

the news



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PHILADELPHIA SECTION

AMERICAN SOCIETY OF CIVIL ENGINEERS

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Vol. 68-6

Our 82nd Year

April/May, 1996

APRIL JOINT DINNER MEETING

Philadelphia Section, American Society of Civil Engineers
Philadelphia Post, Society of American Military Engineers (SAME)

WEDNESDAY, APRIL 10, 1996

HARBOR LEAGUE • Hudson Square • Camden, NJ • (See Location Map Below)
Cocktails – 5:30 p.m. • Dinner – 6:30 p.m. • Meeting – 7:30 p.m.

SUBJECT: Department of Defense Architect/Engineer Contracting

SPEAKERS: Paul P. Buonaccorsi, Assistant Deputy Commander for Contracts, Naval Sea Systems Command Contract Directorate, United States Department of Defense

SPECIAL FEATURE: UNIVERSITY of PENNSYLVANIA NIGHT

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

RESERVATIONS MUST BE SUBMITTED BY MONDAY, APRIL 8, 1996. Please send your check for the number of attendees @ \$25 per member or guest; \$13 per ASCE Student member payable to: Phila. Section, ASCE, P.O. Box 58186, Phila. PA 19102-8186; or call the Electronic Message Hotline: (215) 934-3639 (open 24 hours/day).

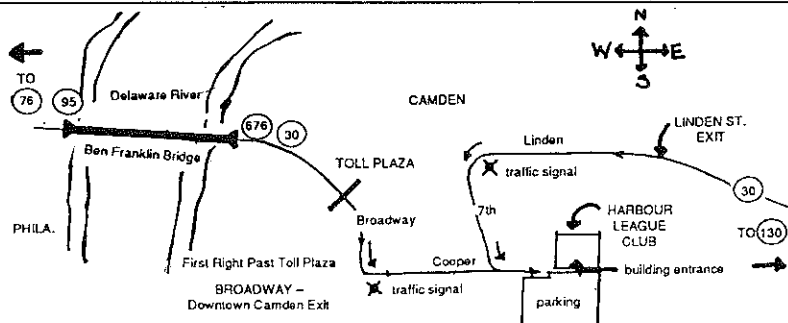
The Naval Sea Systems Command (NAVSEA) is the largest procurement organization in the Federal Government. Mr. Buonaccorsi oversees the planning and execution of contracts for the Nation's Military Shipbuilding Program as well as procurement programs for shipborne weaponry such as missile systems; gun systems, fire control systems; sonar and radar systems; torpedoes; mines; related research and development; and related engineering and support services.

Previous to this assignment Mr. Buonaccorsi held the position of Director for Contract Support at the Naval Facilities Engineering Command where he had primary responsibility for planning and directing the Navy's worldwide contractual programs in the area of construction, architect/engineer, and service contracting.

He was selected into the Senior Executive Service in August, 1987.

He received his Bachelor of Arts degree in pre-law from Michigan State University in 1964. He was awarded an M.A. in international studies from American University in 1970 then earned a Juris

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LOCATION MAP for Harbor League Club, Camden, NJ

TECHNICAL GROUP ACTIVITIES Geotechnical and Environmental/ Water Resources Groups

(Combined Program for 1995-96)

April Meeting

DATE: Tuesday, April 16, 1996, 6:30 p.m.

LOCATION: Hill Conference Room, LeBow Engineering Bldg, 31st and Market Streets, Drexel University, Phila., PA

SUBJECT: "Demonstrating Intrinsic Bioremediation in Contaminated Groundwater and Soils"

SPEAKERS: Marleen A. Troy, PhD and C. Michael Swindoll, PhD, DuPont Environmental Remediation Services (DERS)

The basic assumption behind the implementation of an intrinsic (or natural) bioremediation program is that naturally occurring microorganisms are present in a subsurface environment and are capable of degrading contaminants that have been inadvertently released. Incorporation intrinsic bioremediation as part of a site's remediation strategy requires an evaluation of those factors that control the biodegradation capacity of an aquifer as well as an assessment of potential human and environmental risks. The process of evaluating site conditions relative to those required for the intrinsic bioremediation of petroleum and chlorinated hydrocarbon impacted sites will be presented.

May Meeting

DATE: Tuesday, May 14, 1996, 6:30 p.m.

LOCATION: Hill Conference Room, LeBow Engineering Bldg, 31st and Market Streets, Drexel University, Phila., PA

SUBJECT: "Geosynthetic Reinforcement Case Histories in Highway Applications"

SPEAKER: John C. Volk, P.E., Project Engineer, Woodward-Clyde Consultants

Four case histories involving geosynthetic-reinforced embankments, slopes, and walls in highway applications will be presented. Each case history has a challenging twist that geosynthetic design was able to satisfy.

1. The Grassy Sound Highway Embankment:

(Continued on Page 2)

THE SOCIAL EVENT OF THE YEAR!!

THE FABULOUS ANNUAL DINNER DANCE FRIDAY, MAY 3, 1996

AT SUGARLOAF CONFERENCE CENTER

(Executive Conference Center of Temple University)
9230 Germantown Ave, Phila., PA 19118 (215) 242-9100

See Location Map Below • Parking on Premises

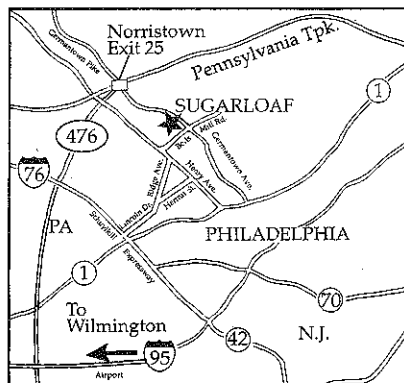
6:00 pm Cocktails (Cash Bar) • Hot & Cold Hors d'Oeuvres

7:00 pm Buffet Dinner • (Choice of Chicken or Fish)

Music for your listening and dancing pleasure!

Send for your tickets today... Guests Welcome!

\$37.00 per person



Consultants, Contractors, etc...
Tables of eight can be reserved for
your party or firm.

For last minute reservations or
more information, call **Sandra May**
at **(215) 841-4127**.

Please make checks payable to
"Phila. Section ASCE" and mail to
Phila. Section, ASCE,
P.O. Box 58186,
Philadelphia, PA 19102-8186.

Please Indicate Entree Choice(s).

April Dinner Meeting

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doctor degree from Washington College of Law, American University in 1973.

Mr. Buonaccorsi is a member of the American Bar Association, Public Contract Law Section; the District of Columbia Bar Association, Public Contract Law Section. He has also served on the National Research Council, Advisory Board for the Built Environment, Federal Construction Council Committee for Procurement Policy; and Defense Federal Acquisition Regulatory System, Navy member, Construction Subcommittee, Alternate Chairman, Commercial Activity Subcommittee.

