an annual investment need of approximately $65 billion.

The principle of infrastructure investment is simple—investment today saves tomorrow, or by contrast, failure to invest today compounds the needs tomorrow. Yet, while the annual investment needs increased in the 2012 California Report Card, many of the infrastructure categories showed signs of improvements from the 2006 results.

The ASCE California Infrastructure Report Card in 2006 indicated failing categories in Levees/ Flood Control (F), Transportation (D+), and Urban Runn-

**IN THIS ISSUE**

2012 Concrete Canoe Contest 11 - 12
2012 KSEA National Math & Science Competition 13
Advertising Rates 2
ASCE Region 9 7 - 8
Calendar 3
Call for Leadership 5
Capital Branch 5 & 6
Capital Branch News 8 - 9
Central Valley Branch 5
Feather River Branch 5
Legislative Update 4
New Members of the Sacramento Section, February 11
Officer Contacts 2
Orthotraoipc Bridge Conference - Call for Papers 10
President’s Message 1
Sacramento Regional Science & Engineering Fair 9 - 10
Shasta Branch 5
The Law and Civil Engineering 5

Continued on Page 3
April 2012

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.)

For more ASCE activities if you wish to be active in a committee, career opportunities, complete text for the legislative activities, go to the Sacramento Section web site at www.asce-sacto.org, or contact a current officer. To MAKE CHANGES OR RENEW YOUR MEMBERSHIP, go to website: www.asce.org. For MEMBERSHIP APPLICATIONS, please e-mail to memapp@asce.org.

OFFICER CONTACTS

President: Jon Balzer, P.E. 916-855-4400 jon.balzer@gcinc.com
President-Elect: Thor Larsen, P.E. 916-973-0356 thor.larsen@edcgov.us
Senior Director: Kimberly Brown, P.E. 916-817-4925 kimberly.brown@hdrinc.com
Junior Director: Natalie Calderone, P.E. 916-414-1561 natalie.calderone@aecom.com
Secretary: Keith Jukes 916-213-8717 keithjukes@yahoo.com
Treasurer: Joshua Wagner 530-227-7937 jwagner@members.asce.org
Past President 2010-2011: Oscar Serrano, P.E. 530-458-8231 oserrano@colusa-nsn.gov
Executive Director: Greg Zeiss, P.E. 916-367-8059 Greg.Zeiss@hdrinc.com
YMF Board Representative: Kristy Chapman 916-375-8706 kristy@blackburnconsulting.com
Region 9 Chair: Jennifer Epp, P.E. 916-928-1113 jenleigh@lupooep.org
Region 9 Sacramento Section Governor: Fareed Pittalwala, P.E. 916-928-1113 fpittalwala@rjf.com
Engineers Without Borders, Sacramento Chapter: Dustin Harrison, President - DHARRISON@rjf.com
Ladies Auxiliary President: Marlene Tobia - marlenetobia@att.net
Executive Secretary: Vivian Mevorah 916-961-2723 asce@asce-sacto.org
Engineerogram Editor: Vivian Mevorah 916-961-2723 asce@asce-sacto.org
Capital Branch President: Alfred Mangus, PE 916-205-1962 mangus@calstate.edu
Central Valley Branch President: Jason Tokheim, P.E. 916-928-5177 phegedus@sswd.org
Feather River Branch President: Amie McAllister, P.E. 530-228-8372 amie@calstructure.com
Shasta Branch President: Dale Roper, P.E. 530-221-5424 droper@shn-engr.com

INSTITUTES

Coasts, Oceans Ports & Rivers Institute: Zia Zafir, P.E. 916-366-1701 zzafr@kleinfelder.com
Construction Institute: Larry J. Smith, P.E., F.ASCE 916-261-1545 lsmith@calweb.com
Environmental & Water Resources Institute: Pal Hegedus, P.E., D.WRE 916-928-5177 phegedus@rjf.com
Geo-Institute: Matt Moyneur, P.E. 916-372-1434 mmoyneur@wallace-kuhl.com
Structural Engineering Institute: Joyce Copelan, P.E., MS 530-908-8372 jcopelan95694@yahoo.com
Transportation & Development Institute: Nader Tamannia 916-448-1980 ntamannia@calstructure.com

STANDING COMMITTEE CHAIRS

College Accreditation: Joan Al-Kazily, Ph.D, P.E., M.ASCE 530-756-9530 jalkazily@sbcglobal.net
Disaster Preparedness: Howard Zabel, P.E. 916-635-9370 hzabel@cmrinc.com
Education & Awards: Thor Larsen, P.E. 916-973-0356 thlarsen@edcgov.us
Government Relations: Craig Copelan, P.E. 530-908-4790 ccopelan95694@yahoo.com
History & Heritage - -
Memorial-Life Members: Ray Zelinski, P.E. 916-961-4222 rzelinski@sbcglobal.net
Scholarship: Eric Pold, P.E. 916-801-6290 polsonengineering@earthlink.net
Sustainability: Robert Roscoe, P.E. 916-679-3994 Rroscoe@sswd.org
Publications: Martin A. Farber, P.E., D.WRE 707-253-9606 jkowsoi@juno.com
Webmaster - -

