NOW. 111 Happy Thanksgiving!!!

VOL_XLXI NO_11

In This Issue	þage
PRESIDENT'S MESSAGE	1
EDITORIAL	2
THIS MONTH IN SACRAMENTO	2
DON'T NEED TO BE THE LOW BIDDER	3~4
ANNOUNCEMENTS	5~11
ASCE LA SECTION ANNUAL MEETING	8~9
EMPLOYMENT OPPORTUNITIES	12~13
PROFESSIONAL DIRECTORY	14~15





Los Angeles Section

Monthly: Est. 1913

 ${\tt ORANGE / SAN_BERNARDINO/RIVERSIDE / SAN_LUIS_OBISPO / SANTA_BARBARA/VENTURA / DESERT / SOUTHERN SAN_JOAQUIN / METROPOLITAN LOS ANGELES$

PRESIDENT'S MESSAGE

John C. Hogan, P.E. Los Angeles Section President



On a recent vacation, I was flipping channels on my hotel room TV, when I happened across a program about what it takes to run the White House. Maybe you saw it too. It was not about the President's job of leading our government, but rather the operation and upkeep of the White House building itself. It was fascinating to hear about this effort – from the frequent and comprehensive cleaning, to the regular maintenance, to the improvements that are constructed to the specifications of each President. As one might expect, given the stature of its occupant, no detail is overlooked. Everything is kept in perfect

working order. Dust is not permitted to accumulate. When an item is not functioning or becomes worn, it is quickly fixed or replaced.

I think it is appropriate for the office of the White House to go to this effort and expense. It certainly befits the building where the leader of the free world resides and where world leaders come together for state dinners and summits, where our President conducts security sessions and signs bills into law.

However, as the TV program went on, I could not help but think "why can't we treat our Nation's infrastructure in a similar fashion?" Why would the USA, considered the most powerful nation on earth, the country that all others look up to for its democratic form of government, the freedoms it affords its citizens, and its high standards of living, jeopardize its status by allowing its once cutting-edge infrastructure systems fall into disrepair and obsolescence?

The World Economic Forum (WEF) just released its annual rankings of national infrastructure systems in its Global Competitiveness Report 2011-2012. In its report, WEF comments that "Extensive and efficient infrastructure is critical for ensuring the effective functioning of the economy." Guess where the USA landed in the 2011-12 list? We slipped all the way down to #16! (Hong Kong came in #1). Our roads are on par with Malaysia. Our freight rail networks and ports are straining to meet demand. Potential for flooding threatens vital areas. And so on. As recently as 2007-8 our infrastructure was ranked 6th best in the world. It's clear that other countries are investing while we are not. This is not a good sign for our future.

The USA spends roughly 2% of its GDP on infrastructure, about half what we did 50 years ago. For comparison, European countries spend 5% on average, China spends 9%. It's no wonder that our "house" is getting worn and out-dated.

Meanwhile our economy continues to sputter. Millions of people, many of whom are skilled professionals or in trades, are unemployed or under-employed. We watch as our leaders become polarized over solutions to this dilemma, especially over the issue of financing.

Recently, Congress debated the level of funding for the reauthorization of the surface transportation program. ASCE was pleased to see movement in support of funding this element of infrastructure, but would like to see greater funding. The US has been underfunding our surface transportation program for years. The gap will only worsen over the time frame of the latest reauthorization.

EDITORIAL

The Need To Be Thankful

The end of the year is almost here. We feel the crisp cold air. Daylight Savings Time is ending (although there are not really a whole lot of long daylight hours anymore).

I settle today on getting all of the copies of our newsletter and I look into the pictures that Los Angeles Section President John Hogan, P.E. sent me. These are all in the centerfold of this issue as a collage. Just looking at these pictures, we realize that we have accomplished a lot in the past year. The awardees of the recent ASCE LA Section Annual Meeting Awards Luncheon say a lot about what we collectively can accomplish as an organization.

We take President Hogan's remarks about keeping our infrastructure in top shape and how we as a nation have cared much less about these over the years. Do we even care now and do all of these things that make our world a better world even make sense to us to take care of? President Hogan asks us to consider becoming active not only in our organization, but politically to push for and advocate for a better infrastructure. Sustainability takes a newer meaning in this sense, as we push for a brighter tomorrow in the context of higher quality of life through better infrastructure.

We also read through the various legislative updates provided by Richard Markuson. We present an interesting article by Michael C. McGovern regarding cost estimates; and how to be competitive in a low bid job, without being the low bidder. We recognize one more time our Los Angeles Section Annual Awardees for all their hard work for our organization and for our profession.

We are accepting additional write-ups from our membership for inclusion in our newsletter. We would like to make future issues better, with more information that all of us can use.

We do these things to make and build a better world. We have a lot to be thankful for this year. Share with us your future thoughts.

Enjoy this issue of your newsletter!

Happy Thanksgiving!!!

- Dr. Cris B. Liban, P.E.

Reminder:

Copy deadline for the Dec. 2011 issue is Nov. 1, 2011; copy deadline for Jan. 2012 issue is Dec. 1, 2011.

ASCE's 2011 Member-Get-A-Member Drive Depends on You!

ARTICLE

This Month in Sacramento (ASCE)

By Richard Markuson

The Governor had until October 10, 2011 to act on the myriad bills sent to him – mostly in the waning hours on this legislative session.

What we do know is that despite some of the Governor's statements about the relative merit of the bills being sent to him – he is signing the vast majority of measures – over 90% so far.

Still Awaiting Action

AB 1210 (Garrick) that exempts Civil Engineers from the requirements imposed by the State Water Resources Control Board (SWRCB) is on the Governor's desk. Region 9 of ASCE joined the supporters of the bill to argue that the qualifications to practice engineering should be established by the Engineers Board and that the SWRCB and other regulatory bodies should not set standards and enforce additional requirements on what are fundamentals of the practice of Civil Engineering. If the Governor signs AB 1210, it would go into effect immediately.

Also awaiting the Governor is Region 9 supported **AB 275** (Solorio). The bill would allow homeowners to install, or hire a licensed contractor to install rainwater capture systems (RCS) to store rainwater that has not yet collected urban pollutants for non-potable purposes. The installation of RCSs promotes water conservation and assists in stormwater management by reducing the amount of water load that enters storm drains, thereby saving consumers the cost of treating and transporting water-before it reaches the user. The author agreed to ASCE amendments to clarify the scope of the RCS and role of design professionals.

