Sept. 04

Los Angeles Section

Monthly: Est. 1913

ORANGE / SAN_BERNARDINO/RIVERSIDE / SAN_LUIS_OBISPO / SANTA_BARBARA/VENTURA / DESERT / SOUTHERN SAN_JOAQUIN / METROPOLITAN LOS ANGELES

"Opinions are like armpits: Everybody has two of them and they stink most of the time."

— Anonymous

PRESIDENT'S MESSAGE



Shahnawaz Ahmad LOS ANGELES SECTION PRESIDENT

"FORGOTTEN" ENGINEERS

Through the years as I have read magazines, newspapers, trade journals, and attended numerous conferences, various names have come up that have made a mark in the engineering profession. Engineers, young and old, can learn much from the lives of these past engineers. I have put together a brief description of some of these "Forgotten" Engineers. Due to space restrictions, I am limited to a few names, but there are many other engineers out there, both alive and long gone, who have contributed much to the field of engineering. Theses names are not limited to civil engineering, but encompass other engineering fields as well. They are listed alphabetically by last name:

John Fritz (1822-1913) for whom the medal is named, was a famous mechanical engineer and steel maker. Mr. Fritz grew up in the early days of steel-making. He was an innovative iron master who designed machinery almost incapable of breaking down, and was one of the first to apply the Bessemer process in steel making, and also introduced open-hearth furnaces and the Whitworth forging press. He was ASME (the counterpart to ASCE) President in 1896-97.

William LeRoy Emmet (1859-1941) was an electrical engineer. Emmett made significant contributions to AC power systems including the design of large rotary converters which were used widely to convert transmitted AC power to direct current needed for the manufacture of aluminum, electric railways, and other applications. Emmet worked to equip battleships with turboelectric drives. He persuaded the Navy to adopt electric drive for ships. His first major project was the design of hydro-electric generators for Niagara Falls. His success at this task established his technical reputation. He received the prestigious Edison Medal of the American Institute of Electrical Engineers in 1919 in recognition of his numerous contributions to electric power engineering, including ship propulsion. He received the Elliott Cresson Medal of the Franklin Institute in 1920 and also was elected to the National Academy of Sciences.

Herbert Hoover (1874-1964) is probably the least "Forgotten" engineer since he was President of the United States from 1928-1932. Son of a Quaker blacksmith, Herbert Clark Hoover brought to the Presidency a reputation for public service as an engineer, administrator, and humanitarian. Born in an lowa village in 1874, he grew up in Oregon. He enrolled at Stanford University when it opened in 1891, graduating as a mining engineer.

After the United States entered the First World War, President Woodrow Wilson appointed Hoover head of the Food Administration. He succeeded in cutting consumption of foods needed overseas and avoided rationing at home, yet kept the Allies fed.

After serving as Secretary of Commerce under Presidents Warren Harding and Calvin Coolidge, Hoover became the Republican Presidential nominee in 1928. His election seemed to ensure prosperity. Yet within months, the stock market crashed, and the Nation spiraled downward into depression. After the crash, Hoover announced that while he would keep the Federal budget balanced, he would cut taxes and expand public works spending.

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Reminder: Copy deadline for the October 2004 newsletter is September 1, 2004; copy deadline for the November 2004 issue is October 1, 2004.



Another Last Issue

The "ber" months are here once again. This means another year has passed, another 11 issues have been created. As I mentioned before our summer break, I wanted us to contemplate one big issue regarding this newsletter, do we want to continue printing or do we want to follow suit other entities of getting our newsletters by email? Unfortunately, the response to such question is anemic to say the least. Despite this response rate, it is evident that more of our younger folks would rather receive the newsletter through e-mail. Our not so young folks, particularly those who have not had much opportunity to use the computer much, would rather receive the paper version. The rest of us caught in the middle (between 35 and retiree age) are mixed with our reactions. I would like to give us one more round of polling to get a feel of how you want to have our newsletter received. For those who already responded, I have heard your cause and need not say more. For those who are just coming back from vacation, please express your opinion on this matter. It is not only a matter of finance or of convenience, but of particular importance is the need for me and you newsletter staff to know what kind of delivery service you would rather prefer.

