



# the news

PHILADELPHIA SECTION

AMERICAN SOCIETY OF CIVIL ENGINEERS

VOL. 47 - No. 4

Our 62nd Year

January, 1975

## ! Special Joint January Meeting !

Philadelphia Section, American Society of Civil Engineers  
and The Women's Auxiliary

**TUESDAY, JANUARY 14, 1975**

Engineers' Club, 1317 Spruce Street, Philadelphia

Cocktails — 5:30

Dinner — 6:30

Meeting — 7:30

**SUBJECT:**

**ENGINEERING POWER AND POLITICS**

**SPEAKER:**

**MRS. CARYL M. KLINE**, Director of Continuing Education for Women  
University of Pittsburgh

**PROGRAM CO-HOSTS:**

**MRS. WILL M. (AUDREY) HEISER**, President, The Women's Auxiliary  
**ALFRED O. QUINN**, President, Philadelphia Section, ASCE



Mrs. Kline holds a B.A. degree from the University of Wisconsin and completed Graduate Study there 1936-1940. In 1954 and 1955 she lived in Sierra Leone, a West African independent nation within the British Commonwealth. She was a Consultant to the Women's Institute program of the Department of Education of the Sierra Leone Government; an advisor on Labor Relations to the Queen's Board of Inquiry after the riots of January, 1955; and a guest teacher of English in schools in Freetown and Kamabai.

In 1961, while pursuing and active political and educational career, Mrs. Kline was appointed Special U.S. Ambassador to Sierra Leone by President Kennedy. She was involved in planning, feasibility and evaluation studies on many social and economic projects initiated by the United States, including the Peace Corps and AID.

As a renowned educator, Mrs. Kline is called on frequently to speak on various facets of Higher Education and Continuing Education for Women.

Among her numerous awards are: Distinguished Daughter of Pennsylvania (1966); Women of Distinction in Education (1968); and ORT Community Service Award (1974).

**SPECIAL FEATURE:**

**"Drexel University Night"—**

Honoring the ASCE Student Chapter, faculty and alumni of Drexel's Civil Engineering Department. All students, faculty and alumni are urged to attend.

**THIS MEETING WILL BE A HISTORIC FIRST FOR THE SECTION.**

**BE SURE TO COME AND BRING THE LADY IN YOUR LIFE ! ! !**

## ASSOCIATE MEMBER FORUM NEWS

### Bright Outlook for New Grads

An article in the Engineer in Government monthly newsletter of NSPE states that new engineering graduates will witness a buyers market through 1978. Demand for engineers at all degree levels was up this year over last and can be expected to stay up if engineering enrollment continues to decline at the 1972-1973 rates. The Engineers Joint Council warns that this trend may slow somewhat between 1980 and 1985 when enrollment once again catches up with employment.

### Monthly Meeting Attendance

We are pleased to see the good attendance of Associate Members at the monthly Philadelphia Section meetings. Villanova Night was well-attended by students, alumni, and faculty and we encourage all Drexel civil engineering graduates to attend "Drexel Night" on January 14, 1975.

### Fellowships/Scholarships

The Federal Highway Administration has announced plans to award approximately 115 fellowships/scholarships for graduate study in various facets of highway transportation and traffic engineering for the 1975-76 academic year. The amount of the scholarship may be as much as \$5,000. Applications may be obtained from the Federal Highway Administration, U.S. Dept. of Transportation.

**NOTICE:** If THE NEWS arrives late — or you forget to mail your dinner card — please call The Engineers' Club, PE 5-5234 and leave word for Mr. DeKovacs, Exec. Mgr., to reserve a dinner plate for you. Of course, you are welcome for the meeting later, if you are unable to have dinner. No reservation necessary.

**Free Beer and Refreshments at the Meeting**

Mail Reservation Cards Immediately — Win a FREE DINNER!

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

## DECEMBER MEETING

### The Dallas - Fort Worth Airport

The Philadelphia Section, ASCE must be doing something right! The remarkable meeting-attendance record still prevails, as over 200 members and guests, and Student Chapter representatives heard an enlightening talk on: "Planning, Design and Construction of the Dallas-Fort Worth Airport," at the regular Section meeting Tuesday, December 10, 1974 at the Engineers' Club. Principal speaker was Raymond J. Hodge, Partner, Tippetts - Abbet - McCarthy - Stratton, Engineers and Architects, Washington, D.C. The meeting was sponsored jointly by the Section's Structural and Construction Groups. Dr. Frederic Roll, Chairman of the Structural Group, was our very capable Program Host.