Also on his desk is Region 9 supported **SB 263** (Pavley) that requires the Department of Water Resources (DWR) to make the reports that well drillers must submit when a well is constructed, deepened, reperforated, or destroyed available, with certain restrictions, to governmental agencies for studies, college-level or higher academics for research, geologists, geophysicists, hydrologists, civil engineers, licensed well contractors or any person who obtains written authorization from the well owner. This bill makes any person who knowingly violates the restrictions on the use or sharing of a well completion report guilty of a misdemeanor violation punishable by up to \$25,000 per day, a year in county jail, or both.

Design Sequencing Bill Dead

The author of **AB 294**, which originally extended the authority of Caltrans to test design-sequencing – has dropped the bill for this year. Some opposition arose when he amended his bill with a mandate that Caltrans "perform all project development services and preparation of documents ... and construction inspection services" on any project on the state highway system. The bill allows those services to be performed by Caltrans staff or consultants under contract to Caltrans.

Vetoed Legislation

Brown vetoed **SB 834** (Wolk) that would have required that an Integrated Regional Water Management Plan (IRWMP) that is voluntarily drafted so as to meet certain minimum requirements in order to be eligible for state funding must, for a region that depends on water from the Sacramento-San Joaquin Delta (Delta), also include an identification of the way the

continued on page 7

ARTICLE

Don't Need to be the Low Bidder

by Michael C. McGovern, P.E., FASCE
The Moote Group

(Recently I was asked to present to engineers and managers at a southern California Public Works Department on the topic of estimating and why an outside estimating firm should be considered for producing Agency project budgets as opposed to doing them in house. The following is a synopsis of the presentation.)

I have been estimating and bidding grading and site development improvements in the public and private works arena since 1978. After working as a general engineering contractor for 22 years, I moved into the CM/PM role in 2000. I am currently a principal and vice-president at The Moote Group, a local Santa Ana firm established in 1974 that offers cost estimating and construction management to developers throughout southern California as a way to bridge the gap between the contractor and owner. We have since developed into a full service land management firm whereas, besides the cost estimating division, we offer bid administration, dry utility coordination, applicant design, site management, CFD reimbursement and expert witness/litigation support. We do not provide civil engineering or design work. We offer constructability analysis, site assessments, project management and cost estimating. Of more than 4,800 projects completed since 1974, 95% have been in southern California. Recently, we provided construction management services for a number of local Agencies.

The reason I bring this up is because all these services enable me to sharpen my cost estimating skills. Starting with defining the scope of work, generating an all-inclusive bid schedule, understanding the potential "extras," looking for the "unknowns" – basically troubleshooting the plans and project needs. The goal is to provide a solid cost estimate consistent with a complete scope of work that others can rely on, make million dollar decisions on and properly budget for future expenditures.

First order; define the scope of work, detailed take-offs, look at excavation and grading – where is the cut and where is the fill, review geotechnical reports and make "adjustments" to determine import/export, what can be moved with scraper, how much with trucks, depths of improvements for underground, determine production rates, type of ground situation – sandy, hard, rocky, ground water; street/traffic controls affect production – working hours, off-site...I am looking at the job as if I'm a contractor bidding on it. I visit the site at least once to understand the constraints, traffic impacts, surrounding area/neighbors, check on available water source, look at clearing and demo, really gauge and scope the work area.

I have some caution and concerns with using pricing from historical data and cost books. It is difficult to use unit costs from other projects unless you specifically have knowledge of the actual work – largely due to constraints, sequence, type, depths, ground type, dewatering, in the street, open cut or trench, shoring, etc. At Moote we administered over 100 bids in 2006 and several more since...we understand the job and why the various costs are what they are – we have a point of reference.

Of projects that we don't administer the bid, we still obtain the bid results (Greensheets, websites, contractors) and purchase the plans from the City, County, Caltrans or bidding Agency to better understand the project so we can understand why the unit costs are what they are.

For instance, if a bid has an unclassified excavation item, it can include asphalt and/or concrete and dirt. I was retained by a local Agency as an expert witness to review and opine on a claim made for additional excavation required in a median. The street excavation bid/contract unit price of \$33.15/CY (at 100,000CY's) was based on 10,000CY's of asphalt removal at \$110/CY; 10,000CY's of concrete pavement removal at \$150/CY and 80,000CY's of street excavation at \$8.95/CY. The city contracted CM requested the contractor to remove an additional 10,000CY's of "soft" dirt out of the median and agreed to pay the contract price, as suggested by the contractor, of \$33.15/CY. Had the CM understood the make-up of the unit price, he would have negotiated a cost closer to \$8.95/CY or \$89,500 as opposed to the \$331,500 the contractor received. Point is, it is difficult to use a number from a publication without understanding the work, viewing the plans or knowing the conditions. The same project had a "planter curb," 150LF at \$15/LF - it was 18" high, textured concrete and pink in color - the CM measured over 4,000LF of mow curb (3" x 5" landscape mow curb, which typically goes for \$3.50/LF) and paid it as planter curb - a \$50,000 "hit" when it should have been included in the lump sum landscape median price. (This is where our constructability review, specification review and analysis; and working with the bid administrator comes in handy).

Anything being hauled to the dump or to a recycler needs confirmation of the current pricing and conditions. For example, Puente Hills landfill takes clean dirt for free but only 5 hours per day – truckers want at least 6 if not 8 hours – recyclers charge upwards of \$250 per load to dump asphalt/concrete because their yards are near capacity and they are not unloading CMB fast enough. It used to be \$40 per load...and of course, oil and fuel – impact on equipment rental, trucking of commodities – a good reason to raise your prices.

Another example of picking a unit price from a publication would be an 18" RCP crossing a 6-lane roadway, in phases, slurry backfill, plates, night work, traffic control, asphalt patch-back – this could be \$500/LF as opposed to the \$65/LF to \$85/LF we're used to seeing. All these examples show impacts to a unit price and the sort of things I look for.

Caltrans has a website with average unit costs and bid details; however, without fully understanding the scope of work, let alone not viewing the project plans, it would make it difficult to use/assume such unit costs in preparing an estimate/budget. There is a wide range of numbers – you need to know when to use such price.