During this month as well, I have received several phone calls from a number of members still having problems with receiving double copies. I really apologize for not getting back to you except in this forum. Nevertheless, just as a review. I have no control over the mailing labels printed and pasted on our newsletter. Only National ASCE has that ability to purge your name out the second time around. We simply download your information into our system, print the labels, and send the newsletter off. Obviously, in these fiscally challenging times, I need to balance between paying for someone to sort out the 4,000 plus printed labels every month and making sure nothing is duplicated, or simply send out the newsletter with a few newsletters received twice by the same person. Economic analysis reveals it is cheaper for someone to receive the newsletter twice. Some may disagree, but if you are one of those lucky people, please pass on the extra copy or leave the same in a public place where someone can pick it up and read through it. Also, if you are having this duplication problem, please call 1-800-548-ASCE directly and they will take care of it. It usually takes a few months before your records get straightened out. Remember, we do not intentionally want to pester you with too many newsletters. There is a reason why your label is printed twice and National will be able to help you better than I do.

As this is the last issue of the newsletter for FY '04, I want to thank all our members and the general public alike for your contributions. This newsletter has evolved this past year from simply a venue to showcase business cards, a place to cram in announcements, or a goldmine to look for employment opportunities to a place to vent out issues or provide profession-relevant articles. I am really fortunate to have very talented individuals who have helped us our through our operations without which this document may not reach you in a timely manner. As we close this fiscal year, let us remember the great things that have happened to all of us. Let us not forget most importantly those great engineers whose lives we featured in the past few months who are not with us anymore. Their stories are more than inspirational.

Enjoy this issue!

-Cris B. Liban, D.Env.

ARTICLE

Project Bidding & Award

By Tony Antich, City Engineer City of Santa Monica, California And Joyce Klenner, J.A.K. Networks Unlimited

This is the seventh in a series of articles dealing with keys to successful public works project management. The first step in obtaining bids is to advertise the project. Cities have different specific rules; however most follow a similar procedure.

The Project Manager generally holds a pre-bid meeting or job walk prior to submission of bids by contractors. It is, however, at the discretion of the Project Manager's supervisor as to whether they are needed. When a pre-bid meeting or job walk is planned, it should be mandatory for all potential bidders to send a representative. An advantage of holding the pre-bid meeting or job walk is that information may be provided about possible errors, risks, omissions, value engineering issues, clarification of ambiguities, etc., that are detailed in the Bid Documents. Also, some sites are not generally accessible to the public (e.g., the jail or airport). If a pre-bid meeting or job walk is planned, it should be announced as part of the advertising and the Bid Documents and may also be announced as a separate note on the construction drawings. The pre-bid meeting or job walk should be scheduled at least two weeks prior to the bid opening date so that clarifications (if necessary) will be sent out no later than one week prior to the bid opening.

The Project Manager should invite the following to the meeting/walk:

- · Project Designer.
- Construction Manager.
- Project Director (supervisor of the Project Manager).
- Appropriate Client Department representative(s).
- Other departments' representatives having permit authority (e.g., Caltrans, Building & Safety, etc.).

It is important to prepare for the meeting in advance. The Project Manager should be aware of any special City requirements which may differ from those encountered by contractors in other municipalities, special sequencing, traffic disruption concerns, etc.

The Project Manager conducts the pre-bid meeting and job walk and ensures that someone is assigned the task of taking meeting minutes (e.g., documenting questions, answers, etc.). If major changes in the Bid Documents result from the meeting/walk, the bid opening date should be postponed and an addendum sent out.

ADDENDA

An addendum may result from information learned in a pre-bid meeting or job walk, from a miscalculation or change of the date the bid is due, etc. Addenda should be used as infrequently as possible and, if needed, should be sent out at least one week prior to the bid opening date. Overuse of the addenda will result in confusion and poor bid results. If this deadline cannot be met, the bid opening date should be extended. If an addendum is needed within a week of the bid opening date, the Project Manager should determine how far the bid opening date should be extended and ensure that the information of the new bid opening date is disseminated with the addendum.

BID OPENING

Contractors deliver sealed bids. The specific time and date they are each received is noted. Sealed bids are typically received and opened by staff from the Office of the City Clerk. At the specific time identified in the advertisement and Bid Documents, all sealed bids are opened publicly and read aloud. The Office of the City Clerk does not accept bids submitted past the deadline.

continued on page 8

Education and Career Enhancement for Civil Engineers

C.V. Chelapati, Ph.D., P.E.