### DiGioia and McCall Guests

Honored guests were the recently inaugurated National ASCE Director, District 4, Dr. Anthony M. DiGioia; and Section Past President John E. McCall, whom Dr. DiGioia succeeded as National Director. Dr. DiGioia (he prefers to be called "Tony") is from the Pittsburgh ASCE Section, and he is President of General Analytics, Inc., Monroeville, Pa. The company specializes in soil mechanics and foundations, urban engineering and land use planning.

At the Section meeting, Dr. DiGioia presented brief remarks of welcome and pledged his total support, on the National Board, of the Section's objectives and initiatives. He also paid warm tribute to his predecessor, Jack McCall, for his outstanding 3-year tenure as Director. Mr. McCall earlier informed the Section Board of Directors that he is definitely **not** retiring from ASCE; rather, he will continue very active as a new member— at National President Sangster's request—of the important Professional Activities Committee.

At the Board of Directors meeting, Dr. DiGioia and Mr. McCall explained major issues under current discussion and consideration by the National Board. These include: development of information and guidelines on salaries (principally starting salaries) and fringe benefits for civil engineering employees. To a significant degree, this interest, among National ASCE and numerous Local Sections throughout the country, has been motivated by the widespread favorable acceptance and response to a splendid report published in March, 1972 by the Philadelphia Section's Special Committee on Employment Conditions. The publication, entitled: "Report on Salary, Fringe Benefit and Opinion Ques-

tionnaire," was based on the data returned in a poll of the Philadelphia Section membership on the employment issues. Chairman of the Committee was Joseph P. Welsh, Eastern Manager, SOILTECH DEPT., Raymond International, Inc.

### Villanova Shines

It was "Villanova University Night", and the Civil Engineering Department from that school turned out in force (about 75 attended) as the spotlight beamed on the ASCE Student Chapter, faculty and alumni. There were also large contingents of students from other colleges, notably the University of Pennsylvania and Drexel, to cheer — and jeer — their Villanova scholastic and athletics colleagues — and rivals.

Philadelphia Section Student Chapters Committee Chairman Dr. Robert Lynch, serving the dual capacity as Villanova's Faculty Advisor, introduced the Student Chapter officers and members, Contact Members, alumni and faculty. Prof. Richard H. Miller, Chairman of the Civil Engineering Department at Villanova, lauded the accomplishments of the Student Chapter, and reviewed its major activities. He advocated inter-college cooperation among the Civil Engineering schools; to pool resources and talents toward the advancement of progressive programs. Dr. Miller described the undergraduate curricula and the growing Master's Degree part-time graduate program in specialized categories such as structural, transportation, urban planning, and geotechnical studies.

### Dr. Gallen is Praised

A standing-applause tribute was accorded Dr. John J. Gallen, Dean of the College of Engineering at Villanova (and Past President of the Philadelphia Section) when he was called upon to speak. Dean Gallen will retire from his post in October, 1975. But he made it clear that he will maintain his ASCE association and activities to the fullest of his ability. With his characteristic wit and charm, Dr. Gallen mused and reminisced about his wonderful years at Villanova.

### Mr. Hodge Describes the Airport

Mr. Hodge's topic, one familiar to everyone in civil engineering, was the Planning, Design, and Construction of the Dallas-Fort Worth Airport. At this time, the partially completed airport has been in operation for eleven months. The need for the creation of a new airport in this region resulted from a 1965 Civil Aeronautics Board ruling that the Dallas-Fort Worth area build a new airport or restrict the number of daily flights. A committee consisting of four

Ft. Worth residents and seven Dallas residents (reflecting the relative population ratio) was selected to derive a plan. At this time, Mr. Hodge and TAMS became involved.