UNIVERSITIES

California State University, Chico: Bryan Perrin, President - chicoasce@gmail.com
California State University, Sacramento: Travis Weston, President - president@sacstateasce.org
University of the Pacific: Brylle Cabacungan, President - b_cabacungan@u.pacific.edu
University of California, Davis: Alex Wong and Joe Novielli Co-Presidents ucd.asce.president@gmail.com

INSTITUTES

Coasts, Oceans Ports & Rivers Institute: Zia Zafir, P.E. 916-366-1701 zzafr@kleinfelder.com
Construction Institute: Larry J. Smith, P.E., F.ASCE 916-261-1545 lsmith@calweb.com
Environmental & Water Resources Institute: Pal Hegedus, P.E., D.WRE 916-928-5177 phegedus@rjf.com
Geo-Institute: Matt Moyneur, P.E. 916-372-1434 mmoyneur@wallace-kuhl.com
Structural Engineering Institute: Joyce Copelan, P.E., MS 530-908-8372 jcopelan95694@yahoo.com
Transportation & Development Institute: Nader Tamannia 916-448-1980 ntamannia@calstructure.com

STANDING COMMITTEE CHAIRS

College Accreditation: Joan Al-Kazily, Ph.D, P.E., M.ASCE 530-756-9530 jalkazily@sbcglobal.net
Disaster Preparedness: Howard Zabel, P.E. 916-635-9370 hzabel@cmrinc.com
Education & Awards: Thor Larsen, P.E. 916-973-0356 thlarsen@edcgov.us
Government Relations: Craig Copelan, P.E. 530-908-4790 ccopelan95694@yahoo.com
History & Heritage - -
Memorial-Life Members: Ray Zelinski, P.E. 916-961-4222 rzelinski@sbcglobal.net
Scholarship: Eric Pold, P.E. 916-801-6290 polsonengineering@earthlink.net
Sustainability: Robert Roscoe, P.E. 916-679-3994 Rroscoe@sswd.org
Publications: Martin A. Farber, P.E., D.WRE 707-253-9606 jkowsoi@juno.com
Webmaster - -

UNIVERSITIES

California State University, Chico: Bryan Perrin, President - chicoasce@gmail.com
California State University, Sacramento: Travis Weston, President - president@sacstateasce.org
University of the Pacific: Brylle Cabacungan, President - b_cabacungan@u.pacific.edu
University of California, Davis: Alex Wong and Joe Novielli Co-Presidents ucd.asce.president@gmail.com

For more ASCE activities if you wish to be active in a committee, career opportunities, complete text for the legislative activities, go to the Sacramento Section web site at www.asce-sacto.org, or contact a current officer. To MAKE CHANGES OR RENEW YOUR MEMBERSHIP, go to website: www.asce.org. For MEMBERSHIP APPLICATIONS, please e-mail to memapp@asce.org.
The 2012 California Report Card indicates improvements in Levees/Flood Control (D), and Transportation (C-), in addition to Aviation (from a “C-” to a “C+”) and Ports (from a “C+” to a “B-”). However, it should be noted that the only categories in the 2012 California Report Card above average (above a “C” grading) are Ports (B-) and Solid Waste (B), while Levees/Flood Control and Urban Runoff are still failing with below average grades. To view the complete ASCE California infrastructure Report Card for 2012 please refer to: www.ascecareportcard.org.

When the report card was originally shared, it was met with questions regarding the direction the results would have on future management and investment in California’s infrastructure. In an article released by the Sacramento Business Journal in the day following the event, it was stated that the “report seeks to call attention to deficiencies” and address the “out-of-date needs of a $65 billion investment.” It was also stated in the article, in a quote by Yaz Emrani, a co-chairman from the committee issuing the report, that “to remain a strong and prosperous state, we must maintain and continue to improve infrastructure that makes California’s quality of life second to none.” While the questions regarding the direction of future investments in California’s infrastructure remain, the ASCE Infrastructure Report Card is an effort that is not only largely recognized but fundamentally important.

The significance of the ASCE Infrastructure Report Card is not only at a national and state level, but also at a personal level, impacting each of our lives. In a time of financial hardship when economic needs often exceed funding, the importance of infrastructure investment is easily overlooked. However, it not only impacts our quality of life, it is also a primary artery of our economy and a stimulus of jobs and financial welfare. As engineers we know this well, as our profession is at the core of this process. The engineering profession may be a service, but our deliverable product is our infrastructure. It stands as a testament of the time and place, and it stands as a monument of the professions behind it. For engineering, it is a profession of pride and integrity—an integrity that lies at the foundation of an engineering culture and bridges heritage and innovation. But, it also maintains an obligation to uphold the profession and protect the public well-being. It is a profession of conscience, and a profession devoted to continued learning. In such a profession devoted to public good, is it ultimately then a responsibility of the engineer to share the facts, insights, and knowledge in an effort to protect society and its quality of life? Perhaps it is a question worth asking, as often it is the items we take for granted that have the greatest impacts on our lives.

