

the news



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PHILADELPHIA SECTION
AMERICAN SOCIETY OF CIVIL ENGINEERS
1317 Spruce Street, Philadelphia, Pa. 19107

VOL. 52 - 5

OUR 67th YEAR

February, 1980

FEBRUARY DINNER MEETING

Philadelphia Section, American Society of Civil Engineers

TUESDAY, FEBRUARY 19, 1980

(Revised date from your Program Card)

JOINT MEETING WITH WOMEN'S AUXILIARY

Engineers' Club, 1317 Spruce Street, Philadelphia

Cocktails — 5:30 P.M. Dinner — 6:30 P.M. Meeting — 7:30 P.M.

SUBJECT:

PLANNING FOR PHILADELPHIA —

A BRIEF LOOK AT THE NEW DECADE

SPEAKER:

JOHN C. MITKUS, Executive Director
Philadelphia City Planning Commission

PROGRAM HOST:

NORMAN G. WEINTRAUB, Program Chairman



John C. Mitkus has been with the City Planning Commission since 1964, and has been the Executive Director since 1973. He is a graduate of LaSalle College and has a Masters in Government Administration from the University of Pennsylvania, Wharton School.

As Executive Director of the Philadelphia City Planning Commission, Mr. Mitkus is responsible for the preparation of the comprehensive physical development plan of the City, the redevelopment area plans, and the six-year capital program.

It is appropriate that one of our first meetings of the new decade will include a little crystal ball gazing.

Mr. Mitkus is in a unique position to predict the directions of growth for the city. He is able to tie the completed projects and those under construction with those in various stages of development.

SPECIAL FEATURE:

SWARTHMORE COLLEGE NIGHT

The ASCE Student Chapter, faculty and alumni of the Engineering Division of Swarthmore College will be honored at this meeting. All students, faculty, alumni and friends are cordially invited to attend.

NEXT MONTH'S MEETING
MARK YOUR CALENDAR
PHILA. SECTION ASCE
Tuesday, March 11, 1980
Engineers' Club
Dinner Meeting—Cocktails 5:30 P.M.
Subject: **The Seabrook Nuclear Station Design and Construction**
Speaker: **Allen J. Hulshizer**, Supervising Structural Engineer, United Engineers and Constructors, Inc.
Program Host:
Ish Aneja,
Chairman, Structural Group
Widener College Night

NOMINEES REQUESTED

The Phila. Section, ASCE Nominating Committee is in process of forming a slate of officers for the 1980 - 1981 Year.

The Committee solicits suggestions from the Membership for names to fill the following positions:

- (1) Second Vice President (one year term—automatically becomes 1st Vice President second year)
- (1) Membership Secretary (two-year term)
- (3) Directors (two-year terms)

Please communicate your names and comments to:

C. R. Pennoni, Chairman
Nominating Committee
Phila. Section, ASCE
c/o Pennoni Associates Inc.
1911 Arch St., Phila., Pa. 19103
Phone: (215) 561-0460

No Dinner Reservation Mailing Cards will be sent until further notice. Please call Mr. deKovacs at the Engineers' Club immediately. (215) 735-5234.

STUDENTS — Plan to attend for Dinner (Half Price) or meeting after Dinner.

TANTALA AND THE ANNUAL REPORT

With the key assistance of Treasurer Theodore Davis, Section Officers and Committee Personnel, Secretary Albert M. Tantara once again has assembled a magnificent Annual Report of the Philadelphia Section, ASCE, Fiscal Year October 1, 1978 to September 30, 1979.

As required by the Society By-Laws, the Annual Report of Section Activities and Finances summarizes programs and operations. It includes data on the Reading Branch, Technical Groups, Committees, Publications, Associate Member Forum, Student Chapters, Women's Auxiliary and other subsidiary affiliations.

The Report conveys information helpful to the National Board of Direction, Committee on Local Sections and District Councils, Headquarters Staff and other Sections — in evaluating Philadelphia Section affairs. It is also a prime prerequisite for the payment by National of the annual allotment to the Section.

In addition to Finance and Membership data, the volume features comprehensive description of the Section's participation in Intersociety organizations such as: Engineering and Technical So-

cieties Council of Delaware Valley (E TSCO); Engineers Week Committee; joint meetings with the Philadelphia Branch, Society of American Military Engineers (S.A.M.E.); the Philadelphia Urban Manpower Program (PUMP); Construction Career Day Committee; seminar co-sponsorship with the American Plywood Association; representation at the Annual Meeting and Conference of the American Academy of Political and Social Sciences; and many others.

The Philadelphia Section extends its highest praise and appreciation to Secretary Tantara and his capable assistants for the excellent and outstanding publication.