Selection of the site for the airport was made equidistant from both cities in a previously undeveloped area encompassing approximately 17,700 acres. Compatibility with the community and the environment was of major concern. Future projections pertaining to air-space, terminal configurations, highway alignments and noise contours were predicted by mathematical models to the year 2000. The initial design provides for capability of handling 12.5 million passengers annually by the year 1985 with possible expansion to an estimated 50 million passengers by the year 2000. Mr. Hodge emphasized the enormity of the project by stating that there is ultimate capacity for 260 passenger aircraft gates with six runways, four of which can be expanded from 11,300 feet to over 20,000 feet. The design of the airport was based on a "drive to the

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## PHILADELPHIA SECTION AMERICAN SOCIETY OF CIVIL ENGINEERS

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**COPY DEADLINE FOR  
FEBRUARY, 1975 ISSUE  
JANUARY 23, 1975**

## PHILA. WATER SYSTEM HONORED BY ASCE

The History and Heritage Committee of the Philadelphia Section is pleased to announce that its nomination of the Philadelphia Municipal Water Supply System (Beginnings) has been approved for designation as an ASCE National Historic Civil Engineering Landmark. In a recent letter, Executive Director Eugene Zwoyer notified Committee Chairman Sidney Robin of the Board of Direction's affirmative action on the recommendation of the National ASCE Committee on the History and Heritage of Civil Engineering.

The Philadelphia System was the first major municipal water works to employ steam-powered pumping methods, and later to install the first large-scale steam-driven water supply pumping system in the United States.

The nomination focused on the "Beginnings" of the Philadelphia Water System. It explored the first station — Centre Square — which was built in 1799 at the present site of City Hall. Operation started in 1801, and the station was demolished in 1829. Philadelphia at that time was the largest and most important city in the country, its greatest port, and the Capital of the United States. The second station — Fairmount Water Works — was built in 1812 and it is still in existence (though inoperative) beneath the Philadelphia Museum of Art in Fairmount Park. Operation at Fairmount started in 1815, and the Works was shut down in 1911.

The Section's History and Heritage

## DECEMBER MEETING

(continued from page 2)

gate" concept meaning that a passenger can be driven by automobile within 200 feet of his departure gate.

Mr. Hodge alluded to the more controversial aspects of the project such as the much publicized inefficiencies of baggage handling and the operating difficulties of the Air-Trans automated trains. These and other problems are presently being resolved. The airport has already acquired a nickname, "the two-bit airport" because of a 25c charge for phone calls, for riding the Air-Trans, or for simply entering the airport.

Mr. Hodge supplemented his talk with one of the best slide presentations the Philadelphia Section has had in recent years.

After a comprehensive question and answer period, President Quinn presented our distinguished speaker the Section's Certificate of Appreciation.

Committee for this project consisted, in addition to Mr. Robin, Chairman, of Phila. Water Department officials: Samuel S. Baxter, former Commissioner; Carmen F. Guarino, Commissioner; Samuel J. Schwartz, Assistant to the Commissioner and Water Dept. Historian, who conducted and authored all the research information for the nomination; and Raymond J. Harris, Administrative Assistant and Public Information Officer of the Water Dept.

Plans and arrangements are in process between the Committee and City officials and Departments to conduct two separate dedication ceremonies this Spring, to honor the Philadelphia Municipal Water System. One ceremony will take place in City Hall Courtyard as the site of Centre Square Station; and the other at the Fairmount Water Works site in Fairmount Park. High ASCE and City officials will be present at both ceremonies to affix bronze plaques at appropriate locations.

This is the second ASCE National Historic Civil Engineering Landmark award in recent years to a Philadelphia structure or project submitted by the Philadelphia Section's History and Heritage Committee. In 1970 the Frankford Avenue Bridge over Pennypack Creek received the award at an elaborate ceremony. The three-span structure was built in 1697, and it is the oldest stone arch bridge still in use on a modern highway in the United States.

THE NEWS will keep the Section Membership informed as plans for The Philadelphia Water System Landmark Award dedication ceremonies this Spring take final form.

## SECTION DUES REMINDER

Treasurer Theodore Davis thanks all those Section members who have remitted their dues promptly. It is also gratifying that so many voluntary contributions were made to the Section's Loyalty Fund.

Those who have not sent in their \$10.00 Section dues checks are asked to do so now. A reminder of this is scheduled to be sent out by National Headquarters to Phila. Section members who have as yet not paid. Why not obviate the necessity of this reminder by mailing your check (\$10.00) today — payable to: **Phila. Section, ASCE**, and mail to: Phila. Section, ASCE, Engineers' Club, 1317 Spruce St., Phila., Pa. 19107, or use the pre-addressed mailing envelope you received with the original bill.

