

the news



Address Service Requested
FIRST CLASS MAIL

Presorted
1st Class Mail
U.S. Postage Paid
Philadelphia, PA
Permit No. 1845

PHILADELPHIA SECTION

AMERICAN SOCIETY OF CIVIL ENGINEERS

P. O. Box 58186, Philadelphia, PA 19102-8186

Electronic Message Hotline: (215) 934-3639 (24 hours a day)

Vol. 70-2

Our 84th Year

November, 1997

NOVEMBER DINNER MEETING

Philadelphia Section, American Society of Civil Engineers

THURSDAY, NOVEMBER 13, 1997

WILLIAMSON'S • GSB Building • City Line Ave. • Philadelphia • See Location Map Below
Cocktails - 5:30 p.m. • Dinner - 6:30 p.m. • Meeting - 7:30 p.m.

SUBJECT: "Philadelphia City Hall. A 19th Century Masterpiece Preparing for the 21st Century"
SPEAKER: Hyman Myers, AIA, Director, Historic Preservation Program, Principal Preservation Architect, Vitetta Group, Architecture, Engineering, Planning, Interior Design

SPECIAL FEATURE: VILLANOVA UNIVERSITY NIGHT

The ASCE Student Chapter, Alumni and Faculty of the Civil and Environmental Engineering Department of Villanova University will be honored at this meeting. All Students, Faculty, and Alumni are cordially invited.

RESERVATIONS MUST BE SUBMITTED BY FRIDAY, NOVEMBER 7, 1997. Please send your check for the number of attendees @ \$25 per member or guest; \$13 ASCE Student Members, payable to the Phila. Section, ASCE, P.O. Box 58186, Phila., PA 19102-8186; or call the electronic Message Center: (215) 934-3639 (Open 24 hours/day).

Hy Myers will discuss the building history of City Hall over the 30-year period from 1870 to 1902 and the changes which have occurred to the building over the last 100 years. He will also touch on recent studies and evaluations concerning City Hall, as well as recent improvements made to the building.

Hyman Myers, AIA, Director, Historic Preservation Program, Principal Preservation Architect, Vitetta Group, Architecture, Engineering, Planning, Interior Design, received his Bachelor of Architectural Engineering Degree in 1963 and Master of Architecture in 1965, both from the University of Pennsylvania. He is a nationally recognized architect with strong expertise in the fields of historic preservation, museum master planning, and design. He has been involved in numerous restorations of National Historic Landmarks, involving several museum facilities in historic buildings throughout the country. Many of these projects have won National, State and Local awards of excellence. Since 1973, Mr. Myers has had overall responsibility for the design, development and documentation of projects involving the restoration, rehabilitation, and reuse of existing buildings, as well as

(Continued on Page 2)

TECHNICAL GROUP ACTIVITIES

Geotechnical and Environmental/ Water Resources Group

(Combined Program for 1997-98)

November Meeting

DATE: Tuesday, November 18, 1997 - 7:00 pm

LOCATION: Hill Seminar Room, LeBow Engineering Center, Drexel University, 31st & Market Sts., Phila., PA

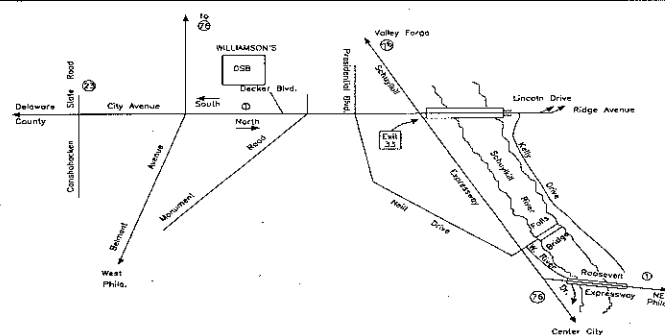
SUBJECT: Containment Performance Assessment through Hydraulic Testing — Baltimore Works Site with Comparison

SPEAKER: Gary Snyder, Black & Veach Special Projects Corp., Phila., PA

The Baltimore Works site containment consists of a circumferential vertical barrier, multimedia cap, and active intragradient conditions predicated upon low leakage and minimal groundwater extraction through time. The soil-bentonite barrier, keyed into decomposed bedrock, measures 3300 linear feet (1006m) by 3 feet (0.91m) thick with a depth ranging from 65-80 feet (19.8-24.4m). Interior groundwater extraction wells equipped with pumps and controls are dynamically actuated by continuously monitored water levels from paired piezometers spaced every 280 linear feet (85.4m) around the barrier perimeter. To confirm barrier performance and adequate distance-drawdown response, the containment was rigorously tested and monitored. Detailed pre-design investigations and construction quality assurance (CQA) provided a confidently constructed barrier. Further monitoring and testing to prove the containment's performance prior to construction included tidal monitoring, slug and pump testing, site-wide drawdown testing, and groundwater/surface water quality monitoring. This paper discusses the barrier specifics and details of the performance testing. The test data is presented to support the performance assessment. Testing methods are discussed and compared to other industry examples.