WOMEN'S AUXILIARY

February Joint Section Meeting

The Joint Meeting of the Phila. Section Women's Auxiliary and the Main Section on **Tuesday, February 19, 1980, 5:30 P.M.** at the Engineers' Club will be the Auxiliary's only February function, and replaces the regular monthly Luncheon-Meeting. Please note that the date which appears on the Women's Auxiliary 1979-1980 Program is in error.

Full details of the February 19th meeting are on page one of this issue

of THE NEWS.

March Meeting

The next regular monthly Luncheon Meeting of the Auxiliary will be held at the Engineers' Club on **Wednesday, March 19, 1980**. Principal Speaker **Ms. Janice DiCampli** will demonstrate and describe bread dough crafts on the evocative subject: "What You Can Do With A Little 'Dough'."

All Auxiliary Members and their guests are cordially invited to attend.

ATTENTION - SECTION MEMBERS

If your job location, business or residential address for mailing is changed; or if you move out of the Philadelphia Section area jurisdiction; or if you do not receive Section mailings (THE NEWS, special notices, etc.), please notify Secretary **Albert M. Tantara**, c/o Tantara Associates, 4903 Frankford Ave., Phila., PA 19124 — Phone: (215) 289-4600.

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IMPORTANT !! Remaining Meeting Dates

THE NEWS is now being mailed at Non-Profit Organization Bulk Rate. While this promises postage savings to the Section, it also runs the risk of much longer delivery time from your local post office to your mail box. Therefore, please refer to your 1979-1980 Section Program Schedule and mark your calendar for all meetings and social functions. Listed below is a summary of remaining meeting dates.

TUESDAY, FEBRUARY 19, 1980 — Section Dinner Meeting —

Engineers' Club

Joint Meeting with Women's Auxiliary — Swarthmore College Night

NOTE: This date for the February meeting has been changed from the original date marked on your pink program card.

Tuesday, March 11, 1980 — Section Dinner Meeting

Engineers' Club — Widener College Night

Tuesday, April 8, 1980 — Section Dinner Meeting — Engineers' Club

Joint Meeting with Society of American Military Engineers (SAME) University of Pennsylvania Night.

SUNDAY, MAY 4, 1980 — Annual Spring Social — Bala Golf Club

CHANGED DATE — (see explanation elsewhere in this issue)

Time schedules for Dinner Meetings at the Engineers' Club are:

Cocktails — 5:30 P.M. Dinner — 6:30 P.M. Meeting — 7:30 P.M.

NOTE: NO RESERVATION CARDS WILL BE SENT UNTIL FURTHER NOTICE; PLEASE CALL MR. deKOVACS AT THE ENGINEERS' CLUB — 735-5234 AS SOON AS POSSIBLE.

Mail all copy for THE NEWS to Editor Sidney Robin, 64 Nancy Drive, Richboro, Pa. 18954 — Phone (215) 322-7464. See deadline date, bottom of page 2.

**COPY DEADLINE FOR
MARCH, 1980 ISSUE
FEBRUARY 15, 1980**

JANUARY MEETING

Engineers' Club January 8, 1980

Editor's Note: THE NEWS thanks Jimmy C. Alexander, Chairman of the Geotechnical Group, for his assistance in the preparation of the following writeup.

The January Section Meeting witnessed a large audience of more than 150 members, guests and students. The topic was: **Overview of Soil Stabilization/Improvement Methods**, and guest speaker was **James K. Mitchell**, Professor of Civil Engineering, University of California, Berkeley. The meeting was sponsored and arranged by the Section's Geotechnical Group, and the Group's chairman, **Jimmy C. Alexander**, was the amiable and capable Program Host.

Drexel Night

The spotlight shone on ASCE Student Chapter and the Dept. of Civil Engineering of Drexel University. As in the past on their "special" night, the Dragons appeared in strength. More than 70 students and faculty were present to be introduced by Civil Engineering Department Head, **Dr. Bernard M. McNamee** (a current Director of the Phila. Section). Co-Presidents of the Drexel ASCE Student Chapter, **Mary Mancini** and **Peter Biara** presented officers of the Chapter and recapped highlights of the busy and successful season of activities. An important function the Student Chapter performed was the hosting of the 1979 Annual Pennsylvania-Delaware Student Chapter Conference (in which Drexel won two of the highest prizes in the Student Paper Competition). Athletic events included participation in the Annual Concrete Canoe Race (not so many victories there!) The Chapter entertained the children at Shriner's Hospital at a Christmas Party and was proud of the 100% participation by C.E. students.

Among the distinguished students, graduate students, alumni and faculty present and acknowledged by Dr. McNamee was **Dr. Richard E. Woodring**, Dean of the College of Engineering.