To the hundreds of engineering professionals that contributed to the ASCE Infrastructure Report Card in 2012, thank you, your efforts and contributions to the profession and society do not go unnoticed.

If you would like to get involved, or just want to share some thoughts, please contact us at: asce@asce-sacto.org.

Sincerely,
Jon Balzer
Join California’s fastest growing geotechnical engineering firm with six certified laborato-
ries and an outstanding backlog of major projects including:

♦ Design-Build
♦ Educational Facilities
♦ Roadways
♦ Ports
♦ Rail

Group Delta Consultants, Inc. is an employee-owned (ESOP) firm established in 1986.
Successful candidates will be offered a competitive salary, 401K matching, medical/
dental/life insurance, paid holidays and vacation, an excellent work environment and
opportunity for growth.

Available Positions:

Staff Geotechnical Engineer
Entry level to 3+ years experience - responsibilities include field investigation, con-
struction observation and monitoring, engineering calculations, technical analysis, and
report preparation and writing. Excellent communication skills both written and verbal.
Must possess a valid driver’s license, and acceptable driving record.

Education: B.S. in Civil/Geotechnical Engineering, MS/EIT registration preferred.

Project Geotechnical Engineer
2 to 5+ years experience preferably with a geotechnical firm. Responsibilities include
performing geotechnical engineering analysis, report writing, developing field investiga-
tions and laboratory testing programs, managing field investigations and/or construction
monitoring, and preparing proposals. Excellent communication skills both written and verbal.
Must possess a valid driver’s license, and acceptable driving record.

Education: M.S. or Ph.D. in Geotechnical Engineering. RCE Preferred.

Locations:
San Diego, El Centro, Sacramento, Torrance

For confidential consideration, please apply on line at our website,
http://www.groupdelta.com/careers.html
The Engineer’s Duty to Report a Defective Structure

The law provides that an engineer performing professional services for a client, owes that client the duty to have that degree of learning and skill ordinarily possessed by reputable civil engineers, practicing under similar circumstances. The engineer also has the duty to use the care and skill ordinarily used in like cases by reputable members of the profession practicing under similar circumstances. In addition, the engineer has the duty to use reasonable diligence and best judgment in the exercise of skill and the application of learning. The failure to perform any one of these duties is defined as negligence.

Determination of the standard of care is a moving target and purely local practices cannot be relied upon for the determination of that standard. Obviously, local practices can develop that, while expedient, may not comply with what is considered to be good practice on a nationwide basis. With modern communication, determination of the duty of care for a prudent engineer will involve consideration of practices other than locally.

The Attorney General of the State of California had rendered opinions on particular legal questions that existing laws do not adequately address and where there is no other clear legal precedent available. A hypothetical situation of interest to civil engineers was presented to the Attorney General for opinion. The question asked if a registered engineer is retained to investigate the integrity of a building and determines, based on structural deficiencies in violation of applicable building standards, that there is an imminent risk of serious injury to the occupants of the building, and who is advised by the owner that no disclosure or remedial action is intended and that such structural deficiencies and the fact that there is an imminent risk of serious injury to the occupants of the building, and who is advised by the owner that no disclosure or remedial action is intended and that such structural deficiencies and the fact that there is an imminent risk of serious injury to the occupants of the building are to remain confidential, has a duty to warn the identifiable occupants or, if not feasible, to notify the local building officials of such determinations.

The Attorney General’s opinion was that under the circumstances presented, the engineer had the duty, notwithstanding the owner’s direct instruction to keep the findings confidential, to warn the identifiable occupants of the building or, if not feasible, to notify the local building officials of such determinations. A key consideration in reaching the opinion was that there was an imminent risk of serious injury.

An owner of a building may have concerns about the integrity of the structure and may want an engineer to “take a look” and let him know how bad it is. The owner may not be inclined, however, to alarm paying tenants of the structure with the bad news and could decide to “take the risk” and not perform any repairs until “later.” The Attorney General’s opinion concludes that the engineer’s duty to those at imminent risk of serious injury take precedent over the the owner/client’s interests to keep quiet about the problem. An engineer hired to make an inspection of a building to determine it’s structural integrity would do well to fully inform the client of the duty of the engineer to tell the occupants of the building or local building officials if any conditions are found that represent an imminent risk of serious injury where the owner does not intend to remedy the defective conditions.

The author’s discussion of legal ramifications of the particular case(s) are provided only for educational purposes and should not be relied on as legal advice. If you have a specific legal problem, please consult with your attorney.