For further information, please contact **Dr. Joseph M. Martin**, Dept. of Civil & Arch. Eng'g., Drexel University, Philadelphia, PA 19104, (215) 895-2363.

(Continued on Page 2)



LOCATION MAP
for
**Williamson's
GSB Building,
City Line Ave.,
Philadelphia**



THE PRESIDENT'S MESSAGE

There are many changes being made in the National ASCE organization for next year. Many of these changes are a result of the Board of Direction taking a hard look at itself and its responsiveness to the membership. The "new" ASCE will be much more responsive to the membership. We have already seen the first signs of this change with the announcement of NO dues increase for the next year. I am confident that this year's Board under the leadership of **Luther Graef** will continue with these changes. The Structural and Geotechnical Institutes have had successful first years with positive feedback from the membership. ASCE has recently hired **John**

Durrant as the Institutes' Executive Director. John spent 22 years with the Philadelphia Water Dept. and was very active in our Section serving as Section President, 1984-1985 and a three-year term as our District 4 Director. We are sorry to see John leave our Section to work at National but we now have friends in high places! We sincerely wish John lots of luck in his new position.

The ASCE Government and Public Relations Dept. had a display set up at the National Convention in Minneapolis October 4-8, 1997 and our City Plan Plaque Dedication was a part of this display (October issue of THE NEWS). Our Section is being used as an example for other Sections planning media events. I would like to thank all of the people involved in the plaque dedication ceremony for such a tremendous job in supporting our Section.

This year the Phila. Section will get more public exposure than ever before. Exposure for our Section means exposure for the companies involved with the Section and a better image for Civil Engineers. Everyone wins when we get involved, society benefits from our expertise, our Engineering firms grow and our members get a better job market. To start this off, I want your ideas and thoughts on what ASCE can do to enhance our status in society. We need your input to know which direction to take and also to inform the National Board of Direction of the concerns of its membership.

Sincerely, **Darin L. Gatti P.E.**, President, Philadelphia Section, ASCE
215-686-5573, darin.gatti@phila.gov

November Dinner Meeting

(Continued from Page 1)

planning and design of museum facilities. Mr. Myers has lectured nationally on the subject of preservation, has been active locally and nationally on preservation committees and boards, and has served on several historical commissions. He has also taught and lectured at Penn in the Graduate Program in Historic Preservation. In addition to the American Institute of Architects (AIA), Mr. Myers is a member of — and has occupied high office in numerous Historical Preservation Commissions, Trusts, Coalitions, etc., State, National and International. He is the recipient of scores of Awards, Citations and Commendations for his widespread experience and expertise in his field. In Philadelphia, the City Hall Restoration and Renovation Master Plan is most noteworthy. Other projects in the City which he has directed include: Independence National Historic Park, encompassing Independence Hall, Old City Hall, The Merchants Exchange, the First and Second Banks of the United States; the Bellevue Stratford Hotel; and Pennsylvania Academy of the Fine Arts. Many other major projects in the United States and abroad are included in his vast portfolio record of experience.

Technical Group Activities

(Continued from Page 1)

Transportation Group

December Luncheon Meeting

DATE: **Thursday, December 4, 1997**, 12:00 noon

LOCATION: Municipal Services Building; Room C, 16th Floor, Phila., PA

SUBJECT: **SEPTA's Market Street Elevated Reconstruction Project**

SPEAKERS: John Tepper, P.E., SEPTA's Senior Project Manager and **David Koerner, P.E.**, SEPTA's Senior Project Engineer
COST: \$10.00

SEPTA's Market Street Elevated begins at the portal in the vicinity of 45th and Market Streets and continues west to Millborne Station in the vicinity of 64th and Market Streets. Constructed in 1907 by the Philadelphia Rapid Transit Company, it services 140,000 riders daily. The \$270M reconstruction of this portion is the final major element to complete the reconstruction program for SEPTA's Blue Line. Mr. Tepper and Mr. Koerner will discuss the scope and schedule for this major reconstruction project.

A buffet lunch will be served starting at 12 noon with the presentation beginning at 12:30 pm.

Seating is limited. Reservations are required no later than **Monday, December 1, 1997**. Contact **Chris Rood**, Transportation Group Chairman at (215) 580-7586 or **Steve Buckley** of the YMF at (215) 790-2310.

March Luncheon Meeting

DATE: **March 5, 1998**

SUBJECT: SEPTA's Schuylkill Valley Metro
(Details in later edition of THE NEWS.)

POSITION AVAILABLE

David Chou & Associates, Inc., located in Blue Bell, PA, is looking for a structural engineer with a minimum of ten years experience in structural steel and concrete design of high-rise buildings. Also should be familiar with all the model codes, computer software, e.g. STAAD, PCA, etc. P.E. license and MS degree are required. Send resumes to DCA8888@compuserve.com.