Dr. McNamee gave a capsule review of significant happenings at Drexel. The 60 senior Civil Engineering students this year reflects the slight downtrend in enrollments in recent years. Encouraging "things-to-come" include research studies leading to the development of in-house computer graphic systems and other new and sophisticated computer technology. For the future — 5 to 6 years ahead — plans are in the prelimi-

nary stages for a new Engineering College Building.

Where Stabilization is Required

Dr. Mitchell outlined those types of soil or conditions which require stabilization, such as earth and rock fills, foundation soils, subgrade collapses, etc. Approaches, methods and techniques of ground improvement and stabilization for the support of structures and in earthwork construction were described. These include many new and exotic, recently developed processes involving vibro-compaction, reinforcement (using tension and compression elements) and stone columns; others employ chemistry, electro-osmosis, high velocity jet propulsion injection of admixtures, lime and grout. These latter methods are particularly applicable for shallow depth stabilization. The first mentioned are more appropriate for densification below 2 to 4 meters.

Other approaches include pre-compression, thermal stabilization (such as freezing), moisture barriers, removal and replacement of weak foundation material, etc. Dr. Mitchell illustrated the use of lightweight structural fills to minimize subgrade loads.

The general objectives, emphasized our speaker, are to control volume stability, slope protection and structural load-bearing capacities.

Great Projects and Methods

In his fully-illustrated address, Dr. Mitchell showed photographic slides, tables and graphs and commented on mammoth public and private enterprise projects which incorporated the various forms of the soil-stabilization techniques. These included nuclear power plants, dams, reservoirs, huge manufacturing structures, etc.

Dr. Mitchell described combined piling and wall-trench reinforcement and stabilization procedures for strengthening of foundations, such as underpinning of columns by jet-pile methods and caisson-supporting systems. Best methods to be selected, advised Dr. Mitchell, are generally determined by the depth requirements. Thus, vibroflotation might be advocated where particle sizes and depth of soil to be densified are within certain recommended dimensions. Blasting for compaction, and water drainage might be applicable under conditions less desirable for vibro-flotation and other methods.

Testing in Countries Abroad

Interesting schemes and experiments were illustrated in foreign countries:

Soviet Russia, France, Greece, Sweden — to effect favorable changes in porosity, compaction and density. These tests included electrically charged impulses to induce settlement and densification.

The principal objective here is to establish ground improvements by those methods and in those cases where shallow foundations would be structurally acceptable for major buildings and public works. In addition, the experimentation is useful in correlating the many factors which must be taken into account in the selection of particular methods. These factors include: type of structure (load magnitude and distribution, permissible settlements); soil characteristics (type soil, area and depth of treatment); availability of materials, skilled labor and equipment; local experience; environmental allowables and constraints; time available; and, of course, economic considerations.

Appreciation Expressed

In congratulating Dr. Mitchell for his splendid talk, President Zitomer presented him the Section's Certificate of Appreciation and a complimentary copy of the Bicentennial Year National ASCE Convention publication: **"History of Civil Engineering and Construction in the Delaware Valley."**

SEMINAR ON BLASTING

The Central Pennsylvania Section, ASCE, Geotechnical Group will hold a one-day seminar on **"Blasting"** at the Crossgates Inn near Harrisburg, Pennsylvania on **April 10, 1980**. The purpose of the seminar is to provide engineers and contractors with an awareness of considerations necessary in designing and executing a successful blast. Experts in the field of blasting will discuss such topics as geological effects on blasting, design of blasts, vibration monitoring, federal and state regulations, safety, blasting methods and terminology, and demolition blasting.

Exhibits by manufacturers and suppliers of explosives, blasting agents, initiation systems, vibration monitoring equipment, drilling equipment, plus other related items are also planned.

The registration fee for the seminar is \$60. This fee includes a luncheon, dinner and a copy of the seminar proceedings.

For further information contact: **John Diviney**, c/o Gannett Fleming Corddry and Carpenter, Inc., P. O. Box 1963, Harrisburg, Pa. 17105 or telephone (717) 763-7211.

ASCE DUES BILLS AND TECHNICAL GROUP DETAILS

Section members will notice in the 1979 dues bill received recently from National ASCE Headquarters, that the PHILADELPHIA (SECTION) DUES is itemized as \$11.00. This amount includes a \$1.00 assessment for membership in one Phila. Section Technical Group of your choice. **If you choose to be a member of more than one Group, please add \$1.00 for each Group.**

Also, because National's bill did not list the Technical Groups to which your \$1.00 payments were to be applied, you are requested to get in touch with the Chairmen of the Technical Groups of your preference, so that their membership lists can be classified.