Thank you for your cooperation.

## RUMPF elected ENGINEER-OF-THE-YEAR



The Philadelphia Section, ASCE is eminently proud that for the second successive year its nominee has been elected Engineer-of-the-Year in the Delaware Valley. The 1975 honoree is Dr.

John L. Rumpf, Dean of the College of Engineering Technology at Temple University. (The 1974 Engineer-of-the-Year was Lewis A. Caccese, Chief, Operations Division, Philadelphia District, Corps of Engineers). Dr. Rumpf will be honored during National Engineers' Week, February 16-22.

Dr. Rumpf, who was elected unanimously by delegates of 50 engineering and technical societies in Delaware Valley, was Professor and Head of the Department of Civil Engineering and Mechanics of Drexel University before joining Temple in 1969. He was associated with the department at Drexel for more than 20 years.

A recognized authority on steel structures, he has served as consultant to the Commonwealth of Pennsylvania, the City of Philadelphia, Montgomery county, and other political sub-divisions on designs and studies of numerous bridges in the State.

Dr. Rumpf's election was announced by Mr. Caccese, General Chairman for Engineers' Week observances in the Delaware Valley area.

At the election meeting, held in the auditorium of the Bell Telephone Building, on the Parkway, on November 19, 1974, the principal nominating speech was made by Dr. Richard E. Woodring, Dean of the College of Engineering, Drexel University. A seconding speech was delivered by Phila. Section Past President and Publications Chairman Sidney Robin. The talks cited Dr. Rumpf's achievements as an engineering educator, researcher, practitioner and administrator.

It was pointed out that Dr. Rumpf has had responsibility for directing the academic program in engineering technology at Temple since the University founded the new engineering college in 1969.

"In this position, he has used his leadership capability to define and gain ap-

(Continued on page 4)

**RUMPF ELECTED**

(Continued from page 3)

proval of the goals of engineering technology at Temple University and for the profession," the nominators said. "He has recruited a well qualified faculty, developed a substantial curricula, and attracted increasing numbers of students."

"He has also made a significant contribution to the design of steel structures through his research and subsequent active participation in specification writing for the design of high-strength bolted connections," ASCE said.

Dr. Rumpf has also held part-time appointments at Rittenhouse College of Pennsylvania State University and Lehigh University. His consulting practice has included complete structural design of several manufacturing and laboratory facilities as well as design and studies of bridges. He is a Registered Professional Engineer in Penna.

John has also served on the Lower Moreland Township Zoning Board and School District Authority. He served in the United States Army from 1943-1946, rising to the rank of Captain in the Corps of Engineers.

He is a graduate of Olney High School and Drexel University where he received his Bachelor of Science degree in Civil Engineering. He received his Master of Science degree from the University of Pennsylvania and his Ph. D. degree from Lehigh University.

Dr. Rumpf is married, has two sons, and lives at 1213 Red Rambler Road, Rydal, Pa.

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**CONTINUING EDUCATION COURSES**

As part of their Continuing Education Services, ASCE is offering four courses aimed at furthering your professional development and advancement. The courses will be offered in the following cities as follows:

- (1) "Land Use Planning" (4 day seminar)  
Dallas, Texas, March 9-13, 1975  
Atlanta, Ga., April 6-10, 1975  
Chicago, Ill., May 4-8, 1975
- (2) "Effective Marketing of Professional Services" (1 day seminar)  
Miami Beach, Fla., March 22, 1975  
Chicago, Ill., June 12, 1975  
Boston, Mass., June 18, 1975
- (3) "Design of Tornado Resistant Structures" (2 day seminar)  
Miami Beach, Fla., March 20-

21, 1975

Boston, Mass., June 16-17, 1975

- (4) "Engineering for Extreme Winds" (2 day seminar)

Chicago, Ill., June 13-14, 1975

All courses are scheduled from 9 A.M. to 5 P.M. ASCE members receive reduced fees and class size is limited. Registrations will be accepted on a first-come first serve basis.

For further information write or call Miss Gail Bays, Manager of Continuing Education Services, ASCE, 345 East 47th Street, New York, N.Y. 10017. Phone (212) 752-6800 Ext. 771.