My style: I use six unique methods to determine pricing and then discuss with the Estimating Team and agree to a number – 1) crew it up by manhour, equipment time and material costs as if I'm bidding the job to do it - develop a job procedure, perform tedious takeoffs, 3-D grading models for quantities, put crews together, run the hauls for grading, verify equipment rates, verify material prices, develop production rates for pipe install, asphalt paving, signals, landscape, etc.; 2) contact with contractor "friends" and material suppliers – get numbers on "similar jobs;" 3) past history of similar projects bid-administrated by Moote whereas we developed the spec, quantities and fully understand the plans and scope of work – numerous notebooks of bid results for almost any type of work and a database on the server; 4) obtain pricing on specialty items (bridge work or Contech Arch Spans) to verify our numbers; 5) we have our own dry utility division who quantifies each project into numerous line items and has a cost schedule based on current industry pricing on projects our guys have bid out and are coordinating the work and 6) "feeling" in the market place - who needs work, who will throw in their equipment at operator wages + fuel + \$10 an hour for "ownership." I belong to several associations, SCCA (grading contractors), ECA (underground contractors), ASPE (estimators and CM's) and CMAA and "hear" what's going on.

continued on page 4

The Moote estimating team is made up of several past-contractors whereas one member owned and operated his own underground company (sewer and water), another had his own street improvement firm and I was a principal at two local firms specializing in site development and street improvements where 50% was public works and 50% was private. Another member has estimated and managed numerous landscape projects for Moote and performs a line by line takeoff for landscape and irrigation, calls suppliers for material quotes and develops the unit pricing. We all worked together, more or less, for the past 20 years. Also, our dry utility division supplements the team with pricing on dry utilities (SCE, Phone, Gas and CATV). We look at these projects through the eyes of a contractor and establish our estimates accordingly.

As another "check" on pricing: I mentioned material costs – I track the cost of materials based on specific locations, quantities involved, trucking and fuel cost – example, "asphalt paving" unit costs are typically 90% material and 10% labor & equipment; thus, if asphalt FOB jobsite is \$63/TN, then FDL (furnish, deliver and lay) is close to \$70/TN. As material prices fluctuate the effect on the overall price only pertains to that certain percentage of the unit price that is material. The following chart will illustrate such:

Increase in Pricing on Select Trades From July 15, 2004 to August 1, 2005

	% of U	nit Cost		Increase Year to Year*				
Category	L&E	Matl		Labor	Material		Overall Increase	
Grading	95%	5%		4.77%	9.00%		4.98%	
Storm Drain	43%	57%		4.06%	17.64%		11.80%	
Water	50%	50%		4.24%	9.32%		6.78%	
Sewer	62%	38%		4.24%	22.00%		10.99%	
Dry Utilities	32%	68%		4.20%	9.37%		7.72%	
Asphalt Paving	10%	90%		4.06%	2.69%		2.83%	
Concrete	35%	65%		4.45%	45.45%		31.10%	
Landscape	40%	60%		3.35%	5.00%		4.34%	
Signals/St. Lights	20%	80%		3.35%	10.00%		8.67%	
Wood Fence	40%	60%		4.81%	0.00%		1.92%	
Block Wall	40%	60%		3.90%	19.31%		13.15%	
*Based on Union increases on Labor at July 1, 2005 and								

*Based on Union increases on Labor at July 1, 2005 and material quotes at same times.

In reference to a recent project I estimated and compared to the County's estimate, numerous items were rolled up into a single item - again, defining the scope and quantifying for such. For instance, the "miscellaneous concrete" item I used for the project is made up of 29 separate line items based on each type of facility. The cost for such is based on sequence and numbers as compared to one line item and one average unit price. The "shotcrete" item is rolled up from 18 separate locations, sizes, widths and lengths and cost out individually as compared to one line item. The "unclassified excavation" item is rolled up from 13 separate items – these include scraper hauls, trucking hauls, and finish costs – there is no separate line item for these various "rough" finish costs but the work needs to be done in order to facilitate the sequence, i.e.) fine grade for curb, fine grade for walk, a surface on the street to start utilities from as opposed to one line item. The "18" RCP" is rolled up from 13 individual storm drain lines including street work required; the "asphalt pavement" line item is rolled up from 10 items that includes slot paving, subgrade prep, small areas, large areas, different paving sections; and the "domestic water" is broken out by 53 line items representing the number of valves, hydrants, blow-offs, sizes and lengths, tees, sleeves, asphalt R&R as compared

to one line item – and again, the reason for such is due to the complexity and capturing all the work – is the line in the street at 3' minimum cover?, running down the slope with anchors?, special restraints?, connections?, etc.

Again, define the scope of work, break it out so you can adequately estimate it, don't throw numbers at it and do it right!

I gauge the market place to know that fewer projects are bidding at this time, contractors are getting desperate and current estimates are coming in

substantially lower than expected for reasons beyond our control – missed something, cash-flow reasons, cover overhead only, put equipment to work, don't want to lose people, who knows...and of course this gets offset by the price of oil, world wide demand on cement, etc. These things are out of our control – but in general I am typically in the top three when the project bids and once in a while the "low bidder," but only by a few percent.

In essence, I don't need to be the low bidder nor am I achieving to be. I still "got the job" which was to determine an appropriate budget or "reasonable cost" or "estimate of probable cost" that is within 10% of the future contract amount so owners, developers, builders and public agencies can make an informed decision.



PRESIDENT'S MESSAGE

continued

ASCE Region 9 Governor Positions are Open

by Fareed Pittalwala, Governor, ASCE Region 9, Nominating Committee Chair

Attention all ASCE members . . . ASCE Region 9 has two open positions for the 3 year Governor term (2012 to 2015). The two open positions are:

San Diego Section Governor (Elected Position) At-Large Governor (Appointed Position)

ASCE Region 9 is looking for experienced ASCE leaders who have been engaged with their local ASCE entities and have a passion for improving and enhancing the civil engineering profession within the state of California. A letter of intent to pursue office is due to Fareed Pittalwala at fpittalwala@ rbf.com by **December 1st**. Additionally information regarding the timeline and nomination process can be found on ASCE Region 9's website, or by contacting Fareed Pittalwala via email.

A Great Idea From the Life Members

The ASCE Life Members' Public Image Committee request that members take their (to be discarded) Civil Engineering magazines to their doctor's office or barber shop and merge them with the stack of magazines. We feel that this will be an effective way to make the general public more aware of what civil engineers do.