It is widely known that education leads to career enhancement. Career enhancement leads to greater job responsibilities leading to pay increases and further recognition. Several studies have been and are constantly being updated to ascertain this fact. A website www.educationpays.org is devoted to the discussion of this topic. A four year college graduate makes about a million dollars more than a high school graduate over a lifetime. In Civil Engineering those with a Masters degree make around \$5,000 more per year than an engineer with a Bachelors degree.

Irvine Institute of Technology has created three Masters degree programs for Civil Engineers all directed through advanced theory and designs, in-depth applications and practice.

- MS Environmental and Water Resources Engineering
- MS Structural Engineering Design and Practice
- MS Transportation and Traffic Engineering

Curricula for these three Master's degree programs also cover the knowledge contents leading to a Professional License in those areas of specialization. Appearing for the PE and SE licensing examinations is a requirement for the degree.

Each of the Master's degree programs covers 36 graduate units in 432 hours of class room instruction. All classes meet on alternate weekends in the state-of-the-art educational facilities at 8659 Research Drive, Irvine, conveniently located at the intersection of the 405 and 5 freeways. There is ample parking space next to the building. Since these classes are held on alternate Saturday and Sundays, there is time to immerse in concentrated learning instead of frequent commuting on weekdays.

All instructional faculties are eminent scholars, engineers and practitioners recruited on the basis of their expertise to teach a full course or a particular segment of a course. There are over forty instructional faculty selected not only from California, but from across the country. Internet, web and computer software will be used extensively in posting homework problems and solutions and to communicate with students and instructors on a select basis. All courses will be offered as planned without cancellations and thus a student enrolled in one of these programs will complete the degree requirements in a matter of 21 months. The tuition fee for one graduate unit is \$675.00 and most courses are for two or three units. There will be examinations and all work is graded to ensure the learning of the students. The tuition fees must be paid two weeks before the course starts. Federal financial help in the form of low interest loans is available through select Banks. While we encourage continuous study for the complete Masters program, courses can also be taken by others for their professional development. A list of courses offered for Fall 2004 is listed separately in this newsletter.

State of California Bureau of Private Postsecondary and Vocational Education (BPPVE) has temporarily approved the offering of degree programs. A site visit is scheduled during 2004. Accreditation by Accreditation Board for Engineering and Technology (ABET) and Western Association of Schools and Colleges (WASC) can only be sought after the first class graduates.

Lack of knowledge to accept increasing responsibilities in an office is a deterrent for rapid advancement. Interesting and challenging work will only go to those who have the knowledge to meet the demands of the engineering community in meeting the needs of the society.

YMF ELEMENTARY SCHOOL EDUCATION PROGRAM — My Egg Drop Experience

By Haile Ford, P.E. — YMF Team Captain

The YMF Outreach program helps to educate youth, and promote careers in the fields of science and engineering. The program also encourages its participants to exercise discipline and teamwork. The first YMF outreach program done this year was the Egg Drop Activity.

Participating in the Egg Drop activity was an enriching experience for everyone involved. The students learned how to apply the principles of science and teamwork, while the volunteers were reminded of how good it



feels to see preparation and hard work come together. It made me feel especially good to see that the students were enthusiastic about participating in the activity.

The fourth and fifth graders at Melvin, Stanford, and Trinity Elementary schools welcomed YMF with excitement and joy. In cooperation with Hope World Wide, YMF volunteers worked with over 100 students to assemble packages made from eggs and other items, and dropped them from flights of stairs. While only a few eggs at each school survived the drops, every student enjoyed the activity and walked away from it feeling as if they had learned something new.



The Egg Drop activity, which was conducted during the months of March and April, was a first-time event for YMF. Considering our lack of experience, I believe that the event was a huge success. Since starting the

event at Melvin Elementary School on March 6, we noticed constant improvement in the administration of the activity. We decided that the most efficient way to conduct the activity was to group the students into several teams, and provide each team with two eggs; one egg was used for a lower elevation drop, while the other egg was used for a higher elevation drop. Additionally, various items, including cotton balls, masking tape, paper clips, paper, scissors, and plastic grocery bags were provided with the eggs for the students to assemble packages for dropping. It was interesting to see how quickly the students figured out that the grocery bags could be used as parachutes.