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**CALL FOR NOMINATIONS**

The Philadelphia Section has been invited to nominate members to fill 1975 vacancies on National ASCE Professional Division Committees. Specific committees which will have a vacancy next year are as follows:

- Programs for Professional Sessions (COPPS)
- Public Relations (PRC)
- Guidance
- Technician and Technology Education (CT & TE)
- Minority Programs (COMP)
- Public Affairs and Legislation (CPA)
- Employment Conditions (COEC)

Nominations must be submitted on ASCE Biographical Information forms before February 1, 1975.

The nominee should be able to contribute and be interested in the work of the committee, have an understanding of its responsibilities and of the demands it will place upon his or her time and resources, and should agree to serve for the full term.

Members wishing to nominate candidates for these committees should contact Sid Robin, Editor, THE NEWS, for further information.

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**VILLANOVA STUDENT CHAPTER NEWS**

By: Joseph Cavaliere, President

The Villanova University Student Chapter is presently in the midst of a full program of meetings, social activities, and special events.

Other activities that have been held thus far include a welcoming back T.G.I.F. and a football game against Villanova's ASME Student Chapter.

**November Meetings**

On Thursday, November 7th, G. Joseph Hudert, from the Engineering Sciences of Baltimore, gave an interesting slide presentation on the Chesapeake Bay Bridge Project. Also on Tuesday, November 19th, Gene Gallagher ('73) and Dave Gensemer ('74) spoke on the Water Pump Project, which was the ASCE project of the year, last year.

On Tuesday, November 12th, the officers of the Villanova Student Chapter and Faculty Advisor, Dr. Robert Lynch, attended an officers meeting of the seven schools in our area. The meeting was held at the Engineers' Club in Philadelphia and proved to be a very worthwhile experience.

**Annual Football Rivalry**

On Saturday, November 23rd, Villanova played the Drexel University Student Chapter in the second annual Villanova-Drexel ASCE football game. The results were a little different this year, with Villanova winning in a very close game. It was a good opportunity for the students to make new friends and share different ideas. This event was held at the Drexel University Lodge in Newtown Square.

**December Meeting**

On Thursday, December 5th, Mr. Richard Hendricks, Design Engineer for the Dupont Company, will deliver a presentation at our final meeting of the semester. He will speak on the work being done by a Delaware Society of Professional Engineers Committee studying the Delaware Coastal Zoning Act of which he is Chairman.

All of these meetings begin at 7:30 P.M. and are open to anyone interested in coming. Refreshments are served following every meeting.

**Villanova Night**

On Tuesday, December 10th, the Villanova Student Chapter and Civil Engineering Dept. were honored by the Philadelphia Section. (Editor's note: See detailed writeup on this special Villanova University highlight on p. 2 of this issue of THE NEWS).

We are grateful to the Philadelphia Section for honoring Villanova University.

**TECHNICAL GROUP ACTIVITIES**

**Geotechnical Group**

Date: **January 21, 1975**

Engineers' Club — 7:15 P.M.

Subject: **Tarbela Dam**

Speaker: **Kalman Szalay, P.E.**, Associate Tippetts - Abbett - McCarthy - Stratton, (TAMS), N.Y. City, Head, Geotechnical Department

Program Host: **Alfred McClymont**, Chairman of Geotechnical Group

Mr. Szalay's presentation will describe the site selection, preliminary conceptual design, final design and construction of Tarbela Dam in Pakistan. The presentation will include over 100 slides taken at different stages of construction and details of the instrumentation of the main embankment.

**Hydraulics and Sanitary Group**

On November 19, 1974 the Group held a joint meeting with the Delaware Section, at the Brandywine Hilton Hotel on Naaman's Road in Delaware. The program speaker, **Lt. Col. James Newsom**, Deputy Chief of the Corps of Engineers, Philadelphia District, gave an excellent presentation on Tocks Island Dam. He reviewed the history of this important water resources project from the Corps' standpoint. It gave all those in attendance a better understanding of the Tocks Dam project. The meeting was well attended and the evening quite enjoyable.

**January Meeting**

Date: **January 16, 1975**

Engineers' Club — 7:30 P.M.

Informal dinner, Main Dining Room, 6:15 P.M.