National ASCE (800) 548-2723 (ASCE)

Access National ASCE at: www.asce.org

L.A. Section web site at:

www.ascelasection.org

RMHwin Rational Method Hydrology software in Windows for Orange, Riverside & San Bernardino counties By Jack P. Norris, P.E. Past chair, Hydrology & Hydraulics Technical Group, L.A. Sect. For complete information please visit JPNRCE.com

This theme seems to be repeated on other infrastructure fronts – whether it be flood control, dams, water supply or energy. While most will agree that the work is needed, the common cry is that we cannot afford to do more. We can't go further into debt.

Here is my personal view on the matter: I consider myself a fiscal conservative and I am all for reducing the national debt. But, the deficit reduction effort needs to be done (and will get done), when we are economically healthy. Right now we are in an economic crisis, manifested by scarcity of demand and income. We are also in the midst of a looming crisis of deteriorating infrastructure. I believe the solution, as espoused by economist John Maynard Keynes, is for the federal government, the only player with resources in times like this, to stimulate demand with public spending, preferably on projects that address our infrastructure needs, even if such spending is deficit-financed.

Effective spending on building and renewing our infrastructure is an investment that will pay off in the short term by stimulating the economy and by providing income to everyday people. It will pay off in the long term by establishing a solid foundation upon which our economic engine can grow and thrive. It's not-so-ironic that much of the infrastructure that we need to improve or supplement was built after the Great Depression, the last time America really got serious about spending federal dollars to spur the economy while investing in our nation's future.

Civil Engineers are the designers, builders, and stewards of our nation's infrastructure. It is our responsibility, indeed our obligation, to speak up, to sound the alarm, to advocate, and to counsel our elected leaders on these matters. ASCE provides an effective means to this end. Our 140,000-member organization is a loud voice for the cause. We become even more effective when our members also speak out as individuals. ASCE makes this easy for us to do. All one has to do is go to www.ASCE.org and sign up to be a Key Contact. Every so often, Key Contacts receive an email "Key Alert" that advises when specific grassroots action is needed to support civil engineering issues at the federal or state level.

If you are not already a Key Contact, sign up now. Once you have become a Key Contact, take an active part. The few minutes a month that you'll spend will be one of the greatest investments of time you will ever make. Together, we can help our nation deal with the twin crises and return to economic prominence while building a better world.

As always, I welcome your thoughts and input.





Annual Meeting Sponsors

On October 8, 2011, the Los Angeles Section held its Annual Meeting at the Disneyland Hotel. The highlight of the meeting was the presentation of the 2011 Section Awards. The success of this event is attributable to the support the Section received from its sponsors. The Section is very grateful to the following organizations for their sponsorships:

GOLD HBLA CPA's HDR

SILVER

Black & Veatch
Dealy Renton
Geosyntec Consultants
Hall & Foreman, Inc.
Langan
NMG
Parsons
Weil & Drage

BRONZE

Contech
C2 Reprographics
Iron Mountain
Leighton
RBF Consultants
SA Associates
USCAD



Each year the ASCE-Los Angeles Section presents awards at the Section Annual Meeting. These awards are selected from nominations made by the Branches. The 2011 Awards were presented on October 8, 2011, during the Annual Meeting Luncheon at the Disneyland Hotel. Congratulations to the following 2011 Award Winners:

Outstanding Government Civil Engineering Project:

Interstate 5 Gateway (Orange County)

Honorable Mention: Valley Boulevard Grade Separation, and I-10 Widening through Redlands

Outstanding Private Sector Civil Engineering Project:

Nacimiento Water Project

Honorable Mention: Woodbury Community Irvine, and Bakersfield's Wastewater Treatment Plant 3 Expansion

Outstanding Sustainability Project: Malibu Legacy Park Honorable Mention: Upper Newport Bay Restoration

Outstanding Architectural Engineering Project:

East Valley Multi-Purpose Center

Outstanding Civil Engineer in Community Service:

Jeff Spannbauer

Honorable Mention: Jane Tran

Outstanding Civil Engineer in Government:

John R. Hollenbeck

Honorable Mention: Dr. Youn Sim, and Gregory P. Heiertz

Outstanding Civil Engineer in Private Sector:

Shahnawaz Ahmad

Honorable Mention: John C. Hogan

Outstanding Younger Civil Engineer:

Chen-Min (George) Huang

Honorable Mention: Josue J. Vaglienty

Outstanding Civil Engineer in Legislative Activities:

Serge Haddad

Lifetime Achievement in Civil Engineering: L. Dale Mills

Honorable Mention: Terry J. Hartman

Excellence in Journalism: Patt Morrison

Outstanding Faculty Advisor: Dr. Rupa Purasinghe

Outstanding Practitioner Advisor: Diego Cadena

President's Award: Janice Horcasitas

This Month in Sacramento

IRWMP will further the statewide policy of reducing reliance on the Delta through investments in regional self-reliance. In a succinct veto message Brown said "I am returning Senate Bill 834 without my signature because I do not believe it adds anything to current law."

Brown also vetoed AB 750 (Hueso) that would have established a 13-member Investment Trust Blue Ribbon Task Force for the purpose of considering and issuing its recommendation of the viability of establishing the California Investment Trust (Trust) by December 2012. Brown observed "I am returning Assembly Bill 750 without my signature. This bill would mandate yet another 'blue ribbon' task force: in this case to examine whether California should establish a state bank. This is a matter well within the jurisdiction and competence of the Assembly and Senate Banking Committees. Rather than creating a new entity, let's use the resources we have."

ASCE Key Contacts

The California Legislature introduces more than 2,500 bills every year - many of them can directly or indirectly affect your practice of engineering. If you want to be more involved in representing your profession and ASCE – take the first step and become a key contact. ASCE's Key Contact program will notify you of important legislation – both here in California and in Washington DC and give you an easy way to make your position know to your elected officials. Join today!

For more information on ASCE's legislative program contact Richard Markuson. For information on transportation measures – contact Kenneth Rosenfield and for water bills - Mark Norton.



PE Review Course

January 7 – April 7, 2012 (13 Saturdays, no class on Feb. 25th) **Centrally located in Irvine**

RBF Consulting presents our comprehensive Professional Engineering License Review Course to prepare applicants for the 2012 Civil Engineering License Exam. The course fee of \$1800 includes textbooks, practical exercises and 100 hours of instruction, including Seismic and Surveying, all taught by experienced professionals. Participants can earn 10 CEUs by completing the course. Only need Seismic or Surveying? Those can be registered for separately.