ACI ANNUAL AWARDS COMPETITION

The Delaware Valley Chapter of the American Concrete Institute is pleased to announce its **7th Annual Awards Competition**. The purpose of the competition is to recognize outstanding concrete projects. Submittal projects must be completed between January 1, 1990 and December 31, 1997. Projects located in the chapter Counties of Philadelphia, Montgomery, Bucks, Delaware, Chester, Berks, Lehigh, Lebanon, Dauphin, and Northampton in the Commonwealth of Pennsylvania, or in the State of Delaware are eligible for the Competition.

For further information and submittal forms, please contact: **Ken Balch**, Christakis, Van Ocker, Morrison, (610) 989-3800.

PHILA. SECTION, ASCE OFFICERS 1997-1998

PRESIDENT

Darin L. Gatti

PRESIDENT-ELECT

Sandra J. May

VICE PRESIDENT

Faruq Siddiqui

SECRETARY

Gregory R. Yates

TREASURER

Jian Jin

MEMBERSHIP SECRETARY

Sean W. Markey

DIRECTORS

Chris L. Rood

Thomas J. Branigan

Yael B. Heller

Allen W. Cadden

Ruben David

Brian A. Stover

Jeffrey Lepard, President, Reading Branch

PAST PRESIDENTS

William T. Thomsen

William G. Richards

Alvin Zion

President - Darin L. Gatti

Phila. Department of Streets

Bridge Division

830 Municipal Services Building

Philadelphia, PA 19102

(216) 686-5573; Fax (215) 686-5059

Secretary - Gregory R. Yates

Frederic R. Harris, Inc.

The Atlantic Building

260 S. Broad St., Suite 1500

Phila., PA 19102

(216) 735-0832; fax (215) 735-0883

PUBLICATIONS COMMITTEE

Chairman and Editor of THE NEWS

Sidney Robin

Staff Writers

Wm. G. Richards Joe Symick Bob Wright

SEND COPY TO:

Sidney Robin

64 Nancy Drive

Richboro, PA 18954

(215) 322-7464

**COPY DEADLINE FOR
DECEMBER 1997 ISSUE
NOVEMBER 13, 1997**

YOUNGER MEMBER FORUM NEWS

by Christopher Menna, Forum Editor

The Younger Member Forum (YMF) current membership includes college students, recent graduates, and young Registered Professional Engineers who are 35 years of age and under. The objectives of this group are: 1) To provide networking opportunities, 2) To interact with schools and the general public to promote Civil Engineering, and 3) To enhance career development.

Young engineers or college students who would like to become part of the YMF please contact **Carol Martsoff**, Parsons Brinkerhoff at (215) 790-2319.

Upcoming Events

On Saturday, **November 8, 1997**, the YMF will participate in a Student Conference held at The University of Pennsylvania. Students from all six engineering schools will be invited, as well as various featured speakers. All YMF members and Phila. Section, ASCE members are strongly encouraged to attend this first-of-a-kind event. Anyone interested should contact **Mike Tantala**, President of the Univ. of PA ASCE Student Chapter, at (215) 289-4600 for more information.

The next scheduled meeting of the YMF will be on **Thursday, November 20, 1997** at 6 PM at Jake and Oliver's Restaurant in Center City. This is a Joint Meeting with the South Jersey Branch of the New Jersey Section, ASCE YMF. Our honored guest will be **Mr. Marc Gold**, of the law firm of Manko, Gold, and Katcher. He will discuss the International Organization of Standardization (ISO). In particular, he will focus on environmental system standards developed by the ISO. Mr. Gold is a founding partner of Manko, Gold, and Katcher, a 20-year old firm based in Bala Cynwyd, PA which practices exclusively in environmental law. For more information, contact **Bernadette Caparas**, Dupont, at (302) 695-0241.

Our YMF member list is in the process of being updated. YMF members should submit their work specialty and their e-mail address to **Carol Martsoff**. These two pieces of information are useful in that they help to facilitate communication between members.

Past Accomplishments

At the September meeting, a raffle ticket project was started. Tickets will be sold at each Fall Meeting up until the December Winter Social. Half of the proceeds will go to the winner, while the balance will be donated to Philabundance, a local charity which helps distribute food to the needy of the Delaware Valley.

Our second meeting of the year was held on **October 22, 1997** at the Great American Pub in Conshohocken. After socializing and conducting YMF business, the Group listened to a very special presentation. The featured speakers were **David Hanly**, YMF Past President, from Frederic Harris and **Christopher Menna**, YMF Editor, from the Phila. Streets Department. Both David and Christopher are YMF members and serve as Group Officers. The discussion was on their participation with the ASCE History and Heritage Award Program and their work behind having the

WATERSHED ASSESSMENT PROJECT SEEKS VOLUNTEERS

F.X. Browne, Inc., an environmental engineering firm, was recently awarded a watershed assessment project that will identify ways to improve the water quality of Lackawanna Lake. Lackawanna Lake is a 210-acre lake located within the boundaries of Lackawanna State park. The area is a valuable natural and recreational resource serving the residents of the Wilkes-Barre/Scranton metropolitan area.