Mr. Buonaccorsi will provide his views on the latest developments in the federal sector contracting for architect/engineer professional services and construction; with particular attention to the increasing use of design/build.

Technical Group Activities

(Continued from Page 1)

involves the design of a highway embankment (NJ Rt. 147) over a tidal marsh near Wildwood, NJ.

2. The Exton Bypass Surcharge Embankments: involves the design of four temporary geogrid reinforced surcharge embankments (PA Rt. 30) with 1H:1V and 0.7H:1V slopes to heights of 35 feet.

3. The Interstate-295 Highway: involves a 33-foot high temporary geotextile reinforced wall constructed over very soft soil which experienced significant differential settlement.

4. The Route 81 Highway: near Harrisburg involved geosynthetic design behind four highway abutments to reduce lateral earth pressure.

For further information on these or future meetings, please contact **Timothy Laumakis**, Associate Chairman, Geotechnical Group, at CH2M Hill at **(215) 563-4220**.

Construction Group

April Luncheon Meeting

DATE: Thursday, April 25, 1996, 12:00 Noon

LOCATION: Strawbridge & Clothier, located at the Gallery at 8th & Market Sts., 6th Floor, Phila., PA

SUBJECT: "Design/Build - Pros and Cons"

SPEAKER: **Joseph Marchese, P.E.**, Senior Project Manager, SEPTA

Mr. Marchese's group at SEPTA has been in charge of a number of design/build projects, most recently, the new bus facility at Midvale. As Design/Build is becoming more widespread in the industry, the experience from an owner's perspective is a valuable tool for the continuing programs. The total program will take approximately 1 to 1½ hours. Reservations can be made by calling **Brian A. Stover, P.E.**, Chairman, Construction Group, at **(215) 923-5077**.

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THE PRESIDENT'S MESSAGE

Is it possible that the year has gone by so quickly? This will be the last issue of THE NEWS for the season, and my last written Message to the membership. We've had a great series of monthly sessions with good attendance at every meeting. We've toured the CoreStates Spectrum II (soon to become the Comcast Spectrum II?). There have been very good programs by the Technical Groups. We've brought the guidance for the Humphrey Fund out to the membership for consideration. The Student Chapters have been active and honored at our meetings, and we will award scholarships again this year. Our Younger Member

Forum has grown considerably and become strong and viable, and I'd like to elaborate on their progress.

For several years, I've been very much impressed by the vibrancy and diversity of the Phila. Section, ASCE, I've seen other Sections with strong monthly meetings or strong Technical Group programs, or strong Student Chapters, but I've always regarded the Phila. Section as special, because we were strong in all three. Well, this year convinced me that I've been wrong! With the solid program that our Younger Member Forum has developed, we are strong in four areas.

The Phila. Section YMF has grown in active membership to about 80, and has held about 20 activities over the last year. Think of it, 20 in one year, more than any other Section group! While establishing a means for younger ASCE members to socialize, network, and compare employers, the YMF has also undertaken a socially responsive program. They have participated in Habitat for Humanity, AIDS Walk, and elementary school outreach education programs. They have developed a relationship with the Phila./Camden empowerment zone.

YMF has also conducted a strong series of Civil Engineering oriented sessions for its members. I was pleased to participate in a debate on "Does ASCE Have a Responsibility to Mandate Continuing Education?" This month YMF is sponsoring a seminar on "Identification and Prevention of Sexual Harassment in the Workplace." Most of their monthly meetings feature a more senior engineer to offer career insight to the members.

Not content to limit their relations to ASCE, our YMF has reached out to interact with similar members in SAME, National ASCE, and the Phila. Engineers Club. They are also developing active relations with Drexel and Temple Universities.

It is clear the YMF is on the move! If you are a Younger Member of ASCE, check them out, it's in your best interest. If you are a more senior member of ASCE, and have a desire to help mentor, guide, or even learn from our Younger Members, think of an area where you can offer your help. The energy of the YMF is catching, and I know it is bettering the entire Phila. Section. As I move into the Past-President position and continue to support the Section, I am keeping my eye on the YMF. They are our future!

Sincerely, William G. Richards, P.E.
President, Phila. Section, ASCE

Editorial

THE RICHARDS PRESIDENCY: PRIMA FACIE EXCELLENCE

The success of Bill Richards' Presidency of the Phila. Section, ASCE, 1995-1996, which terminates shortly, comes as no surprise to his colleagues and associates in our great and demanding organization. His many years of dedicated service to the Section — through the hierarchy of official positions, and his accomplishments in carrying out innumerable special assignments on Committees and Ad Hoc groups (including a term as Associate Editor of THE NEWS), and his efficient leadership, attest to this reality. Speaking of efficiency — Bill prescribed a rigorous policy in conducting the Board of Directors meetings prior to the Main Section monthly meetings — in which each item on the Directors meeting agenda was assigned a certain number of minutes for discussion and/or official action. This embodiment of efficiency is one which this editor has never before witnessed in the presidencies which have paraded before him through the decades of his tenure. The dividends engendered by this discipline were that the Board Meetings were finished on time, avoiding the long, generally dragged-out discourses that accomplished little more than depriving the Board members of the pleasantries of the Social Hour contacts which preceded the regular professional discussions scheduled for the evening.

In carrying out all the duties and responsibilities of his office, Bill Richards exhibited his qualities of excellence in a calm and deliberate manner — never becoming excited or overtempered — quietly but steadfastly advancing the execution of his programs and proposals, as he had articulated them in his monthly "President's Message" in THE NEWS. In his first message (THE NEWS, October, 1995), Bill graciously paid tribute to the accomplishments of his predecessors and past Boards of Directors. But it was clear that, with the full cooperation of his new Officers, Committee heads, Technical Group Chairmen, and the Phila. Section Membership as a whole, he was in the process of designing his own policies, prospectuses, and devices to advance further the progressive professional objectives of our Society as much as possible during his term. Included in the imposing list of topics for regular monthly meetings of the Section were Joint Meetings with other prestigious professional Societies of the Metropolitan Region, including the Pennsylvania Society of Professional Engineers (PSPE); American Public Works Association (APWA); American Society of Highway Engineers (ASHE); the Reading Branch of the Phila. Section, ASCE; the South Jersey Branch of the New Jersey Section,

ASCE; the Construction Management Association of America (CMAA); and the Society of American Military Engineers (SAME).

Proof that his program of producing interesting discussion meetings, tours and field trips of major public works or diverse private facilities in process of construction, was popular with the general membership lies in the greatest overall attendance in recent memory at all the functions programmed. Included also in this list of functions are the Social Affairs and sporting events, such as the Golf Outing, which was so successfully instituted during Past President Bill Thomsen's administration. He has persuasively appealed to the Membership to take part in ASCE Society affairs, not only at the Local level, but in concert with National Headquarters dictates and policies. This appeal includes opinions and suggestions for dispensation of the Phila. Section's historic Humphrey Fund, which has been the financial fountainhead of the Section since its inception in 1926.