Visit our website www.rbf.com/Outreach/PE_Review.asp or contact Lori Schnaider at Ischnaider@rbf.com or (949) 330-4138 for more information or to register for the course.







ASCE LA Section Annual Meeting and



Avvards Luncheon - October 8, 2011.



DISASTER TRAINING

Classes are being organized for volunteers to help in the event of a major disaster under the auspicious of the State of California Emergency Management Agency (Cal EMA). Classes will be held in ASCE Branch areas when there are sufficient requests. Qualified individuals are California Registered Civil, Structural, Geotechnical, Certified engineering Geologists, or Architects. If you are interested in attending a class, or are interested in arranging a class, please contact the ASCE Disaster Preparedness Committee Chairman.

There is no charge for the class.

The class lasts 4 or 5 hours

The Class can commence as early as 8 AM or after work.

Monday through Friday or on Saturday

Classes will be given for VOLUNTEERS from professional organizations to assess damage, and COORDINATORS from City or County to direct Volunteers for their area. Coordinators may act as Volunteers outside of their area of expertise.

To register for the class submit your name along with your telephone number and e-mail address. You will be contacted when 10 or more request a class. The maximum number in the class should not exceed 20.

If your Branch, or Firm would like to offer the use of its facilities for a class, please register and provide the name of contact person, phone, and E-mail. You will be contacted to make arrangements.

Thank you for your support.

Jack W. Rolston, Chair 818-903-5225 cell • 818-345-9199 ph • 818-345-5283 fx • ascedisaster@earthlink.net

Congratulations to the 2011-2012 ASCE LA Section Officers & Directors and

President John Hogan, P.E., LEED AP, CEO/Principal of Hall & Foreman, Inc.

Hall & Foreman, Inc. wishes you a successful and professionally rewarding term of office.

Hall & Foreman, a proud supporter of ASCE, is celebrating its 50th year of building southern California. With offices in

Tustin, Santa Clarita, Temecula and Victorville,

we specialize in civil engineering, water quality management services, land planning and development, surveying and mapping, and entitlement coordination

for the residential, commercial, infill/mixed use, education, water resources, and public works sectors.





Engineering - Planning - Surveying

800.544.2114

Hall & Foreman, Inc

www.hfinc.com









AMERICAN SOCIETY OF CIVIL ENGINEERS

International Committee, Los Angeles Section

7th International Engineering and Construction Conference (IECC'7) February 13-15, 2012

Website: www.a-tech.hk/IECC7/index.html

HOST

Centre of Excellence in Engineered Fibre Composites University of South Queensland, Australia

SPONSORS

ASCE Los Angeles Section - International Committee University of California, Irvine ASCE UCI Student Chapter

CONFERENCE THEME "Green Infrastructure System"

VENUE Brisbane, Australia

The ASCE Los Angeles Section International Committee is organizing its 7th International Engineering and Construction Conference (IECC'7), jointly with the Centre of Excellence in Engineered Fibre Composites (CEEFC), University of Southern Queensland (USQ), Australia. The conference will be held during February 13-15, 2012, in Brisbane, Australia.

Conference Objectives

The 7th International Engineering and Construction Conference (IECC'7) is a multidisciplinary forum with several symposia covering a wide range of engineering areas with emphasis on engineering design and construction. The goal of this conference is to enhance the lines of communication between researchers and technical professionals to exchange innovative research and technological advancements. The conference theme focuses on "Green Infrastructure System". This theme incorporates innovative building systems in which affordable green construction, materials and system are pronounced. The conference will cover most of the subjects associated with the above mentioned vision. The objective of the conference is to focus on various topics related to green infrastructure development which incorporates innovative building systems, materials and design. The previous objectives cannot be separated from the wider objectives of eco-villages, city planning, green materials and green construction management on the community level. This would also require successful sustainability and energy efficiency code development. The conference will also deal with carbon finance in construction, renewable energy in construction, environmentally compatible engineering in design and construction, assessment and monitoring of long-term performance, recyclable construction materials and systems, and other state-of-the art papers related to built environment and energy conservation are also encouraged.

KPFF CONSULTING ENGINEERS

KPFF Consulting Engineers seeks motivated and energetic structural engineers. 2+yrs of structural design experience with steel, concrete, masonry and timber desired. B.S., M.S. degree; a P.E. license a plus. Excellent communication and teamwork skills are essential. Substantial growth opportunity for all levels, and the opportunity to work on a wide variety of interesting and challenging projects. Please contact, fax or email resume to the following:

For Los Angeles:

Ms. Krystle Tabangcura KPFF Consulting Engineers

6080 Center Drive, Ste 300 • Los Angeles, CA 90045

Ph: 310-665-1536 • Fx: 310-665-9070 Email: ktabangcura@kpff-la.com

For Pasadena:

Ms. Tamara Kealty **KPFF Consulting Engineers**

301 N. Lake Avenue, Ste 550 • Pasadena, CA 91101

Ph: 626-578-1121 • Fx: 626-578-9121

Email: tkealty@kpff-pas.com

www.kpff.com



Is Your Accounting Firm Proactive?



◆Tax planning & preparation
 ◆Audit services
 ◆Financial statement review and analysis
 ◆Bookkeeping and accounting
 ◆Cash flow management

(949) 833-2817

Serving the engineering industry since 1985

Download our industry update: www.hbla.com/news/pressrelease.aspx



HYDROLOGY/HYDRAULICS SOFTWARE

- Automatic English-to-Metric Conversion
- Used by Cal Trans, Government Agencies

WSPGW for Windows

Water Surface Pressure Gradient, FEMA Approved

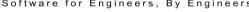
Rational/Modified Rational Hydrology Methods

For Los Angeles, Riverside, San Bernardino, San Diego, Orange & Kern Counties Unit Hydrograph Hydrology Method, Flood Hydrograph Routing, Basin Analysis

Multi-Day Storm Event Analysis

Steady-State Hydraulics, Street Inlets, Pumps, Etc.











Tel 909.885.3806

Fax 909.381.1721

www.civildesign.com

ATTENTION!

AN ADDRESS CHANGE IS MORE IMPORTANT THAN YOU THINK!

You've got the control at your fingertips!