Subject: **Dams and the Environment**

Speaker: **Will M. Heiser**, Partner, Justin & Courtney, Inc., and Vice President of the Phila. Section, ASCE

Program Host: **Alan Hess**, Chairman H and S Group

**Structural and Construction Groups**

Combined Groups Luncheon Meeting

Date: **Thursday, January 30, 1975**

Engineers' Club — 12:00 Noon

Subject: "Government Regulations on Construction"

Speaker: **Ben Dyess**, Director of Government Affairs, General Building Contractors Association of Philadelphia (GBCA)

Program Host: **Prof. Robert J. Stone**, Chairman of Construction Group

The meeting will start with lunch promptly at 12:00 o'clock followed by Mr. Dyess' talk at about 12:45. The meeting will adjourn at approximately 1:45.

The cost of the luncheon will be three dollars (\$3.00) payable at the meeting and will consist of soup, the plat du jour, dessert and coffee.

To facilitate the planning of this meeting, please let Dr. Stone know as soon as possible if you will attend by calling him at 787-7814.

**MEMBERS IN THE NEWS**

Prominent Section member **Joseph P. Welsh**, Eastern Manager, SOILTECH DEPT., Raymond International, Inc., and Chairman of the Committee on Employment Conditions, will be a speaker at a seminar on "Open Cut Construction", sponsored by the Construction Group and Foundations & Soils Group of the Metropolitan Section, ASCE. The seminar will be held on February 3-4 and 24-25, 1975, at the United Engineering Center, New York City. Mr. Welsh's lecture is entitled: "Soil Solidification."

A paper by Mr. Welsh: "Present State of the Grouting Industry in the United States" was recently published. It was presented at an Engineering Foundation Conference — "Foundations for Dams" — cosponsored by the National ASCE Geotechnical Engineering Division and the U.S. Committee on Large Dams. The conclave was held at the Asilomar Conference Grounds, Pacific Grove, Cal., March 17-21, 1974.

Joe has been reappointed to the Committee on Grouting of the ASCE Geotechnical Engineering Division for a two year term beginning October 1, 1974.

**CENTRAL JERSEY BRANCH**

New Jersey Section - ASCE  
(Formerly Trenton Branch)

**January Meeting**

**Tuesday, January 21, 1975**

Fellowship ..... 6:00 P.M.

Dinner ..... 6:30 P.M.

Meeting ..... 7:30 P.M.

Holiday Inn, Route 1, (near Route 1 and Route 130 circle), North Brunswick, New Jersey

Topic:

**Transportation in New Jersey — 1975**

Speaker: **Mr. Manuel X. Carballo**, Deputy Commissioner, New Jersey Department of Transportation

All Central Branch and New Jersey and Philadelphia Section members, wives and guests are cordially invited to attend. Please get your reservations in by Friday, January 17, 1975 to David E. Christian, Secretary Central Jersey Branch, 146 W. Richardson Avenue, Langhorne, Pa. 19047. Phone (215) 757-7802. The dinner will be stuffed Philadelphia Capon and will cost \$7.50 per person.

P.S. Don't forget "Princeton Nite" February 18, 1975. This is usually one of the best meetings of the year for students and members.

**ASCE PUBLICATIONS AVAILABLE**

Listed below are descriptions of several publications which might be of interest to the Section membership:

**SUBSURFACE EXPLORATION FOR UNDERGROUND EXCAVATION AND HEAVY CONSTRUCTION**

Proceedings of the Engineering Foundation Conference held at Henniker, N.H. August 11-16, 1974

This new ASCE publication contains the 31 papers presented at the conference. The papers presented, by U.S. and foreign experts in the field, deal with all aspects of the subject which is of considerable concern and interest to

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**PUBLICATIONS AVAILABLE**

(Continued from page 5)

the tunnelling and foundations community.

The presentations made at the various sessions cover the philosophy of planning and making subsurface measurements, exploration methods, in-situ stress determination in soils, novel techniques, soft ground tunnelling, and application of seismic investigation.

Soft bound, 5½ x 8½ inches, 408 pages. Subject and author indexes. ASCE Members' price - \$5.00.