Call for Leadership

by Oscar Serrano, P.E.
Past-President, Sacramento Section

The ASCE Sacramento Section Nominating Committee is seeking candidates for the following positions:

- President-Elect
- Junior Director
- Secretary
- Treasurer

ASCE Sacramento Section members are encouraged to volunteer for positions of leadership, regardless of age or level of experience. Serving for volunteer positions on the Executive Board is essential to building and enhancing careers. The rewards of volunteer service are fulfilling and show you care about ASCE and your profession.

To discuss available positions, get your questions answered, or express your intention to run for office, please contact Oscar Serrano oserrano@colusa-nsn.gov, (530) 458-8231. Please respond prior to May 11, 2012.

Capital Branch April 24th Meeting

The guest speaker for the April 24th luncheon is Mr. Michael Mierzwa, who will be speaking on the Central Valley Flood Protection Plan. 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.

Central Valley Branch Meeting

For more information about the Central Valley Branch meetings, please contact Jason Tokheim at jtokheim@ksninc.com.

Feather River Branch

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

Shasta Branch

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

with 4-minute Video

Speaker: Michael Mierzwa

Bio:

Mr. Mierzwa is a registered Civil Engineer in the State of California employed by the California Department of Water Resources as a flood policy advisor and assistant to the Deputy Director for Integrated Water Management. His specialization is the planning, design, and financing of large-scale water resources systems and real-time emergency operations. His current focus is assessing the public benefits associated with the development and implementation of water resources projects. He has worked with the Department for 13-years.

In addition to his professional work associated with the State of California, Mr. Mierzwa has volunteered as an election official since 1998, ASCE journal reviewer since 2002, science fair judge since 2008. He also recently participated in the International Commission on Irrigation and Drainage’s international conference in Indonesia as a U.S. Observer in 2010.

Topic:

More than one million Californians live and work in the floodplains of the Sacramento-San Joaquin Valley where flood risks are among the highest in the nation. In response to this threat to people, property and the environment, the Central Valley Flood Protection Act of 2008 directed the Department of Water Resources (DWR) to prepare the Central Valley Flood Protection Plan (CVFPP) for Central Valley Flood Protection Board adoption. The CVFPP is the most comprehensive flood management planning effort ever undertaken in California, addressing flood risks in an integrated manner while concurrently improving ecosystem functions, operations and maintenance practices, and institutional support for flood management.

In preparing the CVFPP, DWR examined a range of potential approaches for improving flood management. The recommended approach – known as the State System-wide Investment Approach (SSIA) – sets forth a strategy for responsibly meeting the State’s objectives to improve public safety, ecosystem conditions, and economic sustainability, while recognizing the financial challenges facing local, State, and federal governments today.

The SSIA outlines a sustainable flood management strategy that will support California’s vital agricultural economy, maintain agricultural land uses, limit growth in undeveloped floodplains, and provide policies, programs, and incentives to encourage wise long-term floodplain management. The SSIA includes significant capital investments to strengthen levees that protect existing urban areas and small communities, prioritizing improvements to the 1,600-mile levee system included in the State Plan of Flood Control.

Hope to see many of you there!

Alfred R. Mangus, P.E.
President, ASCE - Capital Branch
The ASCE Region 9 Awards Program was held on February 28, 2012 in Sacramento. We were honored to have the Society’s President-Elect, Greg DiLoreto, join us in helping to congratulate the award recipients. The 6th annual awards dinner recognized excellence in engineering at both the project and individual levels.

Project Awards recognize outstanding civil engineering projects for projects that have received an award from one of the four ASCE Sections in Region 9 (Sacramento, San Francisco, Los Angeles, and San Diego) during the award year.

The ASCE Region 9 awards committee would like to recognize this year’s awards that were selected from a strong pool of applicants.

Project Award Recipients:

- **Project of the Year – Malibu Legacy Park**
  City of Malibu, Geosyntec Consultants

- **Outstanding Architectural Engineering Project – City of Santa Rosa Utilities Field Office**
  City of Santa Rosa, Winzler & Kelly | GHD

- **Outstanding Bikeways & Trails Project - Allan Hancock Bike Path**
  City of Lompoc, City of Lompoc Public Works Department – Engineering Division

- **Outstanding Bridge Project - Valley Boulevard Grade Separation near Eastern Avenue**
  City of Los Angeles Bureau of Engineering, City of Los Angeles Bureau of Engineering

- **Outstanding Small Transportation Project - East Center Street Reconstruction**
  City of Anderson, OMNI-MEANS, LTD.

- **Outstanding Environmental Project - Upper Newport Bay Ecosystem Restoration Project**
  County of Orange Public Works Department, Army Corps of Engineers

- **Outstanding Water Project - Folsom South Canal Connection Project**
  East Bay Municipal Utility District, East Bay Municipal Utility District

- **Outstanding Geotechnical Project - Presidio Parkway - Phase 1**
  Caltrans - District 4 & San Francisco County Transportation Authority, Caltrans / Arup

- **Outstanding Energy Project - Install Airfield Signs, Taxiway Lights, and Runway Guard Lights at the San Diego International Airport**
  San Diego County Regional Airport Authority, Kimley-Horn and Associates, Inc.