Jason Smith (Project Scientist, F.X. Browne, Inc.) is managing this watershed assessment project which involves the collection and analysis of lake and stream data, as well as the evaluation of significant lake and watershed characteristics. The study will culminate in a lake management plan designed to improve this significant area.

At present, F.X. Browne, Inc. is working closely with a variety of individuals and organizations in the region to complete a watershed assessment. Several volunteers are diligently identifying

City Plan of Philadelphia recognized at a National Historic Civil Engineering Landmark. Specifically, they elaborated on the significance of the City Plan, how they achieved this honor, and what they learned from the program. The landmark at Logan Square is a wonderful tribute to the designers behind the City Plan.

On **Saturday, October 25, 1997**, the YMF and the Villanova Student Chapter jointly sponsored a successful Habitat for Humanity Workday. The full day involved the rehabilitation of several homes in downtown Chester City, Delaware County. Special thanks goes out to Villanova University Dining Services for provided lunch and to **Orian Graham** for handling all the arrangements.

Member Spotlight

The purpose of the member spotlight is to introduce a fellow YMF member to the Delaware Valley Engineering Community.

Carol Martsoff, E.I.T., current Secretary and Officer of the Section's YMF is a Highway Engineer employed by Parsons Brinkerhoff in Center City. In this position, Carol performs roadway design and traffic engineering on large projects. Currently, Carol is involved with the Route 250 Bypass Project in Albermarle County, Virginia. On this project, she is designing various drainage facilities, including retention ponds, swales, parts of the stormwater system, and pieces of the erosion and sedimentation control system. What is interesting about this project is that the construction site runoff must not only be controlled in terms of quantity, but water quality as well. All post-construction runoff has to be treated before being released. Carol has become very active in the YMF and its volunteer activities. In addition, she served on the 1997 Northeast Regional Younger Members Council Planning Committee. Carol is currently registered to take the next P.E. exam. The Younger Member Forum of the Phila. Section, ASCE extends its best wishes to Carol in the coming exam and thanks her for her dedicated work on behalf of the YMF.

nonpoint sources of pollution in the 45-square mile watershed surrounding the lake. Those involved in this worthwhile effort include the DCNR, the Lackawanna County Conservation District, the Countryside Conservancy, and interested citizens. If you are interested in becoming involved contact **F.X. Browne, Inc.** at **1-800-220-2022**.

VILLANOVA HEC-RAS SHORT COURSE

Villanova University Department of Civil and Environmental Engineering and the Center for Environmental Engineering Research announce that the short course "Analysis of Water Surface Profiles Using HEC-RAS" will be held **January 7-9, 1998**. This course has been designed to familiarize the Civil and Environmental Engineer with both the theoretical and practical aspects of using HEC-RAS Version 2.0, the steady flow, water surface profile computer model developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers. HEC-RAS is the first of the Next Generation (NexGen) engineering software packages to be released by the Corps. HEC-RAS replaces HEC-2 as the industry standard. Each instructor has more than a decade of extensive consulting, research, and academic experience with hydraulic models. Villanova participated as a Beta test site for the original HEC-RAS software. **Professors Traver, Chadderton, and Falcone** are the chief instructors.

The fee for the Conference which include class materials, program software and user manuals, coffee breaks, and a wine and cheese reception is \$750. Each course participant will receive the latest HEC-RAS software, a copy of the program documentation, and course lecture notes. The program software is not copy protected. 2.0 CEU's will be awarded to each student. A \$50 discount is offered to members of ASCE, SAME, and governmental employees. Register before December 1, 1997 to receive an additional \$25 discount. Group discounts are available.

The course starts with a review of basic open channel hydraulics. After each new aspect of HEC-RAS is introduced, students will be given a design problem to analyze on the computer under supervision of the course instructors. Students will use the most current micro-computer version of the package on pentium microcomputers in Villanova's Computer Aided Classroom. Specialized topics to be discussed include Cross Section Selection, Cross Section Selection, Mixed Flow Regime Modeling, Bridge and Culvert Hydraulics, Floodway Determination, Error Analysis and Model Sensitivity. Theory and practical usage will be integrated to maximize understanding of HEC-RAS Applications to real world design problems.

For further information, or to reserve a seat contact either Professors Traver or Falcone at Villanova University. **Professor Traver** at (610) 519-7899, rtraver@email.vill.edu or **Professor Falcone**, (610) 519-7920, ffalcone@email.vill.edu.