Bill Richards would be the first to acknowledge that he has not achieved all of his ambitious objectives during his short one-year term as President. Indeed, this editor takes the liberty to declare that *no* Phila. Section President will have seen his dream of accomplishments, as he delivers his acceptance speech at the Annual Dinner Dance, realized when he turns over the gavel to his successor the following Spring. Also, it is inevitable that in an organization of diverse-opinioned membership of more than 1600 professional engineering activists, there will be grievances, or expressions of disapproval or dissatisfaction with specific actions (or in their opinions, lack of actions) by the Officers and/or Board of Directors on specific issues (as witnessed by the "Letter to the Editor" published elsewhere in this issue of THE NEWS).

As previously noted in this editorial, President Bill Richards demonstrated full confidence in, dependence upon, and praise for all the Officers, Directors, Technical Group Chairmen, Committee Heads, who carried out their assignments with dispatch and thoroughness. Never has Bill rejected suggestions, ideas or criticism from any source within the Section or its affiliations outside the Section. Rather, he has consistently solicited the Section members and their associates to submit their thoughts and opinions for discussion, analysis and possible implementation. This approach is well known to his associates at work, where he holds the position of Vice President in the Phila. office of the distinguished nationwide firm of Roy F. Weston, Inc., Managers, Designers/Consultants. Here, as a Registered Professional Engineer, he establishes policies and supervises the design and operations of major engineering commissions of the firm.

The Phila. Section, ASCE, thanks you Bill, for the magnificent job you have done. We know, too, that becoming a "Past President" will not inhibit you from making your voice resonant in all important Phila. Section decisions which are yet to come; that you will continue to be active in Section affairs, and to contribute your expertise in

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LIFE MEMBERSHIPS AWARDED

Life Membership Certificates were awarded at the March 14, 1996 Phila. Section, ASCE meeting by President Bill Richards. The following recipients were in attendance and received their Certificates in person. They were: **Frank A. Cona, William Kalkbrenner and Wallace A. Rutecki.**

The following Life Members were not at the March 14th meeting, and their Certificates will be mailed to them. They are:

**Philip J. Alterman
Carl H. Biers, Jr.
Elmore J. Boles, Jr.
Richard H. Caldwell
Ralph R. DiSimone
Bernard Goldentyer
Robert L. Goodell
Richard A. Gress
James Healy
Joseph E. Heffernan, jr.
Harold J. Kepler
Harold Loigman
Robert D. Lynch
Peter Manrinelli
Richard P. Milne
Frank W. Neeld, Jr.
Louis E. Nemeth
Kaare Nodland
Leo F. O'Connor
Charles G. Schaefer, Jr.
James T. Smith
Frederick A. Thompson, Jr.
Raymond W. Walker
Richard P. Wilking
John A. Witkowski
Richard E. Woodring
Ralph W. Yeakel, Jr.**

The Phila. Section, ASCE, congratulates all the recipients of Life Membership in the Society for their long loyalty to ASCE.

PHILA. SECTION ON THE INTERNET

The Phila. Section, ASCE, is now officially on the 'Information Highway' map, courtesy of a local company providing Internet access and services. Last year the Section Board of Directors responded positively to an offer from GWC Corporation, an emerging computer services company located in Blue Bell, PA to provide free web pages to include information on the Section and a listing of all firms with participating members. The company also offered to provide additional web pages for Section members and member firms at a reduced cost.

Surfers of the Internet and interested persons may explore the Section web page currently under 'construction' at the following location <http://membrane.com/asce>. The page currently includes topical features from the current Section newsletter, THE NEWS, including a listing of current events. The President's message, as well as Technical Group Activities, are highlighted. There is a directory of engineering firms listed both alphabetically and categorically. Links are provided to the web pages of those companies which have their own pages. Link is also provided

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LEGISLATIVE CORNER

by Mark S. McKain, Esq.
of Powell, Trachtman, Logan,
Carrle & Bowman, P.C.

How Pennsylvania's Workers' Compensation Statute Could Help Design Professionals

Did you know that Pennsylvania's Workers' Compensation Statute contains a section that specifically deals with the liability of Design Professionals? Section 471(a) of the Workers' Compensation Statute "Construction Design Professional Not Liable" states in pertinent part:

A Construction Design Professional who is retained to perform professional services on a construction project or any employee of the Construction Design Professional who is assisting or representing the Construction Design Professional in the performance of professional services on the site of the construction project shall not be liable under this Act for any injury or death of a worker not an employee of such Design Professional on the construction project for which workers' compensation is payable under the provisions of this Act. ... (Emphasis added.)

Section 471(a) was enacted on July 2, 1993 and took effect in September 1993.

To put the above statutory provision into proper perspective, it's necessary to provide a brief discussion on how the Workers' Compensation Statute can affect a Design Professional that participates in a construction project. Typically, the Design Professional prepares the documents used by a Contractor to build the project. In Pennsylvania, the Owner hires the Design Professional to prepare the design documents and perhaps provide construction phase services as well. The Owner also enters into a separate agreement with a Contractor to build the project. If during the course of the project an employee of the Contractor is injured or killed in an accident while working on the site, the Workers' Compensation Statute provides the employer, in this instance the Contractor, with immunity from any claims the injured or deceased worker may have against the Contractor. The rationale is that if the Contractor complies with the Workers' Compensation Statute and maintains the requisite insurance, the monies paid into the insurance fund are used to provide for the injured worker's medical expenses and provide him with some income for the time that his injuries keep him from returning to work. The incentive for the Contractor to maintain Workers' Compensation coverage is the statutory immunity afforded to the Contractor/Employer should a worker sustain a job related injury.

In theory, the arrangement seems to be a reasonable way to deal with the Contractor/Employer wanting to provide benefits to an injured worker and at the same time avoid being sued by the injured worker. That's all well and good if the Contractor did not cause the worker's injuries. However, and I think you know where this is going, let's assume that the Contractor is responsible for

contributing to the cause of the worker's injuries. In this instance, the injured worker will file a Workers' Compensation claim and at the same time bring an action against the Design Professional and the Owner for his injuries. The injured workers' motivation to sue the Owner and Design Professional is obvious — the Design Professional normally maintains a Professional Liability Policy and the Owner will have some type of insurance coverage as well. Whether the Design Professional or the Owner has any responsibility for the worker's injury is problematic because we all know, it does not take a great deal of effort or creativity to file a civil action for personal injuries in Pennsylvania. Under this scenario, the Design Professional and Owner have to incur litigation costs defending themselves in action where the culpable party is immune from suit because of the statute.

Now let's assume that the Design Professional has been down this road before and with the aid of legal counsel (I have to plug my profession somewhere!) and the right contract documents, had the Owner included an indemnification provision in the General Contractor's agreement with the Owner, providing the Owner and the Design Professional with protection from claims such as the one we are discussing. (For a typical indemnification provision, refer to Section 3.18.1 of the A201 General Conditions.) What does this mean? Why do I care? Read on.