Participating in the Egg Drop Activity was a great experience, and I thank all the YMF and Hope World Wide volunteers for helping me coordinate such successful events. See you at the next one!

IF YOU WISH TO PARTICIPATE....YMF is starting up their second series "Toothpicks and Gumdrops Domes". This activity will teach students about structural integrity...and how to get a sweet sugar high. Our Team Captain for this event is Patrick Holland. Please check our website http://www.asce-laymf.org/ for details.

3RD International Engineering and Construction Conference — A grand Success!

Dr. C.T. Bathala, P.E., F. ASCE1 and Tim Hancuff, P.E.2

It was a great gathering of the Young and the Young-in-Spirit at the 3rd International Engineering and Construction Conference held at the California State University, Fullerton, Titan Student Union, on July 30, 2004. The conference was organized by the ASCE Los Angeles Section International Committee, and hosted by the ASCE Student Chapter of the California State University, Fullerton. The event was co-sponsored by the ASCE Hong Kong Section, Orange County Engineering Council (OCEC) and the Future Scientists and Engineers of America (FSEA).

The conference provided a forum to address the challenges in the completion of civil engineering projects in a global setting, including lessons learned and successes accomplished. There was an overwhelming response from the engineering community, as more than 80 professionals and guests attended the conference, in excess of double the participation at our previous conference held in 2002. The presentation categories included Project Planning and Management; Environmental Issues; Legal, Ethical and Cultural Issues; Engineering Analysis, Testing and Modeling; Engineering Design; Construction; and Lessons Learned. There were 32 technical paper presentations in two tracks, and a poster session comprising of 7 student papers. In addition to the seasoned professional civil engineers presenting the papers and serving as moderators, numerous students volunteered to help make the event a success.

The ASCE National President-Elect, Mr. William P. Henry, F. ASCE, was the Keynote Speaker at the plenary session held during the conference luncheon. Other distinguished guests included, Norm Buehring, ASCE National Vice President, Zone IV; Carl Blum, ASCE National Director, District 13; Shahnawaz Ahmad, Los Angeles Section President; Rich Haller, Los Angeles Section

Vice President / Technical Groups; Sonia Y. Nasser, President of Orange County Branch; and Dr. Jesa Kreiner, Chairman, Division of Engineering, California State University, Fullerton.

During his keynote address, Mr. Henry inspired the participants by focusing on crucial issues related to the development of policies, guidelines and standards for the ethical procurement and performance of engineering services in a global environment. Following the keynote address, awards were presented to the winners of the Student Paper Competition; a total of \$1600 was given as cash awards to the students. Mohana R. Killada, from the University of New Mexico, Albuquerque, NM, received the first prize of \$500 award for his paper on: "Road Noise – A Study of Road-Tire Interaction." At the plenary session, the conference committee also presented a \$500 award to the Future Scientists and Engineers of America (FSEA), a national non-profit organization that promotes technology, science and engineering in grades 4-12 (www.fsea.org).

The conference committee would like to thank the following sponsors and exhibitors for their generous support and participation: Hall & Foreman, Inc.; MMFX Technology Corporation; TAISEI Construction Corporation; Psomas, RBF Consulting, Alameda Corridor East Construction Authority and AZTEC Engineering.

One of the International Committee's goals is to provide opportunities for students and younger engineers to participate in conferences and promote technology transfer for enhancement of global development. We believe that each participant in this conference assisted us in accomplishing this goal.

¹Conference Chairman, Caltrans, District 12, Irvine, CA, and ² Conference Treasurer, County Sanitation Districts of L.A. County.

STUDENT PAPER CONTEST WINNERS

Type of Award and Cash Prize	Author	Title of Paper
First Prize (\$500)	Mohana R. Killada University of New Mexico, Albuquerque, NM.	Road Noise - A Study of Road-Tire Interaction
Second Prize (\$300)	Etien Frett, Michael Ladouceur, Solavann Simm, Advisors: P.R. Chakrabarti and M. Samara (CSUF)	Two-Span Post-Tensioned Beam Repair with Composite Materials - Research in Progress
Third Prize (\$200)	Luis Castaneda Advisor: M. Prasada Rao (CSUF)	Comparison of Methods for Estimating Reference Evapotranspiration in Southern California
Third Prize (\$200)	Theresa Flynn CSUF/The Keith Companies	Ethics of Land Development
Third Prize (\$200)	Tom Waggoner Advisor: P.R. Chakrabarti (CSUF)	Confinement with Composite Materials and Required Overlap - A Pilot Study
Honorable Mention (\$100)	David Jackman Advisor: M. Prasada Rao (CSUF)	Agent Based Decision Making Models for Analyzing Water Infrastructure Interdependencies
Honorable Mention (\$100)	Brennon O. Kaye San Francisco State University, CA	San Francisco Sustainability