- **Outstanding Small Project – Scripps Institute of Oceanography Stormwater Water Pollution Control Plan**
  University of California San Diego, Nasland Engineering

- **Outstanding Construction Project - Interstate 5 Gateway Project**
  Orange County Transportation Authority, & Caltrans - District 12, TRC Solutions

- **Outstanding Historical Renovation - First Avenue Bridge over Maple Canyon Retrofit and Painting Project**
  City of San Diego, T.Y. Lin International

- **Outstanding Community Improvement Project - Sunset Strip Beautification**
  City of West Hollywood, Harris & Associates

- **Outstanding Park & Recreation Project - Happy Hollow Park Bridge**
  City of San Jose, HNTB Corporation

- **Outstanding Water Conveyance Project - Nacimiento Water Project**
  San Luis Obispo County Flood Control and Water Conservation District, Black & Veatch

- **Outstanding Flood Management Project – Natomas Levee Improvement Program**
  County of Sacramento, HDR Engineering, Inc.

- **Outstanding Roadway Emergency Project - Soledad Mountain Road Reconstruction**
  City of San Diego, Helenschmidt Geotechnical, Inc.

- **Outstanding Airport & Port Project - Port Pavilion on Broadway Pier**
  Unified Port of San Diego, Moffatt & Nichol - Blaylock

- **Outstanding Structural Project – St. Joseph’s Medical Center Pedestrian Walkway**
  St. Joseph’s Medical Center / Catholic Healthcare West, ESE Consulting Structural Engineers, Inc.

- **Outstanding Wastewater Project - City of Bakersfield Wastewater Treatment Plant 3 Expansion**
  City of Bakersfield, Parsons

- **Outstanding Water Treatment Project - Alvarado Water Treatment Plant Ozone Upgrade and Expansion Plant**
  City of San Diego, Malcolm Pirnie/ARCADIS

Individual Award Recipients:

Continued on Page 8
April 2012

The Engineerogram

ASCE Region 9 - Continued from Page 7

All ASCE members in Region 9 are eligible for consideration for individual awards.

- Outstanding Civil Engineer in the Private Sector – Shah Nawaz Ahmad, P.E.
- Outstanding Civil Engineer in the Public Sector - Julie Labonte, P.E., M.S.
- Excellence in Journalism – Patt Morrison
- Outstanding Civil Engineer in Community Service – Jeff Spannauer, P.E.
- Outstanding Civil Engineering Students – Spencer Reed
- Lifetime Achievement Award – L. Dale Mills
- Outstanding ASCE Life Member – Terry Hartman, P.E., Howard L. Payne, P.E.
- Outstanding Civil Engineering Faculty Advisor – Lelli Van Den Einde
- Outstanding ASCE Practitioner Advisor – Diego Cadena, P.E.
- Outstanding Younger Civil Engineer – Jonathon P. Marshall
- Outstanding ASCE Section Officer – Guy Gilbert, P.E.
- Outstanding ASCE Branch Officer – Ziad Mazboudi, P.E.
- Outstanding ASCE Younger Member Officer – Shannon Lehman
- Outstanding Engineer in Legislative Activities – Serge Hadad, P.E.

Awards Committee

Special thanks to the Awards committee:
Amber Girard
Thor Larson
Greg Zeiss
Tony Cinquini
Dean Gibson
Carlos Mendoza
Joshua Nelson
Kent Sasaki

Sponsors

Thanks to the generous Awards Dinner Sponsors:
Kimley Horn and Associates
GHD
Black & Veatch in conjunction with Magnus Pacific
ACEC
Akel Engineering Group
Simon Wong Engineering
Malcolm Pirnie/Arcadis
HDR
ESE Consulting Engineers

Photos from the event can be viewed and downloaded from the Region 9 web page: http://www.asce.org/region9/awards/ follow the link to the photos.

Capital Branch News

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

Income Taxes and Infrastructure:

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 our Secretary, and Vice President of Education is Ajay Sehgal.

Hats-off to our members who developed the infrastructure report card to help taxes to be wisely spent!

Yannis Dafalias, Ph.D., M.ASCE, a member of the Capital Branch; Sacramento Section, has been selected to receive the Nathan M. Newmark Medal. The award will be presented at the EMI Conference, Notre Dame, IN, June 17-20, 2012. Additional information and recipient photographs will be available at www.asce.org/awards.

Future speakers have been selected for April and May.

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.carreon@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 alternating evening meetings location in a government building.

Our International Bridge Event: The third Orthotropic Bridge Conference, www.orthotropic-bridge.org, will be co-chaired by Ajay and myself. It’s planned for June 25 - 29, 2013 in a hotel between Sacramento and the San Francisco Bay area. The precise hotel and meeting room have not been selected. The abstracts are due by September 15, 2012. Please see half-page advertisement in this issue on Page 10 that will be printed in www.iabse.org, Structural Engineering International.