OCTOBER DINNER MEETING

October 9, 1997

Williamson's City Line, Phila., PA

SEPTA – Visions for the Future

By Bill Richards, Staff Writer

A great crowd of more than 125 Phila. Section, ASCE members, guests, SEPTA officials and members of the University of Pennsylvania ASCE Student Chapter, attended the opening meeting of the Phila. Section's 1997-1998 season. President **Darin Gatti** ably presided at his first Section meeting. **John K. Leary, Jr.**, recently installed General Manager, Southeastern Pennsylvania Transportation Authority (SEPTA), was principal speaker, on the subject: "SEPTA – Visions for the Future."

University of Pennsylvania Night

The Phila. Section shone the spotlight on the University of Pennsylvania's ASCE Student Chapter and Civil Engineering Systems Department. Faculty Representative, **Dr. Vukan R. Vuchic**, UPS Professor Systems Engineering, presented a brief report of Civil Engineering curricula at Penn. The A.B.E.T.-approved program features research, testing and development of concrete behavior; interest in Philadelphia Naval Base studies, and urban transportation logistics.

Chapter President Tantala Reviews Its Agenda

UofPA ASCE Student Chapter President **Michael Tantala** thanked the Section for its courtesies, and introduced his fellow officers, Chapter members and Civil Engineering Faculty: Vice President, **Toni Loiacano**; Secretary, **Daniel Chung**; and Treasurer, **Barry Levin**. Student Chapter members in attendance and introduced by President Tantala were: **Bianca Wong**, **Crystal Smith**, **Mike Loester**, **Herbert Chan**, **Chris Wallgren**, and **San Phan**. ASCE Student Chapter Faculty Advisor, **Dr. Wen Shieh** and the new Department of Systems Engineering Chair, **Dr. G. Anadalingam** were unable to attend the meeting due to prior commitments.

Michael described the exciting program of Penn's Student Chapter: prominent speakers on major structural, environmental and industrial subjects at their monthly meetings; their pride of accomplishment of the ambitious urban neighborhood playground at the Locke Elementary School West Philadelphia YMCA project, now under construction and soon to be completed.

Mike lauded the participation of his Chapter members in Phila. Section workshops and Younger Member Forum functions – particularly the coming November Student Chapter Conference, in which all six Civil Engineering schools in District 4 will participate, and which will be hosted by the University of Pennsylvania, under the Phila. Section's Younger Member Forum auspices.

Bill Thomsen Introduces Mr. Leary

Phila. Section Past President **William T. Thomsen** (1994-1995) introduced the featured speaker for the evening, **John K. Leary, Jr.**, General Manager of SEPTA. Mr. Leary joined SEPTA as General Manager in February 1997, after serving seven years as Executive Director/

CEO of St. Louis' Bi-State Development Agency. He guided the engineering and construction of a new \$450 million light rail system. Prior to joining Bi-State, Mr. Leary served 24 years with the Massachusetts Bay Transportation Authority, achieving the position of General Manager for Operations. Jack is a native of Boston, receiving his BS in Business Administration from Northeastern University and pursued past graduate study in Public Administration.

Optimistic Outlook and Strategic Plan

Mr. Leary began his update of activity at SEPTA by emphasizing that, for the first time in nine years, all the vital signs are looking up. Discussion of expansion is underway. Ridership is up by more than 1 million trips from last year. The Authority finished its fiscal year with a small surplus. SEPTA is moving forward this year with a no growth operating budget but looking to improve service. The theme is "running on a positive track." Mr. Leary reviewed the independent business audit conducted last year. While it showed need for improvement, it also acknowledged areas where SEPTA performed well and acted as a catalyst for action. SEPTA is following through on many of its recommendations. It has reduced in size from 10,400 to 9,300 employees. The Authority is developing a strategic business plan and it is overhauling its bus maintenance systems.

The Capital Program Described

Passage by the Pennsylvania General Assembly of the State Transportation Program added about \$90 million to the annual capital program this year. Mr. Leary summarized, and provided detail in a handout, the \$477 million fiscal year 1998 and \$2.487 billion six-year 1998-2003 capital programs. During the five-year period from 1998-2002, \$64 million in engineering design and \$1.2 billion in construction are budgeted. The plan emphasizes both protecting the valuable existing transportation infrastructure, and expanding into new service areas.

Three signature (growth) projects were described. The rehabilitation of the Frankford Transportation Center on the Market Frankford Elevated will revitalize the Frankford neighborhood. The Schuylkill Valley Metro, an extension of the R6 Cynwyd line to Reading is being planned to meet changing rider demographics. The cross-county Metro is moving forward, planning a cross-suburban link connecting Downingtown, Exton, King of Prussia, Plymouth Meeting, Willow Grove, Oxford Valley, and Morrisville.