International Conference



Group Photo following the Keynote Lunch back row (L to R) Shahnawaz Ahmad; Norm Buehring; Carl Blum; Richard Haller; and Tim Hancuff (Treasurer of International Committee); front row (L to R) Sonia Y. Nasser; William P. Henry; C.T. Bathala (Chairman of International Committee); Jesa Kreiner (Chair of the Division of Engineering at California State University, Fullerton)



William P. Henry, President Elect of ASCE National



Dr. Jesa Kreiner, PhD, P.E. Chair of the Division of Engineering at California State University, Fullerton



City of Santa Monica Initiates Underground Utilities Study

The fabric of our modern lifestyle is woven in the dirt under the street. Beneath our feet sewage is transported to treatment facilities; rain is whisked to the ocean; gas brings us heating and cooking; electricity powers our houses, computers and entertainment; and telecommunications lines bring us ever increasingly fast Internet, voice, and data. This fabric is woven within a limited space and each time a new thread is weaved in, this delicate fabric must be disturbed to make room. Millions of dollars are spent annually repairing existing underground facilities when replacing or installing new underground lines. Each move of the backhoe brings its operator closer to a disaster or to disrupting our modern lifestyle. Discovering underground utilities in the field adds millions of dollars to the cost of public works projects.

What can be done to safely excavate the streets, alleys, and other public rightsof-way to install new service or improve existing service without incurring the cost of damaging unknown underground facilities? How can the location of theses underground facilities be better managed so that we know where they are? Can the community receive improvements and additional installations underground without incurring extra cost?

The City of Santa Monica is conducting a study to answer these questions. The first part of the study is to ascertain how agencies and contractors attempt to find underground utilities and to measure how large of a problem finding unknown underground utilities. We would like your help. Please visit http://www.santa-monica.org/engineering/survey.htm and take part one of our survey. Upon completion of the research, all participants will be e-mailed a report documenting our findings and information on the next steps of this important project.

Younger Member Forum (YMF)

Everyone is welcome to attend our upcoming events!!

Board Meeting 09/15/04

Technical Presentation – Topic TBD 09/28/04

Elementary Outreach – Toothpick and Gumdrop Dome TBD

Younger Member Leadership Symposium 10/21-10/23/2004

Contact Greg Sommer at ssammer@ladpw.org to be added to the Los Angeles email distribution list and receive announcement on all upcoming YMF events, tours, and other activities.

Please visit our NEW website http://www.asce-laymf.org/

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.

GEOTECHNICAL GROUP LOS ANGELES SECTION - ASCE MEETING NOTICE

Wednesday, September 15 2004

Using Vegetation to Prevent Erosion and Instability of Channels and Slopes — What a Geotechnical Engineer Should Know

Bradford H. Cooley, P.E.

Prevention of erosion and instability of channels and slopes is a part of every civil engineering project. For slopes and storm water channels, there are two popular options: vegetation and hard armors, such as block, rock riprap, or concrete. Hard armors, though widespread, are costly and unattractive, do not provide water quality benefits, and are often unnecessary. According to the EPA's BMPs, vegetation is the most sensible form of erosion control available for slopes and channels.

Mr. Cooley will present vegetated solutions that the geotechnical engineer can apply to cut slopes, fill slopes, toe berms, over steepened slopes, levees, embankments, detention basins, and channels. These solutions are BMPs and include: Temporary Erosion Control and Vegetation Establishment, Permanent Turf Reinforcement Mats (TRMs) used to enhance the erosion performance of vegetation, Vegetated Soil Nail Walls, and Vegetated Mechanically Stabilized (MSE) Walls. In his presentation, Mr. Cooley will outline these solutions with respect to their design and testing, cost advantages, water quality benefits, and installation / construction.

 SOCIAL HOUR:
 5:30 p.m.

 DINNER:
 6:30 p.m.