Although the General Contractor is immune from being sued directly by the injured worker, the General Contractor is not immune from a claim for contractual indemnification brought by the Owner or the Design Professional based on the language found in the Contractor's agreement with the Owner. Now, instead of enjoying statutory immunity from the injured worker's claim the General Contractor finds itself joined to the litigation as an additional defendant and in the unenviable position of having paid for workers' compensation insurance and being required to indemnify the Design Professional and Owner for any losses occasioned by the law suit. The result is that the intent of the Workers' Compensation Statute has been completely negated by a set of well-drafted contract documents. Further the injured worker will receive his scheduled payments in accordance with the Workers' Compensation Statute and a personal injury award from the Employer.

There are two schools of thought concerning the protection a Design Professional is afforded from third party personal injury claims by the present version of Section 471(a). The first is that the Pennsylvania Legislature attempted to eliminate the loophole of permitting the injured worker to receive payments from the compensation fund and to recover against his employer for his injuries by drafting a statutory provision that would provide Construction Design Professionals with immunity for injuries to construction workers when workers' compensation is payable. Taking this to its logical conclusion, it would appear that the Legislature was attempting to close the loophole by taking away the injured parties' incentive to sue the Construction Design Professional sim-

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LEGISLATIVE CORNER

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ply because they happen to be a deep pocket. If that occurs, and the plaintiff cannot sue the Design Professional, then the contractual indemnification language in the Contractor's agreement will not be used to bring the Contractor into a case where it would have statutory immunity. This seems to be an accepted rationale for the interpreting the statute and for dealing with the existing loophole.

Several other states have also recognized the loophole that exists in their Workers' Compensation Statutes.

The above statutory language does not appear in Section 471(a) of the Pennsylvania Workers' Compensation Statute. However, the legislative history indicates that the similar language did appear in an earlier draft of Section 471(a) but was deleted prior to its enactment. In its place, the phrase "under this Act" was added to the Pennsylvania statute. The quandary is what impact the phrase has on affording Design Professional statutory immunity from construction worker personal injury claims.

This leads to the second school of thought on how the statute should be interpreted. As presently drafted, one can also argue that the added phrase "under this Act" places serious limitations on the applicability of the provision in that it prevents only liability which is derived under the Workers' Compensation Act. Liability under the Act and liability to individuals who are not employed by the Design Professional are two very distinct concepts. Therefore, it can be argued that the amended language offers no protection to a Design Professional who is sued by a construction worker injured on the job.

It would seem that neither interpretation of the Act is wrong. Since there is no reported case law interpreting Section 471(a), one can only speculate as to how the court will interpret the provision to limit a Design Professional's liability for workers injured on a construction site. Therefore, we are left with a piece of legislation that is ambiguously drafted and subject to varying interpretation. That's the down side. On a positive note, we have in place a piece of legislation that could possibly benefit Design Professionals if an effort is made to amend the Act to remove the ambiguity.

The point is, although everyone is concerned with doing his or her job and earning a living, we also need to be concerned about rules and regulations that govern the practice of the profession. In this instance, perhaps with some concerted effort on the part of engineering organizations, the final draft of the Act could have clearly stated its intents to immunize Design Professionals from personal injury claims under the circumstances.

The topic of this article, as well as past articles, is more complex than appears from the limited information presented. If you have any questions, about any of the issues discussed and want more information, please feel free to contact me at 367 South Gulph Road, King of Prussia, PA 19406, (610) 354-9700, fax (610) 354-9760.

MARCH JOINT DINNER MEETING

March 14, 1996

Williamson's GSB, City Line Ave., Phila., PA

The PHL Airport Runway Project

Editor's Note: This review was prepared with the able assistance of Associate Editor Linda Crownover.

An audience of about 100 attended the March 14, 1996 Joint Meeting of the Phila. Section ASCE, and the Eastern Region Chapter, Construction Management Association of America (CMAA). Main subject of the meeting was: "Environmental Issues at the Philadelphia Airport (PHL) Runway Project." Principal speakers were: **George F. Vittas, P.E.**, Principle-In-Charge, Aviation Services, Turner, Collie and Braden, Inc., and **William J. Marrazzo, P.E.**, President and CEO, Roy F. Weston, Inc. Co-hosts were Phila. Section President **William G. Richards, P.E.**, and CMAA President **Charles Mouzannar, P.E.**

ASCE 1995 Awards to Phila. Section Affiliates

President Richards proudly announced – and presented Certificate Awards – from National ASCE Headquarters, to two distinguished organizations, which have exercised exemplary support of ASCE objectives, both at the Phila. Section and National levels. The Government Engineers Section/Branch Involvement Committee of the Government Engineers Division has recognized and honored the **City of Philadelphia Department of Streets** as an employer agency which encourages its Civil Engineers to participate actively in ASCE. The Award Certificate had been previously presented to Streets Department Commissioner **Lawrence M. Moy, P.E.**, Past President (1971-1972) of the Phila. Section, ASCE.

A second National ASCE Award by the Committee on Younger Members was announced by President Richards. It is the Employer Recognition Award to Outstanding Employers who support their younger Civil Engineering employees in ASCE participation. The 1995 award was to **Schnabel Engineering Associates**, West Chester, PA. The Certificate of Award was made at the meeting to **Allen W. Cadden, P.E.**, representing Schnabel Engineering, where he holds the position of Senior Geotechnical Engineer. By pleasant happenstance, Al Cadden a current Section Director, is also President of the Younger Member Forum.

CMAA President Offers Remarks of Interest

ASCE President Richards introduced CMAA President **Charles Mouzannar, P.E.**, Executive Vice President, Gaudet Associates, Inc., who spoke briefly about his organization. Established in 1981, the CMAA has 1500 members in the Eastern Region. Its principal function is to promote the growth and development of construction management as a professional service and to coordinate and encourage cooperation in construction management among designers, managers and owners. More than half of CMAA members are also members of ASCE. Mr. Mouzannar reviewed CMAA programs, services, practices, and objectives.

Widener University Night

The meeting honored the ASCE Student Chapter, Alumni, and Faculty and Civil Engineer-

ing Department of Widener University. A large number of Student Chapter members attended. Dr. **John Davis**, Professor of Civil Engineering, Faculty Advisor of the Student Chapter, thanked his hosts for their courtesies. He proudly announced that the Department, which hardly had a representation on campus as recently as ten years ago, graduated its greatest number of Civil Engineering students last year. He described the present and proposed curricular programs designed to continue the encouraging progress of the C.E. Department.