Question and Answer Period

An enthusiastic question and answer session followed. Questions included the impact of a possible Amtrak strike; planning for ridership in Bucks County; the potential for better integration with complementary transportation systems like PATCO, and a possible downtown circulator sys-

1997 ANNUAL CONVENTION

The 1997 National ASCE Annual Convention was recently held in Minneapolis MN on October 4-8, 1997, Phila. Section President **Darin Gatti** attended. The Board of Direction held its meetings on the 4th and 5th and the general convention started on the afternoon of the 5th and had a variety of concurrent sessions throughout each day.

The keynote speaker at the opening general session was expert futurist and best-selling author **John Naisbitt**. Mr. Naisbitt gave a fascinating talk of business and technology trends today and how they will affect our future. The large companies of today will be breaking themselves down into smaller networked cells spread around the globe. Another trend he noted was that developing countries will be the largest markets, and as they develop their population growth will slow down and stabilize.

The Chief Executive Officer (CEO) Forum, at which top executives from CH2M Hill, Parsons Corp., Lester Knight Assoc., and Black & Veatch each gave a presentation on the future of engineering from different perspectives. Phillip Hall (CH2M Hill) spoke on "Taking Engineering & Construction into the 21st Century," James McNulty (Parsons Corp.) spoke on "Managing in a Global Economy," Stephen Mitchel (Lester Knight & Assoc.) "Managing through the Information Technology Revolution," and Ronald Hollrah (Black & Veatch) spoke on "Developing Professionals to Meet the Challenge." The presentations were outstanding and many of the attendees felt that this session alone was worth the trip to the Convention.

The National Board of Direction has changed the way it will operate in the future. The Executive Committee will handle the day to day operations of the Society and the Board will concentrate on policy decisions. This change will allow for ASCE to become more efficient. Another change this year is the reassignment of the duties of the Vice-Presidents and the creation of the Vice-Presidents Council. These changes create a better conduit for communication between the membership and the Board.

At the Annual Business Meeting **Luther W. Graef** was installed as National President of ASCE for 1997-98. Next year's Convention will be held in Boston MA on October 18-21, 1998.

tem that might link areas like Penns Landing into the system.

Our distinguished speaker addressed the comments and questions forthrightly and unequivocally. SEPTA has many problems, he acknowledges, but is facing them with reality and practicality. Mr. Leary was assisted in some of his answers by SEPTA officials in attendance at the meeting.

President Gatti thanked Mr. Leary on behalf of the entire audience for a very well organized and enlightening presentation, and wished him continued success and presented him the Section's Gift of Appreciation. The Phila. Sections' 1997-98 season was off to an excellent start!

PROFESSIONAL DEVELOPMENT—THE NEW ETHOS

By Michael W. Tantala

EDITOR'S NOTE: The following is an abstract of the 1997 ASCE Zone I Daniel Mead Contest prize-winning essay by ASCE Student Member Mike Tantala, President of the University of Pennsylvania ASCE Student Chapter and a dynamic young leader and affiliate in the Philadelphia Section, ASCE.

Herbert Hoover once said that during his lifetime he had seen engineering change from a trade into a great profession, where the typical engineer experienced professional growth and transformed from independent consultant to corporate employee. He had seen the foundations of engineering evolve from rule-of-thumb experience to a formal science, and the apprenticeship system replaced by accredited university curricula—including wrote Hoover in his memoirs, trends like wider learning in the humanities and non-technical education. In Hoover's day, the trend was the conception of the *professional* engineer. I often wonder what this scholar/public servant/engineer would think of the profession today. Although I may not speak from lifelong experience like Hoover, I can speak from conviction, when I say that one of the most predominant trends and empowering factors in engineering has been professional development.

The American Society of Civil Engineers (ASCE) is the largest engineering organization in the world. That is a bold statement. In the past twenty years of our 144 year history, we have doubled our size, also adding members internationally. According to our new strategic plan, "ASCE - 2000: Working Drawings for the 21st Century," ASCE's vision is that "The American Society of Civil Engineers will be the worldwide leader for excellence in civil engineering." That is another bold statement — but, why not? It is time we as ASCE took the initiative to take another step forward onto center-stage and into the spotlight and be recognized globally for our leadership in engineering, technology, public policy and management. I propose that the means to these ends, as individuals and as members of a greater society, will be our focus on continuing professional development.

What exactly is professional development? Economists might dub our professional development as investment in "human" capital. For me, the concept of professionalism has always carried with it an idea of *status* and upward mobility. Professional development may be defined as anything that improves your knowledge, skills and abilities to ensure competence. In short, anything that keeps you current — be it by engaging in professional practice, by participating in continuing education courses, by reading, or by attending professional activities. If you think that sounds widespread and general, that is because it is widespread and general — it needs to be that way. Think about practicing civil engineers, with specialties ranging a spectrum from geotechnical to management to law and public policy. I know practicing engineers who deal with complex differential equations and beam theory on a daily basis and I also know practicing engineers who deal with management and public policy on a

daily basis. Obviously, there is a great deal of diversity among each of us in the industry. Too often the public may stereotype engineers as "number-crunchers" but that is far from the mark. As an undergraduate and aspiring professional, I make it a personal habit when I attend engineering activities, to ask engineers what is the most important class you did take or could have taken when you were an undergraduate. I used to expect to hear "mechanics of materials" or "statics," but the actual response is uncanny, because almost always I hear "speech communication" — that being able to communicate has enabled them to network and gain their greatest successes in engineering.