 PROGRAM:
 7:45 p.m.

PLACE: Stevens Steak House

5332 Stevens Place, City of Commerce At Southwest Corner of I-5 & Atlantic Blvd.

PRICE: \$30 with reservation (Free with valid Student ID)

\$35 at the door

RESERVATIONS: Justin Kempton, Kleinfelder, Inc.

Telephone: (909) 396-0335 x 202 Fax: (909) 396-1324 E-Mail: jkempton@kleinfelder.com

Please make reservations prior to 12 noon, Friday, September 10, 2004

> ASCE's 2004 Member-Get-A-Member Drive Depends on You!





Orange County Branch ASCE Seminar

PAVEMENT DESIGN September 24, 2004 8:00 AM to 12:00 PM

PRESENTERS:

<u>Steven R. Marvin, PE</u> President of LaBelle- Marvin

Mike Costello, PE RDMD Materials Engineer County of Orange

Design and evaluation of pavement section alternatives requires characterization of materials, traffic use, performance expectations and construction logistics.

This 4-hour seminar will explore the design procedures, material availability, design period selection and planned maintenance intervals critical in providing the owner a serviceable pavement.

- Subgrade characterization: R-value, CBR, Modulus
- Material Selection and Characterization: Aggregate base and subbase,
 Asphalt concrete, Asphalt rubber hot mix, Recycled materials
- Traffic Characterization: volumes and weights, design period
- Pavement maintenance/rehabilitation

Also covered will be Asphalt Concrete Pavements- The state of the Art as practiced in Orange County, CA.

- New Construction: Public Works Projects, Subdivision work
- Pavement maintenance: Overlays- ARHM, Resurfacing

SAVE THE DATE

Los Angeles Section Installation of Officers And Awards Lunch

Saturday, October 2, 2004

Where: Bowers Museum, Santa Ana CA

When: 11:00 AM to 1:30 PM

Contact: Neil D. Morrison, P.E. (949) 660-0110 nmorrison@waldenassociates.net

Save the Date!

When: Friday, September 24, 2004

Time: 8:00 AM to 12:00 PM

Where: Orange County Resources and

Development Management Department (Formerly PFRD)

300 North Flower Street

Basement Conference Room No. B10

Santa Ana, CA 92703

(North West corner of Flower and Third)
Parking Structure is west of the building.

No validation.

Cost: • \$60.00 per person with paid reservations

by September 13, 2004.

• \$75.00 after September 13, 2004

Limited Enrollment (80 seats available)

Get your reservations in early!

The proceeds of the seminar will be donated to support ASCE Student Chapter at CSULB, CSUF, and UCI, and to Student Scholarships.

Pavement Design Seminar September 24, 2004

Make checks payable to ASCE, Orange County

Please fill in the following information below and mail with check to: Sam Ali / Anna Greaves

Psomas

3187 Red Hill Avenue, Suite 250, Costa Mesa, CA 92626 (714) 751-7373 Phone (714) 545-8883 Fax

Name:	E-Mail Address:
Affiliation:	
Address:	
Telephone:	Fax:
	Years of Experience:
Type of Work you do?	,

Project Bidding & Award continued from page 2

BID REVIEW/ANALYSIS

Evaluating the bids is the Project Manager's responsibility in order to have one person fully understand the information provided by each of the bidders. Typically, a checklist for evaluating bids helps establish a minimum baseline for the review. However, every project is a little different. The Project Manager may have to probe areas and criteria that are different from or in addition to those on a checklist.

After the formal Bid Opening, the Project Manager should:

- Collect the bids and review each of them in detail using a checklist.
- Give special attention to the lower monetary bids.

If any of the required items are missing, the Project Manager should consult with the City Attorney's office, identify the problem, and ask for clarification.

The bid analysis includes analysis of the bidder's qualifications for the job. The criteria for selecting a bidder should include evaluating:

- The quality of the material or services offered.
- The ability, capacity and skill of the bidder to perform the Construction Contract requirements.
- The capacity of the bidder to provide the service promptly, within the time specified and without delay or interference.
- The sufficiency of the bidder's financial resources.
- The character, integrity, reputation, judgment, training, experience, and efficiency of the bidder.
- The ability of the bidder to provide such future maintenance or service as may be needed.