Chapter President Speaks

Widener ASCE Student Chapter President **Erik Littlehals** thanked ASCE for honoring their school, and introduced his fellow officers: Vice President, **Christine Burk**; Secretary, **Anthony Conte**; Treasurer, **Lisa Merksawer**. He reviewed the Chapter's last year's and planned activities, which included regular meetings, featuring speakers from noted Consulting Firms on varied subjects of interest to aspiring Civil Engineering students; fund-raiser events for special projects such as the beam-design competition sponsored by ACI; and the Concrete Canoe Race Competition; tours to important public works projects; and field trips to major construction jobsites.

Mr. Vittas on the Runway Update

The first featured speaker of the evening, **George F. Vittas, P.E.**, Principal-in-Charge, Aviation Services, Turner, Collie and Braden, Inc., the lead Consultant on the design project for the PHL Airport expansion, was introduced by **Robert Mollé**, Deputy Director of Aviation, City of Philadelphia. Mr. Vittas stressed the environmental impact on the design and work being performed at the airport. In discussing the evolution of changes in engineering, he pointed out that decisions are affected in a major way from a business perspective, and provided proof positive that Civil Engineers "make a difference." This is manifest in that the Airport Project has been Philadelphia-based, a joint venture design team consisting of Urban Engineers, Inc.; Turner, Collie and Braden, Inc.; Weston; Patricia Quigley; and now Day & Zimmermann has joined the team as Construction Manager.

Airport Layout Plan and Project Overview

Mr. Vittas showed a diagram of the new 5,000 ft. runway, east of the existing runways, designated to accommodate the airport's important commuter aircraft traffic, which accounts for 45% of the airport traffic. The relatively short and narrow (500-ft. wide) runway cost will be \$200 million. Because the commuter aircraft are smaller and slower, they require wide separation from the larger jets, and therefore considerably slow down present operations. Mr. Vittas presented an overview of the airport study, noting that the key components of the new runway were environmental and financial. Because the runway is located above the Enterprise Avenue Landfill, one of the first EPA Superfund sites to be closed in the

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March Joint Meeting

(Continued from Page 5)

United States, complex environmental mitigations were involved, including: dewatering the landfill site; jet grouting to thicken some of the thinner areas of the clay naturally underlying the site; and covering the entire 56 acres with a geosynthetic cap. Also, a series of 15 monitoring wells have been placed around the landfill to trace escape of contaminants. Contaminated water would be treated at the Phila. Water Department's Southwest Water Pollution Control Plant.

While acknowledging that the costs of the PHL Airport expansion such as the new runway appear to be high, Mr. Vittas reminded his listeners that the stringent environmental protection requirements compounded original cost estimates. But he insisted that the economic value of the airport to Phila. is almost incalculable, as exemplified by the 25,000 jobs it has created and the \$100 million annual revenue it engenders for the City. In addition, City of Philadelphia officials consistently have claimed that the existing capacity of the airport has restricted economic growth for PHL, and that an expansion program is imperative. The last major expansion of the airport occurred 20 years ago, and since that time growth has been constrained by problems with the river, wetlands, and interstate matters in question.

Issues and Solutions

Mr. Vittas delineated the principal issues of the project: environmental considerations; costs; delay reduction; and return on investment. The great environmental problems of noise, wetlands, the proximity to Fort Mifflin, and the Enterprise Avenue Landfill. Possible solutions to these problems are: separate regional operations by the larger airlines; development of a Northeast quadrant of airport for regional airlines; and concentration on solutions to the severe environmental issues. He discussed the selection process for solutions — economics versus environmental impacts. **Mr. Marrazzo on the Environmental Issues**

"...Engineers should improve the quality of life..." counseled the second principal speaker of the evening: **William J. Marrazzo, P.E.**, President and CEO of Roy F. Weston, Inc.; "...what's good for the environment is good for the economy, and vice versa..." Mr. Marrazzo recounted the history of the City's Enterprise Avenue Landfill for municipal incinerator ash; and of interest to the Water Department due to plant expansion (Mr. Marrazzo is a former City of Phila. Water Commissioner). After discovery of illegal dumping of hazardous waste, it became a prime Superfund process site. Following City/EPA/Weston closure and cleanup of the Landfill, the new Runway Project provides an excellent opportunity to use the land and protect the site.

FONSI and Its Requirements

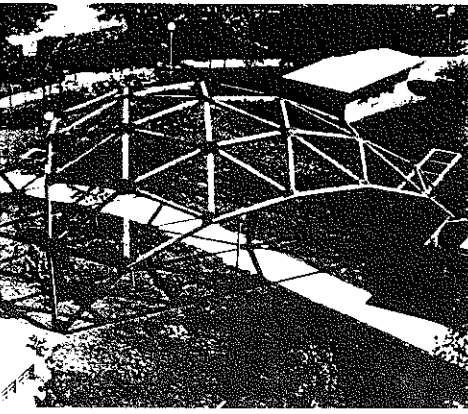
To obtain the go-ahead on the Project, negotiations with regulatory agencies (Environmental Protection Agency, Federal Aviation Agency, etc.) were necessary to establish basic conditions. These conditions were achieved in September, 1994 and pre-construction work plans were negotiated with EPA. The policy of FONSI (Finding

TRISPAN RETURNS TO DREXEL

Trispan to Return to Drexel University

With composites and funding, engineering seniors plan to bring the geodesic Trispan back to 33rd and Market

The Southeast corner of 33rd and Market Streets looked quite different in 1976. Towering 22 feet over the walkway between Korman Center and the street corner was a structure known as the



Of No Significant Impact) was instituted to govern procedures. A primary source of concern was the underlying stratigraphy (layers of clay and rock) and a shallower aquifer present in the 60 feet above the permeability depth of the regional aquifer (geologically denoted Kprm), the main source of draining water for much of South Jersey.

Details of borings, wells, samples, and analyses that have been performed to characterize the site have been submitted to convince a skeptical Environmental Protection Agency that the Kprm and the environment will be protected. To preclude the potential for liquid migration, the Enterprise Avenue Landfill (EAL) is being dewatered, with more than 160 wells pumping. The issue of "how dry is dewatered?" was left for field determination because of failure of the parties to reach preliminary agreement on the answer.

Jet grouting, a unique state-of-the-art process application was performed on about one-quarter acre where the clay is less than 3-feet thick underlying the EAL. An important FONSI requirement is the placing of a complete geosynthetic cap on the entire landfill, which must withstand the pressure of the embankments and underlying consolidation stresses.

The Need for Preconsolidation

Because consolidation of the clay underlayment is not possible after the runway is built, a 50-foot high earth embankment built over the landfill — to cause pre-consolidation — will be reduced to 20-feet after two years.

Other Environmental Concerns

Mr. Marrazzo noted other important environmental concerns: outstanding wetland violations; additional wetlands to be taken by construction (two sites in two Congressional Districts in which Pennsylvania Secretary of EPA Seif has been called upon to broker an agreement); and certain violations mitigated at the Pennypack Creek, and new wetlands in the Heinz Preserve. Among property transfers involved in the Runway Project

geodesic Trispan. Constructed in honor of the Nation's Bicentennial, the Trispan was the Senior Design Project which consisted of six Civil Engineering students. The Trispan stood for over a decade, until it was dismantled due to deterioration of its members. During the original Trispan's life, it contributed to the pride and excellence on Drexel's campus.