The appropriate individuals to contact are the following:

Technical Group Liaison

Dr. Frederic Roll (Section Vice Pres.)
Civil & Urban Engineering Dept.
University of Pennsylvania
229 Towne Building - D3
Phila., PA 19104
(215) 243-8347

Construction Group

Frederic Plotnick, Chairman
806 Hillton Lane
Elkins Park, PA 19117
(215) 782-1246

Geotechnical Group

Jimmy C. Alexander, Chairman
70 Palm Street
Newark, N. J. 07106
Phone: c/o Site Engineers
(215) 922-5024

Hydraulics & Sanitary Group

Patrick R. Cairo, Chairman
Phila. Water Dept., Room 1270
Municipal Services Bldg.
Phila., PA 19107
(215) 686-3883

Structural Group

Dr. Ish Aneja, Chairman
Westinghouse Electric Corp.
Steam Turbines
P. O. Box 9175
Phila., PA 19113
(215) 595-4230

Transportation & Urban Development Group

Willard Whitbred, Chairman
c/o George Beetle Consulting
Engineers
1518 Walnut Street
Phila., PA 19102
(215) 546-7442

* * *

Of course, don't forget to include in your check the \$10.00 Phila. Section dues, which is the other part of the \$11.00 appearing on the bill!

Continuing Education Committee Schedules

CONSTRUCTION CONTRACT SEMINAR

The Philadelphia Section, ASCE, in its dedication to fostering continuing education has arranged a one-day Seminar entitled: **Construction Contract Claims and Disputes — Preventive Measures.** The seminar is designed for those who manage construction contracts for contractors or owners. Building a job is the fun part, completing the paper work, getting the changes and extras resolved and preventing claims and disputes, are the demanding and frustrating tasks. It is these later concerns which will be primarily addressed in this seminar.

The seminar will be conducted by **Lewis A. Caccese, P.E.**, who is a prominent member of the Philadelphia Section, and **Mary Jane Nielsen**, an attorney who has specialized in Construction Contract Management. Mr. Caccese was Chief of Construction, of the Philadelphia Engineer District, Corps of Engineers, for many years. He now is President of Construction Claims Consultants, Inc., of Philadelphia, Pa.

This one day seminar will be at the Engineers' Club on **Thursday, February 28, 1980.** It will commence at 9:00 A.M. and will be completed at 4:30 P.M. The registration cost will be \$175.00 which will include lunch and seminar materials. Registration checks may be forwarded to **Dr. Bernard McNamee, Chairman**, Continuing Education Committee, Phila. Section ASCE, c/o Civil Engineering Department, Drexel University, 32nd & Chestnut Sts., Phila., PA 19104.

For full details and registration information see brochure enclosed with this issue of THE NEWS, or call Dr. McNamee, by February 15, 1980, (215) 895-2369.

ASCE AND ENGINEERS' WEEK

The Phila. Section ASCE regular monthly meeting on **Tuesday, February 19, 1980** comes at a strategic time as an important function of the **1980 Delaware Valley Engineers' Week — February 15 - 23, 1980.**

The theme of the Week: "Engineers — Our Renewable Resource," is an appropriate umbrella for the topic of the Section meeting: **Planning for Philadelphia — A Brief Look at the New Decade.** Principal speaker is **John C. Mitkus**, Executive Director, Phila. City Planning Commission.

See page one for full details of the meeting.

MR. WARD'S MESSAGE

Editor's Note: Following is Part 2 of some significant excerpts from the Inaugural Speech of ASCE President **Joseph S. Ward** at the ASCE Annual Convention and CExpo, Atlanta, Georgia, October 24, 1979. THE NEWS considers the points of Mr. Ward's remarks of concern and interest to all ASCE members.

In the year ahead, I anticipate — and will promote — ASCE's taking a more active leadership role in the engineering profession throughout the world. It is my conviction that ASCE must itself initiate programs on the National and Local levels to help solve these and other far-reaching problems that may crop up on the way to the year 2000.

Obviously, it will take a major effort to translate these general priorities into practical, concrete action plans and programs. And that's where you and I come in, for any organization is only as good or as strong as its members. We, as practicing professional civil engineers, must put our expertise to work for the benefit of our country and our world. This is something that Irv Mendenhall, your President-Elect, will be working on during the coming year as we set the stage and complete initial plans for a concerted — and continuous — ASCE effort on energy in the 1980's. Work on this has already begun, as you may have seen in recent issues of Civil Engineering, where ASCE's Energy Action Program was announced this past summer.

* * * * *

I don't presume to such high standards of knowledge, nor do I pretend to have all the answers — in all my years of practice, I think I've only now mastered some of the questions! I do presume to say, however, that we, as Civil Engineers collectively, do have quite a few of the answers. That we can make significant contributions toward helping our legislators and political leaders find the answers!

* * * * *

Long range solutions to our energy problems will of course require answers to tough technical questions. A number of complex tradeoffs must be evaluated technically, as well as politically. We're not politicians, but a great many of these problems lie in our province, in the area of civil engineering expertise, and I think it's up to us to take the lead in trying to answer them.

(continued next month)