If the description of a bidder's "equivalent experience" fails to

demonstrate his/her qualifications, the bidder should be disqualified. The Project Manager should determine whether the best bidder has changed as a result of the bid analysis. Once the review and analysis have been completed, the Project Manager is responsible for giving the bids and the review/analysis documentation to the Project Manager's supervisor for review.

CONTINGENCIES

Initial contingency calculations should have been completed at the time the project was requested and when the preliminary budget was developed. The contingency amount shown in the staff report cannot be exceeded without going back to the City Manager and, if appropriate, the City Council.

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PLEASE VISIT OUR WEB SITE AT http://www.aessoft.com http://www.advancedengineeringsoftware.com

The AES Programs and the AES Stormwater Information Management System (SIMS) have been used to develop 55 City-Wide and County-Wide Master Plans of Drainage and has been the standard for preparing drainage studies since 1980. AES Program Developers & Support: Theodore V. Hromadka, II, Ph.D., Ph.D., Ph.D., P.E., P.H., Professor, California State University, Fullerton; Johannes J. DeVries, Ph.D., P.E., University of California, Davis; Howard H. Chang, Ph.D., P.E., Professor, San Diego State University; Paolo Zannetti, Ph.D., QEP, President, EnviroCOMP; Robert J. Whitley, Ph.D., Professor, University of California, Irvine; Carlos Brebbia, Ph.D., Director, Wessex Institute of Technology; Gary Guymon, Ph.D., P.E.

The Project Manager should check the contingency amount (typically 10-25%) that was projected when the preliminary budget was prepared. The percentage projected will vary, depending on the type of project (e.g., if the job is a remodel or there are a lot of unknowns such as underground work, where there is a possibility of changed soil conditions, or utility conflicts, the contingency will tend to be higher).

The Project Manager should review the project and the possible contingencies that may occur, such as:

- Extra work (e.g., paint whole room instead of wall, re-do adjacent sidewalk).
- Omissions in design (e.g., need to relocate a light switch that is not shown on plans).
- Unforeseen conditions (e.g., discovery of unforeseen hazardous materials [such as asbestos]).
- City-caused delays resulting in price increases (e.g., stopping work due to seasonal schedule constraints).

Depending on the dollar amounts bid for the project and the Project Manager's estimation of possible contingencies, the contingency amount should be adjusted if needed. If it is determined that the remaining amount for contingencies is insufficient (e.g., due to higher than anticipated bids), the Project Manager should discuss with the Client Department whether additional funds are available.

CONTRACT AWARD

Once a bidder has been selected through the evaluation process, the Project Manager should prepare the appropriate documentation and forward it through channels for City Council award approval or authorization by the City Manager to negotiate and execute a contract. Only after this has been accomplished may a Construction Contract be executed.

President's Message

continued

In 1931, repercussions from Europe deepened the crisis. His opponents in Congress, who he felt were sabotaging his program for their own political gain, painted him as a callous and cruel President. Hoover became the scapegoat for the depression and was badly defeated in 1932 by Franklin Delano Roosevelt.

Fazlur Rahman Khan (1929-1982) was a visionary and one of the foremost structural engineers of the 20th Century. He ushered in a revolution during the second half of the 20th Century in the construction method of skyscrapers. He obtained his engineering degree from the University of Dacca in Bangladesh (then East Pakistan) in 1950. He was awarded a Fulbright Fellowship and a Ford Foundation scholarship in 1952 to pursue higher studies, including a Ph.D., in Structural Engineering at the University of Illinois at Urbana-Champaign in the United States. He started his career in the U.S. by joining the architectural firm of Skidmore, Owings & Merrill in 1955.

SEEKING OPPORTUNITY!

Senior Civil/Structural engineer, MSCE, PE, experienced in design and construction management of industrial, commercial, and residential projects. Also experienced as forensics engineer/ home inspector. Seeking opportunity to join/partner with a Los Angeles firm. Please call Mike at

(310) 207-8590

Fazlur Rahman Khan was a pragmatic visionary. The series of progressive ideas that he brought forth for efficient high-rise construction in the 1960's and 70's were validated in his own work, notably his efficient designs for Chicago's 100-story John Hancock and 110-story Sears Towers (the tallest building in the world for over 20 years). Mr. Khan epitomized both structural engineering achievement and creative collaborative effort between architect and engineer.