In the summer of '95, a group of engineering students proposed to reconstruct the massive icon. The new Trispan design will use the same geometry as the original, but the members will be fiber reinforced plastics (FRP) instead of wood to ensure longevity of the structure.

The largest challenge the group faces is funding. At the present time the group is seeking donations from private companies and materials groups. Thus far the group has received material donations from Morrison Molded Fiberglass (MMFG), DOW Chemical, Owens Corning, and Samuel Grossi & Sons Steel Fabricators. Still needed are steel fasteners, materials for bracing, and steel joint fabrication. Also required is assistance with site preparation (scaffolding and fencing) and landscaping. Donations from the University have been secured from **Diana Hackney**, Vice Provost — Student Life. Ms. Hackney, along with the group, believes in the importance of symbols and traditions for Drexel.

This year will mark the 20th Anniversary of the original Trispan. The group is anxious to see this symbol of Drexel's spirit of educational excellence be returned to the campus this Spring. **Stephenie Grealy**, of the Trispan group, can be reached at (215) 895-5812 for more information on how to help with the materials and services still needed.

The Richards Presidency

(Continued from Page 3)

these endeavors. In this way will the membership be the legatees of your valuable contributions to the Section's progress. Thank you again. We are eternally grateful for your efforts.

And now, the Phila. Section, ASCE, welcomes and offers its hand to **Al Zion**, the incoming President for the 1996-1997 term, who will be installed and presented the gavel at the Annual Dinner Dance at the Sugarloaf Conference Center on Friday, May 3, 1996. Your fine record of service and dedication is well engraved in the Section's annals. Good luck and Godspeed, Al!

mentioned by Mr. Marrazzo are storage tanks, petroleum spill residue, and some others still being negotiated.

At the conclusion of the main speakers' presentations, ASCE President Bill Richards recognized several individuals in the audience who are officials of the City of Philadelphia Department of Aviation, State regulatory agencies, and the Consulting Engineering firms involved in the PHL Airport Runway Project.

Mr. Richards and Mr. Mouzannar, on behalf of their respective Societies, gave tokens of appreciation to our distinguished speakers, for their important and exceptional addresses.

YOUNGER MEMBER FORUM NEWS

by Christopher Menna, Forum Editor

The objectives of YMF 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 **Dave Hanly**, Frederick R. Harris at (215) 735-0832.

Upcoming Events

The Community Affairs Community has arranged for a Habitat for Humanity work day at the Norristown Site on **Saturday, April 27, 1996**. Interested members should contact **Mary Hamric**, Gannett Fleming at (610) 337-1550.

Past Accomplishments:

Seven YMF members attended the Northeast Regional Younger Member Conference (NERYMC) held during March 1-3, 1996 at the Hershey Lodge in Hershey, PA. The goals of the Conference were: to give the opportunity to discuss pertinent issues affecting Younger Members; to learn from and share each other's group experiences; and to voice Young Member opinions on ASCE and its new strategic plan. Younger Members got a chance to talk to ASCE representatives on the District, Zone, and National levels, as well as to **Mr. Charles Parthum**, National ASCE President. Many different topics were discussed during this short time frame. Our leadership compared the activity reports of the other groups to what we are doing and has come to the conclusion that we have done a tremendous job in such a short period. However, there is always room for improvement, more involvement, and new ideas. Our group was very active at this Conference, both by providing input and by stirring-up debate. In fact, we were credited for providing the nightly entertainment. All of us thoroughly enjoyed the Conference and congratulate the Central Pennsylvania Section for a job well done. The Philadelphia YMF will host the 1997 Conference.

The 1997 NERYMC Conference Committee needs volunteers to help with the planning of this event. Please contact **Mitch Sklar**, STV/Sanders & Thomas at (610) 326-4600 or **Allen Cadden**, Schnabel Engineering Associates at (610) 696-6066 if you would like to help.

Member Spotlight

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

Yael Heller, E.I.T. is a Staff Engineer employed by Black and Veatch Special Projects located in Philadelphia, PA. In this position, she is responsible for geotechnical and environmental services provided by Black and Veatch. Currently, Yael is working on the remediation and redevelopment of a former chromium manufacturing facility in Baltimore's Historic Fells Point District. In addition, she is involved in industrial site recycling/brownfields initiatives at the Local, State and Federal levels. Further, Yael is halfway through her M.S. degree at Drexel University, where she will concentrate on Geotechnical Engi-

neering. Yael Heller is very active in the YMF, serving as Co-Chair of the Community Service and Professional Development Committees.

ACI SEMINAR

"Repairing Concrete Bridges and Other Transportation Structures"

April 30, 1996 • King of Prussia Holiday Inn

Those involved in the repair of our nation's transportation infrastructure know that the problems of repairing concrete bridges are many and the solutions are seldom simple. The best chances for success come from following a proven process for repairing concrete structures, the kind of process that attendees can learn from this Seminar by the Delaware Valley Chapter of the American Concrete Institute.

The seminar will focus on creating clear specifications for bridge repairs, safe removal of damaged concrete, achievable and durable repairs for extreme exposure structures and appropriate maintenance activities to keep the structure in the best possible condition.

At this seminar, two of the top experts in the country will be on hand to explain the essentials of bridge repair and to answer all your questions. Things that they will cover include • Evaluation of deterioration • Repair materials • Repair methods • Strengthening of existing bridges • Protection methods • Maintenance techniques for reducing bridge deterioration.

Attendees will not be subjected to theoretical exercise, but will learn a proven methodology that has been used by Engineers, Contractors and Highway Officials.

All seminar participants receive the seminar course manual and a special collection of all the newest information on the topic. It features many reprints of articles related to concrete bridges and repair, excerpted from several well known publications, plus some essential ACI Committee reports.

Registration fees are \$324, with a discounted rate for ACI National members of \$279. For more information, contact **Jeanette Gill**, ACI, P.O. Box 19150, Detroit, MI 48219-0150 or call (313) 532-2600 or fax (313) 533-4747 or contact **Helmuth Wilden** at (610) 966-3935 or fax (610) 966-4515.

ASCE on the Internet

(Continued from Page 4)

to the 'national' web pages of ASCE at <http://www.asce.org/>. Section members are requested to browse the web pages and although we will certainly not break any records in terms of 'hits', it behooves us to avail of opportunities provided by this electronic highway. If you have ideas to improve the looks and contents of the web page, please contact **Tim Brouse** at the following e-mail address: tmb@mebrane.com.

it ain't broke, don't fix it."