- Mailing Address
- Phone Number
- E-Mail Address

WWW.ASCE.ORG/MYPROFILE (800) 548-ASCE (2723) (703) 295-6300









Civil/Environmental Engineering

Urban Revitalization

Planning and Environmental

Surface Water

Water Resources

Structural Engineering

Transportation

Construction Management

Survey/Mapping/GIS

www.rbf.com www.mbakercorp.com 800.479.3808









Geosyntec[©] consultants

Providing value driven solutions to the most challenging environmental problems

www.geosyntec.com

engineers | scientists | innovators

Ken Susilo, Principal ksusilo@geosyntec.com

Semi-Retired Civil Engineer

Semi-Retired Civil Engineer available for short term/long term commitments. California P.E. with 40+ years of varied experiences and responsibilities, including claims consulting and expert witness testimony. C.V. and references will be available upon your request.

> E-mail: evnel@aol.com Cell phone: 323-356-7814

Think Protection. Think of us.



Dealey, Renton & Associates

Insurance Brokers

Pasadena 626.844.3070 Santa Ana 714.427.6810 Oakland 510.465.3090

www.dealeyrenton.com

An ESOP Company License #0020739

AECOM!

AECOM...Enhancing the world's built, natural and social environments.

www.aecom.com

DUDEK ENGINEERING + ENVIRONMENTAL

Creatively solving water and wastewater resources challenges for municipal agencies.

Plan | Design | Construct | Manage

WWW DLIDEK COM 800.450.1818

San Diego | Los Angeles | Riverside Orange | Santa Barbara | Placer

land development

o entitlement services

eco-adaptive® design

sustainable engineerin

GIS & 3D visualization

www.fuscoe.com

survey & mapping

Geotechnical Stabilization, Inc.

Amer R. Al-Alusi, P.E. President

Chemical Grouting PressGrout Piles

Compaction Grouting Lense Grouting

1558 Sterling Court • Escondido, CA 92029-1208 760/489-6696 • FAX 760/489-6697



KEHOE TESTING & ENGINEERING

- Cone Penetration Testing (CPT)
- Direct Push Soil, Water & Vapor Sampling Truck Mounted, Track & Ltd. Access Rigs

Soil Testing & Sampling Services for Geotechnical & Environmental Consultants

5415 Industrial Drive Huntington Beach, CA 92649-1518 (714) 901-7270 (714) 901-7289 fax STEVE KEHOE, P.E.



Kris Khilnani, PE. GE - President Dr. Suji Somasundaram, PE, GE - Principal Engineer Grant Miller, PG, CEG - Principal Geologist

9307 Research Drive Irvine, CA 92618

FAX: (949) 379-2470



Earth Mechanics, Inc.

Geotechnical and Earthquake Engineering

Foundation Design Seismic Evaluation

Soil-Structure Interaction Field Investigation and Laboratory Testing Grading and Foundation Inspections

www.earthmech.com Fountain Valley Los Angeles San Bernardino Oakland San Diege (714) 751-3826 (310) 519-1197 (909) 890-1551 (510) 562-8833 (760) 736



Phone: (562) 427-6899 Fax: (562) 427-3314 Email: info@greggdrilling.com

Web Site: www.greggdrilling.com

GREGG DRILLING & TESTING, INC.

- ENVIRONMENTAL and GEOTECHNICAL DRILLING WELL INSTALLATION
- CONE PENETRATION TESTING

2726 WALNUT AVE. - SIGNAL HILL, CA 90755



INCORPORATED

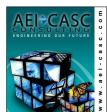
STEWART

- WATER WASTEWATER
- RECYCLED WATER
- ENGINEERING CONSULTANTS
 - * STORM WATER

Riverside, CA • (951) 684-6900 www.kriegerandstewart.com

Geotechnical Environmental Site/Civil

California New Jersey New York Connecticut Florida Pennsylvania Virgir



500

www.aei-casc.com

Tony Akel, P.E. Phone: 559,436,0600

KEL 559.436.0622 559.593.5937 Water Resources

7433 N. First St. Suite 103

www.akeleng.com



EARTH SYSTEMS

Geotechnical Engineering Engineering Geology Environmental Consulting Materials Testing & Inspections

Offices throughout California Los Angeles Area Office (818) 901-8075 www.earthsystems.com



GEOTECHNICAL ENGINEERING MATERIALS TESTING & INSPECTION rving Southern California since 1986

Michael Reader, G.E Principal Engineer Tom Swantko, G.E. Principal Engineer

Los Angeles County: (310) 320-5100 Orange County: (949) 609-1020 San Diego County: (858) 524-1500

LANGAN Group Delta Consultants, Inc Irvine San Francisco Oakland San Jose Sacramento

www.GroupDelta.com

Hall & Foreman, Inc.



Leighton Consulting, Inc.

866-LEIGHTON

Mobile 805-404-6103

mhawley@lgcgeo.com www.lgcgeo.com

5

405

Martin B. Hudson, Ph.D., G.E.

LM *

nas C. Benson, Jr., PE, GE, REA I | President and CEO

LGC Valley, Inc.
Geotechnical Consulting

Matthew Hawley, PG, CEG President

amec[©]

Infrastructure Modeling

and Master Planning

- · Environmental Science and Engineering
- Geotechnical EngineeringEarthquake-Related Services

Cannon

Air Toxics and Health Risk Assessment

James J Weaver PE. GE Tel (949) 642-0245 Fax (949) 642-4474

510 Superior Avenue Newport Beach, Californi USA 92663-3627



949.474.1960 · OC

213.542.4260 o LA

GENTERRA CONSULTANTS, INC.

Joseph J. Kulikowski, PE, GE resident and Senior Principal Engineer 15375 Barranca Parkway, Bldg L Irvine, California 92618 (949)753-8766 joekul@genterra.com www.genterra.com

CIVIL AND GEOTECHNICAL ENGINEERING • DAM ENGINEERING OFFICES IN NO. & SO. CALIFORNIA, COLORADO AND PENNSYLVANI/ SERVICES PROVIDED NATIONWIDE

‴ Geomatrix

■ Environmental Science and Engineering Geotechnical Engineering

■ Air Toxics and Health Risk Assessment

James J. Weaver, P.E., G.E.