He was selected as Construction's Man of the Year in 1972 by Engineering News Record. In 1973, he was elected to the National Academy of Engineering. In 1988, the intersection of Jackson and Franklin Streets in Chicago, at the foot of the Sears Tower, was named Fazlur R. Khan Way. In 1987, he was honored posthumously with the commissioning of a sculpture in the lobby of the Sears Tower. In 1999, the government of Bangladesh published a commemorative postage stamp in his memory.

From ASCE, he received the Thomas A. Middlebrooks Award, Chicago Civil Engineer of the Year by the Illinois Section, Ernest E. Howard Award, and the G. Brooks Earnest Award by the Cleveland Section.

John Frank Stevens (1853-1943) was appointed Chief Engineer for the Panama Canal in 1905. He resigned his post in 1907, only after he made sure the success of the canal was absolutely certain. He started work for the railroads as a rodman. By 1905, he was probably the top railroad engineer in the country. Mr. Stevens designed two passes, one of which bears his name. He built railroads, tunnels, and bridges throughout the Northwest. He was responsible for laying more miles of track than any other single individual. Mr. Stevens was persuaded to become Chief Engineer of the Panama Canal by President Teddy Roosevelt, replacing John S. Wallace, who had quit. Both Stevens and Wallace later became ASCE Presidents.

John Stevens was presented with the John Fritz Gold Medal in 1925, for "great achievements as a civil engineer, particularly in planning and organizing for

the construction of the Panama Canal; as builder of railroads, and as administrator of the Chinese Eastern and Siberian Railways". The Hoover Gold Medal was given to him in 1938.

Gerard Swope (1872-1957), an electrical engineer, started out with General Electric in 1893 as a helper at \$1 a day, became president of General Electric in 1922, and served in that post for nearly 20 years. He expanded GE's consumer product offerings: The company sold its first electric clothes washer and refrigerator under his leadership. GE's foray into home appliances paid dividends for generations. He also oversaw the creation of the GE Credit Corp. to help finance the sale of appliances. GE Credit paved the way for consumer lending in the U.S., growing into GE Capital, now a \$64 billion financial services giant. But his major legacy was in labor relations. Swope instituted "corporate welfare," a widely replicated program in which workers were offered benefits such as profit sharing. For his outstanding achievements, he was awarded the Distinguished Service Medal by the President of the United States and was named a Chevalier of the Legion of Honor by the French government.

This is my last article as President (no cheering please!). Neil Morrison, the new President, will take office in October. I have enjoyed writing these President's Messages. The most difficult part of this for me was to find an appropriate topic to be of interest to the membership. At times, I would decide on a subject, prepare a few words, and as engineers are wont to be, change my mind and proceed to a new topic. This of course, caused me to be late in submitting my article by the first of the month, initiating e-mails from our capable Newsletter Editor asking when I was going to send the President's Message. Thanks Cris, for your patience.

I appreciated the feedback I received on the articles. It made me realize that at least some people were reading them.

I would like to thank the 2003-04 Section Board, Committee Chairs, and you the members for giving me this opportunity.

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- CIVIL ENGINEERING
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EWRE 520 Hydrology and Flood Control (2 units) 10/9/04 to 10/24/04 – Nasseri

EWRE 521 Ground Water and Seepage (3 Units) 11/13/04 to 12/12/04 - Harder

Master of Science in Transportation and Traffic Engineering – MS (TATE)

TATE 510 Transportation Engineering I (3 units) 9/11/04 to 10/17/04 – Gibson and Shen

TATE 511 Transportation Engineering II (3units) 11/6/04 to 12/5/04 – Gibson and Raju

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SE 501 Finite Element Methods (2 Units) 9/14/04 to 10/3/04 – Ekwueme

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Completed applications for degree programs should be submitted before August 9, 2004. All graduate courses are offered for credit and for degree candidates. However, select professionals may attend for CR/NC. For further information please read the article in ASCE OC August 2004 Newsletter and call Tel 949-585-9137, Fax 949-585-9126 or visit www.irvine-institute.org

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Typesetting & Layout: 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 Avenue, Tustin, California 92780. Subscription price included in Section dues of \$45.

Circulation

Circulated monthly (except for a joint July/August issue) to the 4,000 subscribing members of the Los Angeles Section, ASCE. $Advertising\ Rates$ (New Rates)

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