Sincerely,

Susan K. Lior, P.E., Member, Past President and Chairperson of the Humphrey Fund Trustees

LETTERS TO THE EDITOR

Editor's Note: THE NEWS welcomes letters and commentary from Phila. Section members. Herein below is a letter referred to in the editorial on The Richards Presidency (page 3) and the response from the chairperson of the Section's Humphrey Fund Trustees (also a Past-President.)

To the Editor of THE NEWS

Ref: Humphrey Fund

I have read with great interest the President's Message these last several months, concerning the utilization of the Section's Humphrey Fund. Mr. Richards in a previous message had pointed out that the guidelines used to oversee the funds dates from the 1970's. I am, however, quite disappointed that the President, Mr. William Richards, in the February, 1996 message asked the membership for their thoughts and promised to pass those comments onto the next administration. A more efficient and timely method of opening the question to the membership could have been utilized, i.e. a survey, to determine if implementation of a policy was the Board's intention before Mr. Richards initiated his monthly series. The Board of Directors has again failed in one of its primary financial obligations to the dues paying membership, in its inability to implement a formal Humphrey Fund policy and coordinate this policy with a companion operating policy. The continuing failure to act on this issue after 25 years is a failure of leadership.

Very truly yours, George J. Stanley
Member/Past Director

A RESPONSE

To the Editor of THE NEWS

George Stanley is mistaken in his understanding of Board policy concerning the Humphrey Fund. As brought out in Bill Richards' monthly President's Messages, the Humphrey Fund has been used by the Section to fund extraordinary projects and efforts over the years. The Board Policy has been to use the Fund for efforts over and beyond normal operating costs.

The use of this Fund is entirely at the discretion of the Board. Each year the Humphrey Fund Committee prepares a report of the activity of the Fund for publishing in the Annual Report and for preparation of the Section's income tax returns. The Committee advises the Board on the Fund' condition as requested.

The Board has always taken a conservative approach in its use and, as a result, the Fund has grown significantly over the years. The Board is presently content with its guidelines and policy for the Fund — as is apparent from discussions of the Fund at recent Board meetings. Mr. Stanley apparently is the only one who believes the operation and maintenance of this Fund has been a "failure of leadership" over the years 25 years.

The Phila. Section is fortunate in that it is one of the few ASCE Sections to have such a Fund available. Its prosperity and growth are indications that it has been well taken care of under the Phila. Section leadership. In response to Mr. Stanley, I would remind him of the old adage "if

YMF SPONSORS SEXUAL HARASSMENT SEMINAR

[Editor's Note: The following important article was prepared by Yael B. Heller, Chairperson of the Professional Development Committee of the Section's Younger Member Forum.]

The Phila. Section, ASCE, Younger Member's Forum is pleased to announce the Seminar: "Identification and Prevention of Sexual Harassment in the Workplace."

PURPOSE: To give participants information they can use to foster a professional work environment that will attract and retain the best Civil Engineers regardless of gender.

DATE: Tuesday, April 23, 1996

TIME: 8:00 am - 8:45 am Registration and Continental Breakfast; 9:00 am - 11:00 am Training Session

LOCATION: Drexel University, Hill Conference Room, LeBow Center, 31st and Market Sts., Phila., PA

REGISTRATION FEE: \$50 for registration received by April 15, \$60 thereafter; includes all course materials and continental breakfast

The objectives of the Seminar are:

- Define sexual harassment and describe the extent of the problem
- Describe the impact of sexual harassment on its victims
- Learn how to identify and respond to incidents of sexual harassment
- Explain what to do if victimized by sexual harassment
- Encourage a bias-free work environment

The Seminar will be given by **Ginger Barksdale** of the Women's Alliance for Job Equity (WAJE) and **Joe Smith** of OPTIONS. WAJE which provides services to public and private organizations on the prevention of sexual harassment in the work environment. It responds to hundreds of sexual harassment calls each year through an employment hotline. OPTIONS is a human resource and Career Consulting Service that provides training and counseling in employee effectiveness, career management training, developing and managing a diverse workforce, sexual harassment, and many other work related issues.

To register, please mail your name, title, company, address, phone number, fax number, and a check made payable to Phila. Section, ASCE (\$50 before April 15, \$60 thereafter), to **David Hanly**, Frederic R. Harris, Inc., Suite 720, 260 S. Broad St., Phila., PA 19102 or call (215) 735-0832.

SOLID WASTE CONFERENCE Call For Papers

The Twelfth International Conference on Solid Waste Technology and Management will be held in Philadelphia on November 17-20, 1996.

Papers related to all aspects of solid waste technology and management are of interest.

A one-page abstract (in English), to be received no later than April 19, 1996, should be sent to **Dr. Ronald L. Mersky**, Program Chairman, Department of Civil Engineering, Widener

University, One University Place, Chester, PA 19013-5792 USA; Telephone (610) 499-4042, Telefax: (610) 499-4059.

Authors will be notified by May 10, 1996, concerning acceptance or nonacceptance of submitted abstracts. A discounted Conference registration fee will be available for authors of papers accepted for presentation.

Papers presented at the Conference may be reviewed for possible publication in the *Journal of Solid Waste Technology and Management*.

ATLSS SEMINAR SERIES

Lehigh University
Center for Advanced Technology
for Large Structural Systems (ATLSS)
announces its Seminar Series for Spring, 1996

April 25, 1996 (Thursday)

Place: Sinclair Laboratory Auditorium, Lehigh's Main Campus

Professor Mete Sozen; Hon. M., ASCE, School of

William G. Richards, P.E.
Vice President



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Civil Engineering, Purdue University, West Lafayette, IN

"Earthquakes and Buildings"

May 14, 1996 (Tuesday)

Place: Imbt Laboratories Auditorium, Mountaintop Campus

Dr. Leonhard Bernold, Director, Construction Automation & Robotics Laboratory, North Carolina State University, Raleigh, NJ

"Where in the World is Construction Automation"

Seminars are open to the public.

Time: 3:10 p.m. Refreshments served at 2:45 p.m.

For additional inquiries: **Dr. John E. Bower**, (610) 758-3524; fax: (610) 758-5553

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WISHING YOU A PLEASANT SPRING AND SUMMER

On behalf of the Officers and Board of Directors of the Phila. Section, ASCE, THE NEWS extends to the Membership its Best Wishes for a pleasant Spring and Summer Season. We look forward to an active 1996-1997 year starting in October, 1996. So, please participate fully, attend all meetings and functions of the Technical Groups, Standing and Special Committees, etc., and invite your colleagues and associates to join with you in attending and supporting all Section activities. And we'll see you at the Annual Dinner Dance at Sugarloaf Friday, May 3, 1996 (see page 2 for details!)