Presidential Pulpit: Should Public works projects be paid for by taxes or user fees?

Continued on Page 9
The Golden Gate Bridge was paid for by using bonds and user fees. In May 2012 this icon will be 75 years old. The gasoline tax paid for the interstate system that started in 1955. Please Join ASCE members pressing Congress to pass transportation legislation. About 160 ASCE members arrived in Washington on March 19, 2012 for the annual ASCE Legislative Fly-In. The US Senate last week approved a two-year, $109 billion reauthorization of federal surface transportation programs. “We commend the Senate for their bipartisan support of this legislation, and look forward to continued progress before the March 31 deadline,” said ASCE President, Andy Herrmann, P.E., SECB, F.ASCE. Now the focus turns to the House, which is struggling with a five-year, $260 billion plan. Thus, the timing could not be better for ASCE members to urge their representatives to approve a plan, and to get both chambers to pass a reconciled measure. Our Ajay Sehgal, M.ASCE flew back to Washington and met with members of Congress or staff from California. Ajay will provide a report of his visit in a future issue of The Engineerogram. ASCE’s Click & Connect with Congress website at asce.org/advocacy will give you background on the issues and help you contact your elected officials next week. Keep up with developments via the ASCE Government Relations Facebook page.

Nobody likes taxes, and the debate how to use them is even more intense. Unfortunately, the media and politicians many times like to use important projects as a bargaining chip to get other things that they would like to have passed by other legislatures. ASCE wants us to be vocal on the issues, since we have the expertise to guide others in making the best choices. It is very easy to become apathetic. I have participated in several meet-and-greets with legislators. I always vote, and I sign some petitions to get items on the ballot. We take for granted many times how lucky we are to have a partial voice in the outcome of our future.

I pay my taxes because it keeps our country’s infrastructure going, plus we have more freedom to do what makes us happy than any other country.

I decided to volunteer to be the Sacramento Section’s History and Heritage Committee chair, which has been vacant for months, because I felt it would facilitate a couple of projects about our local members. Greg Young is leading the effort to have a plaque on the “I” Street Swing Bridge. There is a free downloadable article from Modern Steel Construction Magazine by our fellow member, Howard Payne.

The late Norm Root’s son, Loren, and his granddaughter have published his ideas in a booklet. (See cover at the end of this article.) Norm was the coordinator of the Caltrans Bridge Design Academy. The booklet discusses stories, or vignettes, about lessons learned in structural engineering. Loren lives in Illinois and can be emailed at Route80@comcast.net.

Ann Bender Chehak, daughter of the late Ostap “Joe” Bender, is working on a summary of Bender’s bridge designs and papers. Ann resides in greater Sacramento, and can be emailed at annchehak@comcast.com. An innovate bridge built in northern California is the suspension bridge at Orleans, California (See Photo in this article). This bridge has been included in the book, The Spans of North America, by David Plowden. Some details about this bridge are included in the steel beam and girder bridge design chapter written by the late Alfred Heldefine, F.ASCE, partner of Parsons Brinckerhof. It was the first suspension bridge built in North America with an aerodynamic wing shape invented by British engineers. The superstructure is a multi-cell steel box girder with concrete deck.

Norm discusses the history of seven bridges built at this site in Orleans starting with timber suspension bridges.

I hope we can assist in recording the achievements of local talented civil engineers. I am proud to be a civil engineer!
Regional Science and Engineering Fair. Over 50 of our local ASCE members, out of 175 judges in attendance from various professional organizations, had an opportunity to connect with and encourage approximately 1,000 students from middle and high schools throughout northern California, our future.

In looking over the projects, we observed that the students were using scientific methods, and also were incorporating more sophisticated technology in their projects than before; including machines that were programmed, mini-solar cells, and the internet for literature searches. We saw an earthquake simulation shake table, a solar powered trash compactor, various types of model bridges tested to failure, tests of flows through dam intakes of various shapes, water quality experiments, home-made machines that could assist people in reading and printing hand written letters, rockets, and a model home with programmable lighting and control systems. There were exhibits of Native American structures with discussions on how engineering principles were followed in their selected materials, design and construction. First Lego League (FLL) robot teams provided demonstrations, and the energy level was high. Some of the award winners will go on to Intel’s International competition, and may become our future civil engineers.

Thank you, ASCE for the generous support in building up our local students through the Sacramento Regional Science and Engineering Fair.

Call for Papers

**THIRD ORTHOTROPIC BRIDGE CONFERENCE**

**ASCE/SEI Sponsored Event**

**Equal Co-Sponsors:**

MTC Metropolitan Transportation Commission
http://www.mtc.ca.gov

Tylin International

PARB.