Some may wonder: what value does professional development have to a practicing engineer? Is it worth the effort? I would contend that professional development not only enables you to perform competently, by keeping you current, but it also enables you and your profession, as the term implies, to develop.

Engineers hold a public trust that the quality of their work will be consistent with the standard of the profession. By fulfilling ASCE's recommended guidelines, members may demonstrate engineering services of the highest quality. ASCE continues to provide numerous professional development opportunities to enable its members to achieve this goal.

In the past, the "core" materials of construction were concrete, steel, and other metals; now, synthetically developed materials are the less expensive and more durable preferred alternatives. In the past, the "core" tool of an engineer was undoubtedly the slide-rule; yet today few of my computer-aged, fellow students would be able to recognize it, let alone use it. The point is that fifty years ago, a major scientific break-through occurred about every ten years; today there is a major break-through almost daily. Blink and the industry will have significantly changed. Think about some of the tools and mediums of expression we use today. The Internet comes to mind, which connects an estimated 30 million users daily in more than 80 countries, where I can send email almost instantly across the globe, regardless of distance and time differences. Technology, innovation, and paradigm shifts will enter the "curriculum" of our industry at an alarming rate in the future, much more frequently than today.

Part of the professional development debate concerns its relation to professional licensure — should professional development be required for professional licensure? To me, at first glance, this isn't a tough call. We should want to prepare for globalization, be leaders internationally and diversify ourselves not only in technical activities, but with community involvement, communication and management skills and public policy. But

then I start to think of the consequences and finality of something that is "mandatory." It can be a genuine "shock," comparable to something unpleasant like raising taxes or getting audited. To those who do not quite meet the professional development standards, what do we do? Strip them of their PE license forever or make them reapply or sanction them from practicing until they meet the requirements? These are very serious ramifications for what has very quickly become a serious issue. It is complex. There are no easy answers. I can suggest that however we may choose to go about mandating professional development, we should have a number of safety factors to make it a fair and forgiving system — something that can be interpreted and not remain static. ASCE's policy is a compelling initial approach of not mandating, but merely recommending a level of professional development.

Another part of the professional development debate asks the question: is it appropriate to require continuing education to maintain society membership? The ASCE is not a consortium for just PEs or for just PhDs. According to the ASCE Constitution, article II(I), the ASCE is for civil engineers, students, or other persons similarly qualified in another branch of engineering or in an allied profession, and this includes professionals and paraprofessionals. ASCE places considerable focus on growth and membership. To set a mandate for professional development and police it would be adverse to our goal of membership growth. I think the standard and policies ASCE currently has for professional development are subtle, yet brilliant. Professional development is *recommended* and not mandated and I think that is the best policy for our Society of Civil Engineers.

In retrospect, I think Hoover would be impressed, surely, by the growth of engineering. Imagine trying to explain computer-aided design (CAD) to Hoover, or the differences between PDHs and CEUs, or the Internet and what ASCE's new homepage (<http://www.asce.org>) looks like and how we can use it. It becomes the professional responsibility of all practicing engineers to continuously upgrade their knowledge, skills and abilities to ensure competence, to improve efficiency and to prepare for professional growth. The dynamic nature of civil engineering, the rapid growth of new technology, the proliferation of regulations, the increase in social and environmental considerations coupled with more complex business considerations and globalization make it essential that members develop attitudes and habits of regular study and learning. With these principles and the benefits under the aegis of the largest engineering organization in the world, we can hold true to the first part of our ASCE Code of Ethics that "Engineers uphold and advance honor, integrity and dignity of the engineering profession by using their knowledge and skill for the enhancement of human welfare and by striving to increase the competence and prestige of the engineering profession."

JOIN THE SECTION'S TECHNICAL GROUPS

Younger Member Forum

Yael B. Heller, President
Geraghty & Miller, Inc.
Consulting Engineers
3000 Cabot Blvd. West, Suite 3004
Langhorne, PA 19047
(215) 752-6840

Construction

Brian Stover, P.E., Chairman
Urban Engineers, Inc.
530 Walnut St., 14th Fl.
Philadelphia, PA 19106
(215) 922-8080

Structural

Richard Roberts, P.E., Chairman
Pennoni Associates, Inc.
3001 Market St.
Phila., PA 19104
(215) 222-3000

Transportation

Chris Rood, P.E., Chairman
SEPTA - Eng'g & Construction Div.
1234 Market St., 12th Fl.
Philadelphia, PA 19107
(215) 580-7586