1996 Philadelphia Section ASCE – Salary and Benefits Survey

The Philadelphia Section, ASCE, is conducting its bi-annual Salary and Benefits Survey and is asking for your help so that we can better serve you. The Survey helps you gauge your career achievements among your peers and identifies trends that directly affect you and your future. It requires only about 10 minutes of your time to complete the enclosed questionnaire. Help yourself achieve your career goals and enhance the profession's image. Please complete this questionnaire, fold so that the return address is on the outside, tape and return by May 31, 1996. The results will be published in the first issue of THE NEWS in the Fall. *Thank you!*

A. PERSONAL DATA

1. Age _____
2. Years of full-time employment _____
3. Race
 - _____ a Caucasian
 - _____ b African American
 - _____ c Hispanic
 - _____ d Asiatic
 - _____ e Other _____
4. Sex
 - _____ a Male _____ b Female
5. Marital Status
 - _____ a Single
 - _____ b Married
 - _____ c Divorced
 - _____ d Widowed
 - _____ e # of children, if any _____
6. Education (Check highest level)
 - _____ a No Degree
 - _____ b Bachelor's Degree
 - _____ c B.S. Degree+15 hours
 - _____ d Master's Degree
 - _____ e Doctorate Degree
7. ASCE Membership Grade/# of Yrs.
 - _____ a Student _____
 - _____ b Associate _____
 - _____ c Member _____
 - _____ d Fellow _____
 - _____ e Life _____
8. Registration, if any

| | |
|-------------------|------------|
| yes (# of states) | # of Years |
| _____ a EIT _____ | |
| _____ b PE _____ | |
| _____ c LS _____ | |
9. Other Membership

_____ Indicate the number of Professional/Technical Organizations other than ASCE of which you are a dues-paying member (i.e.: NSPE, ACI, etc.)

B. EMPLOYMENT DATA

1. Income source
 - _____ a Self-employed
 - _____ b Salaried
 - _____ c Commissioned
 - _____ d Retired
 - _____ e Unemployed
 - _____ f Student
2. Type employer (Check one)
 - _____ a Consultant
 - _____ b Contractor/Builder
 - _____ c Federal Gov.
 - _____ d State Gov.
 - _____ e Municipal, Local or Regional Gov. or Auth.
 - _____ f Utility (Private & Public)
 - _____ g Education
 - _____ h Sales
 - _____ i Other (explain) _____
3. Primary Responsibility (Check one)
 - _____ a Technical
 - _____ b Sales
 - _____ c Management
 - _____ d Administrative
 - _____ e Other (explain) _____
4. Do you supervise other people?
 - _____ a Yes _____ b No
5. Number of different employers since graduation (including current) _____
6. Do you have a second job?
 - _____ a Yes _____ b No
7. Years with current employer _____
8. Primary County of Employment/Residence (Check one)

| | | |
|----------|----------------------------|-------|
| _____ PA | a Bucks _____ | _____ |
| _____ | b Chester _____ | _____ |
| _____ | c Delaware _____ | _____ |
| _____ | d Montgomery _____ | _____ |
| _____ | e Philadelphia _____ | _____ |
| _____ NJ | f Burlington _____ | _____ |
| _____ | g Camden _____ | _____ |
| _____ | h Gloucester _____ | _____ |
| _____ | i Other (Identify ___/___) | _____ |
9. Method of Commuting (Check one)
 - _____ a Drive
 - _____ b Mass Transit
 - _____ c Car Pool
 - _____ d Walk
 - _____ e Drive and Mass Transit
 - _____ f Other (Identify _____)
10. Approximate commuting time, minutes (one way _____)

C. SALARY AND BENEFITS

1. Salary (include normal overtime) \$ _____ per yr.
2. If bonus or commissions are paid in addition to above salary, indicate expected amount per year _____
3. Overtime Remuneration
 - _____ a None
 - _____ b Time (Compensatory)
 - _____ c Paid @ regular pay rate
 - _____ d Paid at time&a half rate
 - _____ e Double Time
4. Average number of hours worked per week _____
5. Vacation (incl. Admin. Leave, Personal Days, etc.) _____ days
6. Holidays _____ days
7. Sick Leave (number of days per year at full salary) _____ days
8. Insurance (Company Paid)

For "a" thru "h" fill in:

 1. 100% company paid
 2. Partially company paid
 3. Available, employee pays all
 4. Not available
 - a Hospitalization _____
 - b Major Medical _____
 - c Dental _____
 - d Optical _____
 - e Disability _____
 - f Life _____
 - g Legal Fees _____
 - h Child Care _____
9. Pension Plan _____ yes _____ no
10. Profit Sharing
 - yes _____ no _____
 - not applicable _____
11. 401(k) or equivalent
 - yes _____ no _____
12. Formal severance pay policy
 - yes _____ no _____
13. Contributing Education tuition reimbursement
 - yes _____ no _____
 - If yes, maximum % _____

(OVER)

D. OPINIONS

1. Are you satisfied with your current employment situation?
 - a Unsatisfied
 - b Somewhat unsatisfied
 - c Satisfied
 - d Most satisfied
 - e Very satisfied

2. Do you believe that, in your current employment situation, you are performing true engineering work.
 - a Yes
 - b No, primarily administration, supervisory, business, promotion, etc.
 - c No, primarily technician/draftsperson
 - d No, other functions

3. Do you believe that your work is properly reviewed?
 - a Yes
 - b Yes, but could be better
 - c No
 - d Not applicable

4. Do you think you will be looking for a new job within the next 2 years?
 - Yes No If Yes, why?
 - a Salary
 - b Boss
 - c Lack of responsibility
 - d Other (Explain)

5. If you were looking for a new job, what would be your most critical concern? Rank 1, 2, 3, etc.
 - a Pay and benefits
 - b Company reputation
 - c Responsibility
 - d Security
 - e Location
 - f Amount of travel
 - g Type of work
 - h Other (explain) _____

6. How easy do you believe it would be for you to find a new job?
 - a Very easy
 - b Easy
 - c Somewhat difficult
 - d Difficult

7. Do you believe your salary, considering your experience and ability, compared to other Civil Engineers, is:
 - much lower
 - lower
 - similar
 - higher
 - much higher

8. Do you believe your fringe benefits, compared to other Civil Engineers, are:
 - much lower
 - lower
 - similar
 - higher
 - much higher

9. Is your professional physical environment (office appearance, privacy, secretarial support, etc.) important to you?
 - a Yes b No

10. Are you satisfied with your professional physical environment?
 - a Yes b No

11. Do you agree or disagree with the following statements?
 - agree disag.
 - a. Registration should be required for all Engineers as a condition of continued employment _____
 - b. Continuing Education should be required to maintain registration _____
 - c. Consulting work should be competitively bid when the requirements are reasonably well defined _____
 - d. Advertising, by engineers, that is not self-laudatory is acceptable _____
 - e. There is currently a shortage in the number of Civil Engineering Graduates _____

12. If you had a second chance would you still become a Civil Engineer?
 - a Yes b No
 - Why? _____

Additional comments and suggestions for future questions: _____



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