**Call for Papers**

**one page abstract due on or before**

**September 15, 2012**

Send to: Abstract_3OBC_ASCE@hotmail.com

**June 25 - 29, 2013**

**Three-Day Conference with Workshop and Tours**
Northern California, USA

The American Society of Civil Engineers, The Metropolitan Transportation Commission, and the partner organizations invite you to attend and participate in the Third Orthotropic Bridge Conference. The objective of this conference is to present the latest developments in the design and construction of orthotropic deck bridges worldwide, and visit California orthotropic bridges in operation. Many of the world’s leading engineers and researchers from across the USA and more than ten other countries, who contributed to the spectacular advances of orthotropic design and construction, presented their views at the 2004 & 2008 conferences.

**Tentative Schedule**

(Attendees may register for all events, or events may be selectively attended, including a one-day registration for any day of the 3-day conference. See [www.orthotropic-bridge.org](http://www.orthotropic-bridge.org) for more details - subject to changes.)

**Tue., June 25** – One-day workshop “Orthotropic Deck Bridges”
Separate registration • Details to be provided later.

**Wed., June 26 - Fri., June 28** – Orthotropic Bridge Conference • Hotel details to be provided later.
Separate registration includes two luncheons and Thursday Bus Night Tour of the San Francisco/Oakland Bay Bridge East Spans, (SAS) Self-Anchoring Suspension Orthotropic spans

**Fri., June 28** – Optional Boat Tour of East Spans (SAS) & Golden Gate Bridge
Separate Registration

**Sat., June 29** – Tour of nine orthotropic bridges in the San Francisco Bay Area
Separate registration includes bus fare and meals.


Proceedings from the 2004 (for $85) and 2008 (for $125) Orthotropic Bridge Conferences are available at: [asce@asce-sacto.org](mailto:asce@asce-sacto.org)
New Members of the Sacramento Section for February

**Capital Branch**

- Hammed Amouzgar S.M.ASCE
- Abdul Amad Awwad S.M.ASCE
- John S. Ayoub S.M.ASCE
- Faezeh Azhari P.Eng, S.M.ASCE
- Payam Bozorgchami, P.E., M.ASCE
- Roy A. Cloud P.E., M.ASCE
- David Michael Consalvo EIT, A.M.ASCE
- Kimberly Therese Coraza S.M.ASCE
- Gayleen Renee Darting P.E., M.ASCE
- Hiral Hem Doshi S.M.ASCE
- Khalida Fazel EIT, A.M.ASCE
- Steven Friesen P.E., M.ASCE
- Kyle Gerhart S.M.ASCE
- Farhad Golzari Rahat Abad M.ASCE
- Cameron Harrison S.M.ASCE
- Marcus Hunter S.M.ASCE
- David Ismailyan S.M.ASCE
- Kristen Miyuki Jackson S.M.ASCE
- Vicki Luu S.M.ASCE
- Carol Lynne Mesman S.M.ASCE
- Rosa M. Millino P.E., M.ASCE
- Timothy James Peel S.M.ASCE
- Eric Francis Poole S.M.ASCE
- Christine Rice S.M.ASCE
- Bryan Peter Rinde S.M.ASCE
- Yanelis Rios S.M.ASCE
- Loida Sharikov S.M.ASCE
- Ryan Donavan Williams S.M.ASCE
- Eric Yang S.M.ASCE

**Shasta Branch**

- David J. Bandrowski P.E., M.ASCE
- Jonathan Raymond Edholm S.M.ASCE
- Brandon Fraser S.M.ASCE
- Greg Kingsfield P.E., M.ASCE
- Haakon Stephen Ogbeide A.M.ASCE

**Central Valley Branch**

- Juan Aguirre S.M.ASCE
- Elizabeth O. Avelar S.M.ASCE
- Nathan Fastenau S.M.ASCE
- Ismael Garcia S.M.ASCE
- Stephanie K. Gimble S.M.ASCE
- Clifton B. Koon P.E., M.ASCE
- Thomas J. Kuznik P.E., M.ASCE
- Andrew Vaughn Martin S.M.ASCE
- Linh Nguyen S.M.ASCE
- Navdeep Singh S.M.ASCE

**Feather River Branch**

- Zubair Dosu S.M.ASCE
- Michael C. Dydiw EIT, A.M.ASCE
- Marissa Elena Garcia S.M.ASCE
- Mark Spencer Ivy S.M.ASCE
- Joseph McCann S.M.ASCE
- Sarah L. McKay S.M.ASCE
- Kirk Robert Medeiros S.M.ASCE

*2012 Concrete Canoe Contest*

RENO, Nev. – Civil and Environmental Engineering students at the University of Nevada, Reno paddled their 160-pound concrete canoe to victory Friday in the annual regional competition held this year in Berkeley, Calif. Using significant science and plenty of muscle, the Wolf Pack team beat out teams from eight northern California universities to earn a seventh trip in seven years to the national competition. The national competition will be hosted this year by the University of Nevada, Reno in June.

“This achievement is great, and the consistency of success over the years is even more amazing,” Manos Maragakis, dean of the College of Engineering said. “It speaks well of the quality of our students, year after year being dominant in a highly competitive region, including U.C. Berkeley, and then going to nationals and getting top finishes.”