Engineering Management

Dennis MacBride, P.E., Chairman
SEPTA - Eng'g & Construction Div.
1234 Market St., 12th Fl.
Phila., PA 19107
(215) 580-7084

Environmental-Geotechnical

Dr. Joseph P. Martin, Chairman
Drexel University
Civil & Architectural Engineering Dept.
32nd & Chestnut Sts.
Philadelphia, PA 19104
(215) 895-2363

Adam Hockenberry, Asst. Chairman

Drexel University
Civil & Architectural Engineering Dept.
32nd & Chestnut Sts.
Philadelphia, PA 19104
(215) 895-1633

WIDENER UNIVERSITY SCHOOL OF ENGINEERING

Master of Engineering in
Civil Engineering,
Engineering Management
(Environmental Engineering
Option Available)
Dual ME/MBA

Evening Classes
Full-time or Part-time Study

For Information Call:
Office of Graduate Studies
(610) 499-4198

IMPORTANT! 1997-1998 MEETING NOTICES

MARK YOUR CALENDAR for the dates of the Philadelphia Section, ASCE monthly meetings and social functions, as follows: (Check each upcoming edition of THE NEWS for additional details possible date and topic changes.) THIS IS A TENTATIVE LIST.

ALL DINNER MEETINGS (Except as noted)

Cocktails - 5:30 p.m. Dinner - 6:30 p.m. Meeting - 7:30 p.m.

STUDENTS: All dinner and/or luncheon charges one-half price. If you prefer, you are welcome to attend all meetings after dinner or luncheon, at no charge.

PLEASE NOTE CHANGES FROM LIST IN OCTOBER, 1997 ISSUE.

Wednesday, December 10, 1997 - Joint Dinner Meeting with Phila. Post, Society of Military Engineers (SAME), Harbor League Club, Camden, NJ. Topic to be announced.
Drexel University Night

Wednesday, January 14, 1998 - Joint Dinner Meeting with Delaware Valley Section, American Society of Highway Engineers (ASHE), and Reading Branch, Phila. Section, ASCE • Holiday Inn, King of Prussia, PA
"Atlantic City Casino Connection and Tunnel"

Wednesday, January 21 and Thursday, January 22, 1998 - City Hall Tours and Luncheons.
Times and details to be announced.

Thursday, February 12, 1998 - Joint Dinner Meeting with South Jersey Branch, NJ Section, ASCE - Harbor League Club, Camden, NJ - "Schuylkill River Park and Bulkhead."
Swarthmore College Night

Thursday, March 12, 1998 - Joint Dinner Meeting with Delaware Valley Chapter, American Concrete Institute (ACI) • "Fire Damaged Structures - The Meridian Building"
Phila. Section, ASCE Past Presidents Night • Temple University Night

Thursday, April 9, 1998 - Widener University Night. Details to be announced.

Saturday, April 25, 1998 - Reinforced Concrete Canoe Race and Model Steel Bridge Competition. Location and details to be announced.

Friday, May 1, 1998 - Annual Spring Dinner Dance - Sugarloaf Conference Center, Germantown Avenue, Chestnut Hill, PA

William G. Richards, P.E.
Vice President



Roy F. Weston, Inc.
Suite 1515
1515 Market Street
Philadelphia, Pennsylvania 19102-1956
215-841-2015 • Fax 215-841-2040
e-mail: richardb@philpost.rfweston.com

Solutions to Liquid Flow Problems

Analyses and Computer Simulations for Engineers

Waterhammer • Surges • Transmission Pipelines
Distribution Networks • Cooling Water Systems
Storm Sewers • Rivers • Open Channels
Mixed Pressurized - Open Channel Flow
Dam Break Simulation • Specialized Modeling

JOEL L. CAVES, Ph.D., P.E.

Consulting Hydraulic Engineer

2 Tanager Drive, Reading, PA 19610 Tel./Fax 610-478-9992

THE RATSEP GROUP, INC.

ENVIRONMENTAL SCIENCE & CIVIL ENGINEERING

4 CHESTER COUNTY COMMONS
MALVERN, PA 19355
(610) 695-8900
FAX: (610) 647-1950
ratsepgrp@voicenet.com

LINDA A. RATSEP, P.E., Principal
Civil/Environmental Engineer

YOUR BUSINESS CARD AD SHOULD BE HERE!

CALL BOB WRIGHT
(215) 686-5538

Department of Civil & Environmental Engineering



Tolentine Hall - 800 Lancaster Ave.
Villanova, PA 19085-1681
(610) 519-4960 • Fax (610) 519-6754

Evening Graduate Program
Structural and Geotechnical
Transportation
Water Resources & Environmental

www.vill.edu/~engine/cee/grad.htm



TEMPLE UNIVERSITY

A Commonwealth University
College of Engineering
Civil Engineering Department

Dr. Frederick C. Schmitt, P.E.

1947 N. 12th Street
Philadelphia, PA 19122
(215) 204-7724 Fax: (215) 204-6936