Earthquake-Related Services



Engineering - Surveying - Planning - Landscape Architecture

visit us online for job listings at **www.hfinc.com**

800.544.2114

SERVICES: stewater • Transportation

Ess Regineering inc SOCIETY OF CIVIL ENGINEERS Structural Engineer:



Richard L. Hess, S.E., SECB, F.ASCE President

www.HessEng.com

3347 Cerritos Avenue • Los Alamitos, CA 90720-2105 (562) 799-9787 • FAX (562) 799-4973 • Cell (310) 717-4916

LIN Consulting, Inc. Traffic, Civil and Electrical Consulting Engineers

LGC

28532 Constellation Road

Valencia, CA 91355 Phone 661-702-8474 Fax 661-702-8475

William Sun, P.E., T.E. Senior Project Manager

21660 E. Copley Drive, #270, Diamond Bar, CA 91765-4173 Tel (909) 396-6850 ext. 105 • Fax (909) 396-8150 E-mail: wsun@linconsulting.com



Converse Consultants

Public Infrastructure; Land Development; Education; Energy; Survey & Mapping; Aerospace/Defense

Office (626) 930-1200 Costa Mesa Office (714) 444-9660 Fax (626) 930-1212 Fax (714) 444-9640

Redlands Office (909) 796-0544 Sacramento Office (916) 331-5444 Fax (909) 796-7675 Fax (916) 331-6444

www.converseconsultants.com



- Geotechnical Engineering Geo-Earthquake Engineering
- Seismic Hazards Evaluation * Soil Dynamics/Vibrations
- Engineering Geology Hydrogeology
- Seismic Geology * Forensic Studies

525 N Cabrillo Park Drive, Suite 280 Santa Ana, California 92701 Phone: (714) 796-9100; FAX: (714) 796-9191 Web Site: www.geopentech.com



1672 Donlon Stree ura. California 93003

Local 805 654 6977 Local 805 654 6977 FAX 805 654 6979 State 800 676 1916

"Designing for the Future" The leader in civil engineering

and surveying providing professional state-of-the-art services, commitment to excellence, and timely responsiveness.

Labele • Marvin PAVEMENT ANALYSIS, DESIGN, TESTING & INSPECTION SINCE 1969

Steven R. Marvin, P.E.

2700 S. Grand Ave Santa Ana, CA 92705 Ph (714) 546-3468 Fax (714) 546-5841

smarvin@labellemarvin.com

www.labellemarvin.com



GEOTECHNICAL PROFESSIONALS, INC.

5736 Corporate Ave. Cypress, California 90630 (714)220-2211 Fax (714)220-2122 www.gpi-ca.com



 Engineering · Land Planning Surveying

Fax: (909) 279-4380 Email: ka@kaengineering.com

MACTEC

GEOTECHNICAL = ENVIRONMENTAL = HAZARDOUS MATERIALS = CMT Perry A. Maljian, G.E. Senior Vice President Marshall Lew, Ph.D., G.E.

Hedy Abedi, Ph.D., P.E.

Edward C. Trasoras, P.E. Principal Materials Engineer

5628 E. Slauson Avenue ■ Los Angeles, California 90040-2922 323.889.5300 ■ fax 323.721.6700 ■ www.mactec.com





Contacts: Matt Jones, P.E. Fred Greve, P.E.

27812 El Lazo Road Laguna Niguel, CA 92677 Tel: (949) 349-0671 www.mgal.com

Noise & Air Studies

All Your Noise and Air Assessmen Needs Since 1981

Studies for EIRs and EISs Caltrans/FHWA Assessments Noise Ordinance Compliance Air Toxics/Health Risk Assessments Noise Elements



888-243-6100

URS 2020 East First Street

Suite 400 Santa Ana, CA 92705 Tel: 714.835.6886 Fax: 714 973 4062

www.urscorp.com

Garry Lay, PE, GE

915 Wilshire Boulevard Suite 700 Los Angeles, CA 90017 Tel: 213.996.2200 Fax: 213 996 2374

WALLACE GROUP®

805 544-4011

DEDICATION TO SERVICE

CIVIL ENGINEERING CONSTRUCTION MANAGEMENT LANDSCAPE ARCHITECTURE MECHANICAL ENGINEERING PLANNING

PUBLIC WORKS ADMINISTRATION SURVEYING / GIS SOLUTIONS WATER RESOURCES



Land Development Consultants Construction Management Dry Utility Consulting/Coordination Public/Private Bid Administration CFD Administration Electric/Telephone Applicant Design SBE, DBE, WBE Certified

anta Ana, CA 92705

Marji Knitter, President – mknitter@moote.com or Mike McGovern, PE, FASCE – mmcgovern@moote.com

PRESSURE GROUT Steven C. Chandler 1330 W. Gaylord Street Long Beach, CA 90B13-1321 562-432-4100 1970 rvational Avenue Hayward, CA 94545-1709 510-887-2244











Serving the Design Professional community in a wide range of construction and business-related matters

Arizona



NMG

Geotechnical, inc.

Hayim Ninyo Ted Miyake

17991 Fitch, Irvine, CA 92614 Phone (949) 442-2442 Fax (949) 476-8322 E-Mail: hninyo@nmggeotechnical.com www.nmggeotechnical.com



PACE ADVANCED WATER ENGINEERING

.in partnership with nature

WWW.PACEWATER.COM

HEADQUARTERS
17520 Newhope Street, Suite 200 | Fountain Valley, California 92708
main: 714.481,7300 fax: 714.481,7299

Surendra K. Thakral, P.E., BCEE



California | Colorado | Arizona | Utah | Nevada | Mexico www.psomas.com

Providing innovative, timely and cost effective



solutions to today's design challenges through personalized client service www.RBF.com

ffices located throughout California, Arizona and Nevada • 800-479-3808







Shahnawaz Ahmad CONSULTING ENGINEERS

Los Angeles County: 1130 W. Huntington Drive Unit 12, Arcadia, CA 91007 Tel 626.821.3456 Fax 626,445,1461

Orange County: 1661 N. Raymond Avenue Suite 100, Anaheim, CA 92801 Tel 714.871.9083 Fax 714.871.3652

Mobile 626.826.3456 · e-mail: sahmad@saassociates.net



2305 Chicago Avenue - Riverside - CA - 9250 Ph. (951) 680-0440 - Fax (951) 680-0490



PARSONS 100 West Walnut Street

100 West vvanuu 50000 Pasadena, California 91124 (626) 440-6263 * Cell: (626) 483-3171 Fax: (626) 440-2702 surendra.thakral@parsons.com

Penfield & Smith

Santa Maria Office (805) 925-2345

Lancaster Office (661) 949-6676

- · Civil Engineering Surveying & Mapping
- · Land Use Planning
- · Construction Manage Traffic Engineering

www.parsons.com

- Transportation Planning
- · Financing District Service



Debanik Chaudhuri 562.426.3355 phone 562.426.6424 fax 562.355.8635 cell dchaudhuri@twininglabs.c ww.twininglabs.com 2883 East Spring Street

Long Beach, CA 90806

Long Beach • San Bernardino • San Diego • Ventura • Sacramento

All graphic materials submitted for use in the ASCE newsletter

MATERIALS SUBMISSION INFORMATION

should have all fonts outlined, and links included; .eps files preferred. Other formats are: InDesign CS2, Adobe Illustrator CS2; additional acceptable file formats are: .jpg, .tif and .pdf files. Images embedded in Microsoft Word documents should be sent separately. at a minimum resolution of 150 dpi at the display size desired. Collected files, including links and fonts, should be compressed and emailed, or sent on zip disk (provide return address). Business cards can be submitted electronically as well, or send clean, crisp, b&w laser print, unfolded. This publication is 8.5" x 11".