The American Society of Civil Engineers Mid-Pac Region Conference event is more than building and paddling a 20-foot canoe made out of concrete – a six-month undertaking – it includes equal scores for design, preparing and presenting...
2012 Concrete Canoe Contest - Continued from Page 11

The University of Nevada, Reno engineering students concrete canoe competition team placed first in the 2012 ASCE Mid-Pac Concrete Canoe Competition held in Berkeley, Calif. last week. The engineering event is judged in equal part for the races, a design paper, oral presentation and final product. The Men’s Sprint team, pictured here, was one of four of the Wolf Pack teams who placed first in their race, giving them the overall race win.

The team’s canoe was 15 pounds lighter than last year’s 175-pound canoe in which they placed second at nationals. The canoe was the lightest, by 40 pounds, of any other in this year’s competition. The lightest Wolf Pack canoe was 140 pounds in 2010 when they placed fifth in nationals. In the past, teams from other schools have built and raced in canoes reported to weigh as much as 750 pounds. The aggregates used in the concrete mixture play an important role in the strength and weight of the concrete and the Nevada team spent innumerable hours perfecting the mixture, building on past year’s experience. The mixture must also be pliable for shaping and able to be spread to the half-inch thickness of the hull.

“Tired of success is directly proportional to the student’s many hours working on the project, including practicing rowing four times a week – even in the middle of winter, perfecting their report and presentation and, of course, countless hours on the canoe construction and display,” the team’s faculty advisor and civil and environmental engineering professor David Sanders said.

The competition was close with the University of California, Berkeley taking second place and California State University at Sacramento taking third. Berkeley took first in the presentation and U.C. Davis won the final product portion. The Wolf Pack team is now seeking their second national title in their seventh national appearance. As part of the competition the University of Nevada also won the spirit award.

“The department is proud of this victory,” Amy Childress, chair of the Department of Civil and Environmental Engineering, said. “It represents not only the hard work of the students but also the strong support of our alumni and community.”

The University of Nevada, Reno has represented the Mid-Pacific Conference six times at the national level with all top-10 finishes (2006, sixth place; 2007, third place; 2008, first place; 2009, fifth place; 2010, second place and 2011, fifth place).

The competition included teams from California State University, Chico; California State University, Fresno; California State University, Sacramento; San Francisco State University; San Jose State University; Santa Clara University; U.C. Berkeley, U.C. Davis and the University of Nevada, Reno.

The 25th annual ASCE National Concrete Canoe Competition is being hosted by the University of Nevada, Reno at the Sparks Marina and on the University’s campus June 14-16. There will be two dozen teams participating, representing 18 ASCE regions from around the country.

The concrete canoe competition provides students with a practical application of the engineering principles they learn in the classroom, along with important team and project management skills they will need in their careers. The event challenges the students’ knowledge, creativity and stamina, while showcasing the versatility and durability of concrete as a building material.

All team members who participate directly in the competition must be members of the American Society of Civil Engineers. The team attracts students from mechanical engineering, chemical engineering, electrical engineering, political science and secondary education, in addition to those from civil and environmental engineering.


The University of Nevada, Reno College of Engineering has internationally and nationally acclaimed programs with departments in five engineering disciplines. The College has graduated more than 1,500 engineering students in the past five years. U.S. News and World Report just announced its new college rankings and the College of Engineering did very well, with civil engineering in the top 50 in the nation and environmental engineering in the top 100. 
SACRAMENTO VALLEY CHAPTER
6th NMSC in Sacramento Valley
For between 4th Grade and 11th Grade

Place: University of Phoenix
2860 Gateway Oaks Dr., Sacramento, CA 95833

Date: Saturday, April 21, 2012
Check In: 9:30 AM For Math, 1:30 PM For Science

On-line Registration: http://www.ksea.org/NMSC

Registration Fee:
On-line: $20 (before deadline)
On-site: $30 (after deadline)

• Parents Seminars
• Prizes for Winners
• Gifts for all Participants
• Lunch for all Students

Contact Information:
Math: Seungwook David Lim (916) 605-8361 swlim0226@gmail.com
Science: Jeff Olson (916) 227-4542 jeff.eolson@dot.ca.gov

Sponsors: Korean Consulate General in SF; KACAGS; KOREANA PLAZA; Korea Expressway Corp/KESTA; PECG; PECG-SAC Section; Sacramento CLSA; ASCE-Cap Branch; Sacramento Sierra LIONS CLUB; LG ELECTRONICS USA; MANA Japanese & Korean Restaurant; SWELL Insurance; Karagozian & Case; YONGSAN-GU; SAMURAI Sushi, KOREA TIMES; STEVE KIM DDS; BRADSHAW Optometry; MODURANG Korean Restaurant; KOREA DAILY NEWS; SAMUEL CHOI DDS; KOOKMIN University; HANSOL Insurance; Ministry of Land, Transport & Maritime Affair