Hydrology/Hydraulics/Environmental Software

Advanced Engineering SOFTWARE

P.O. Box 4962

GARDEN GROVE, CA 92842-4962 Tel/Fax: (714) 780-8990

TO REVIEW AES PROGRAM FEATURES AND CAPABILITIES. VISIT:

http://www.advancedengineeringsoftware.com

- Software written/supported by Authors of the Hydrology Manuals.
 - Software used throughout Southern California since 1980 by private and government agency engineers.
 - Used to develop 55 City-Wide and County-Wide Master Plans of Drainage throughout California.

AES Program Developers & Support:

Theodore V. Hromadka II, Ph.D., Ph.D., Ph.D., P.E., P.H., LG, Professor Emeritus, CSUF; Johannes J. DeVries, Ph.D., P.E., Faculty, UC Davis; Howard H. Chang, Ph.D., P.E., Professor, SDSU; Paolo Zanetti, Ph.D., QEP, President, EnviroCOMP; Robert J. Whitley, Ph.D., Professor Emeritus, UC Irvine; Carlos Brebbia, Ph.D., Director, Wessex Institute of Technology; Gary Guymon, Ph.D., P.E., Professor Emeritus, UC Irvine.

NON-PROFIT U.S. POSTAGE PAID PERMIT NO. 1441

SANTA ANA, CA

POSTMASTER: THIS CONTAINS TIME-SENSITIVE MATERIALS.

PLEASE DELIVER PROMPTLY.



Please contact ASCE Membership at 1-800-548-ASCE for any <u>address changes</u>.

ASCE Officers and Directors of the Los Angeles Section, FY 2011-2012

President	John Hogan, P.E.	Hall & Foreman, Inc.	714-665-4507	jhogan@hfinc.com
President-Elect	Michael Thornton, P.E.	T K E Engineering Inc.	951-680-0440	mthornton@tkeengineering.com
Past President	Gregory Heiertz, P.E.	Irvine Ranch Water District	949-453-5560	heiertz@irwd.com
Secretary	Janice Horcasitas, P.E.	City of Bakersfield	661-326-3607	jhorcasi@bakersfieldcity.us
Treasurer	Kathereen Shinkai, P.E.	LPA	949-701-4033	kathereen.shinkai@gmail.com
Vice-President Student Activities	Gregg Fiegel, PhD, P.E.	Cal Poly San Luis Obispo	805-756-1307	gfiegel@calpoly.edu
Vice-President Technical Groups	Bill Flores, P.E.	HDR Engineering, Inc.	951-320-7311	bill.flores@hdrinc.com
Desert Area	Clarence Martin, P.E.	City of L.A. Department of Water and Power	760-873-0342	Clarence.Martin@ladwp.com
Metropolitan Los Angeles	Marlon Calderon, P.E.	City of LA, Bureau of Engineering	213-473-6233	marlon.calderon@lacity.org
Orange County Branch	Josh Nelson, P.E. M.ASCE	CNC Engineering	626-333-0336	Jnelson@cc-eng.com
San Bernardino/Riverside Counties	Rita Escobar	AECOM	714-567-2498	Rita.escobar@aecom.com
San Luis Obispo	Vallerie Huff, P.E.	Wallace Group	805-544-4011	valerieh@wallacegroup.us
Santa Barbara/Ventura Counties	Marta Alvarez, P.E., P.L.S.	Y.C.E. Engineering & Surveying	805-650-6995	yce-mya@pacbell.net
Southern San Joaquin	Jay Schlosser, P.E.	AECOM	661-325-7253	Jay.schlosser@aecom.com
Younger Member Forum	Heren Molina	PPC Construction Inc.	323-256-2600	heren.molina@ppcco.net
Life Member Forum	Larry Lewis, P.E.	Retired / City of Los Angeles	562-927-2088	MI3lewis@aol.com
Region 9 Governor	Jay Higgins, P.E.	URS Corporation	818-406-4896	jay_higgins@urscorp.com

NEWSLETTER INFORMATION

Publisher

ASCE LA Section Gayle Stewart

1405 Warner Ave., Suite B

Tustin, CA 92780 Phone (714) 258-8306 Fax (714) 258-8391

 $E\text{-}mail: \ GStewart@associationplanet.com$

Editor

Dr. Cris B. Liban, P.E.

LACMTA

One Gateway Plaza Mail Stop 99-17-2 Los Angeles, CA 90012 Phone (213) 922-2471

Phone (213) 922-2471 FAX (213) 922-6875 E-mail: cliban@UCLAlumni.net

Typesetting, Layout & Printing: The Center Quickprint



Please send all copy to the Editor by the first of the month preceding publication.

Identification Statement

ASCE Newsletter, (ISSN 0273-6233) is published monthly by ASCE, Los Angeles Section, 1405 Warner Ave. Tustin, California 92780. Subscription price included in Section dues of \$45.

Circulation

Circulated monthly (except for a joint July/August issue) to the 5,000 subscribing members of the Los Angeles Section, ASCE.

Advertising Rates

EMPLOYMENT ADS

\$75/column inch

1/8 page \$150

1/4 page \$250

1/2 page \$415

1 page \$690

Professional Directory \$350 per business card for a full year (Additional fees may be applied for typesetting. Please call for information.)

Position Wanted Ads No cost to L.A. Section members.

For more advertising and billing information, please contact Lorena Arce, P.E., at (562) 448-4526 or lorena.arce@hilti.com

National ASCE (800) 548-2723 (ASCE)
Access National ASCE at: www.asce.org
L.A. Section web site at: www.ascelasection.org