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**STUDY OF DAMAGE TO A  
RESIDENTIAL STRUCTURE FROM  
BLAST VIBRATIONS**

A report has been issued by the Research Council on Performance of Structures, Committee on Research of the ASCE, prepared by John F. Wiss and Harry R. Nicholls in collaboration with the United States Bureau of Mines.

A primary objective of this test project was to study, under carefully controlled conditions, the effects of earth-borne blast vibrations upon a residential structure. Another objective was to compare the propagation characteristics of earth-borne blast vibrations, when the explosive was detonated in soil, with the extensive information already available on blasts in bedrock.

The residence under study was subjected to progressively more intense blast vibrations until damage was observed. Existing cracks in the residence were documented and changes in crack width were measured. Dynamic recordings were made of the blast vibrations in the earth, basement, interior and exterior walls, and of strains in the interior gypsum wallboard.

The list price of this 80-page book is \$4.00 with a 50% discount for members; the price for libraries is \$3.00. ASCE Members' price - \$2.00.

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**MATHEMATICAL MODEL OF  
AGGREGATE PLANT PRODUCTION**

This informative and timely book was prepared under the auspices of the Engineering Foundation and the American Society of Civil Engineers.

It presents a unique method of constructing a mathematical model for analyzing and optimizing aggregate plant production. The author presents first the computer production model and flow stream analysis along with the concerned subroutines used in constructing the model. Sample analyses are made for open-circuit and closed-circuit plants. In the second part of the book the meth-

od is applied to actual operating plants and gives a detailed comparison between the predicted and sampled results. An appendix gives a detailed description of the computer production model.

Soft bound 5½ x 8½ inches, 115 pages. List price \$6.00 with 50% discount to members. ASCE Members' price - \$3.00.

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**FOUNDATIONS FOR DAMS**

The Engineering Foundation's Conference on "Foundations for Dams" that was held in March 1974 concerned itself with difficult foundation problems and foundation grouting. Both subjects are of continuing interest as "good sites" are becoming scarce and the need for larger dams is increasing.

The Proceedings of this Conference are now available from ASCE in a 472-page soft bound book with detailed subject and author indexes. ASCE Members' price - \$6.00.

Copies of these publications may be obtained by writing to ASCE, 345 East 47th Street, New York, N.Y. 10017. Enclose check payable: American Society of Civil Engineers.

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**CIVIL ENGINEERING for 1975**

The Section Membership may be interested in the following list of major articles covering the entire year of 1975 which will appear in CIVIL ENGINEERING, as you plan meeting and program activities:

**January — Management & Other Professional**

In 1974, ASCE and other professional societies sparked introduction of key amendments to the landmark Pension Bill. ASCE suspended members cited for illegal or unethical political contributions. Matters of engineering management, salaries, fringe benefits, career continuing education were in the news. What's coming in professional news in 1975? Here's a preview.

**February — Engineering Equipment, Office & Field**

News in hardware and techniques in surveying, mapping and drafting. Including roundup on use of laser equipment in surveying and construction.

**March — Structures**

Including preview of ASCE's annual Structures Convention, to be held in New Orleans in April.

**April — Marine Technology**

Preview of the Offshore Technology Conference to be held in Houston in May; its focus is the booming offshore oil and gas industry. Also featuring

news of waterways, harbors, and the coastal zone.

**May — Water Resources**

Dams, canals, pipelines, tunnels, hydro power, irrigation and drainage, storm drainage — all are the domain of the civil engineer. Here we single out a few top projects, problem areas, trends.

**June — Outstanding Civil Engineering Achievement of the Year**

Cover story on 1975's top CE project. Will it be the Dallas-Ft. Worth Intercontinental Airport? San Francisco's BART regional transit system? Some water resources or ecology-related project?

**July — Timely Topics**

Many subjects newsworthy in July 1975 had not come to attention when this was written in April 1974. Here's an issue focusing on some recent developments.

**August — Land Use Planning**

As this is written Congress is expected, possibly in 1974, to pass a National Land Use Planning Act. If we are to have an acceptable and even desirable environment, land use planning will be part of the success formula. As designers and builders of man's works, civil engineers are key people in this work.

**September — Special Issue: Better Use of Materials and Energy**

Even such everyday materials as good aggregates are in short supply in some areas. And we have learned that energy and environment must be used prudently. Here are a dozen articles focusing on conserving and recycling.

**October — Soils & Foundations**

This seemingly most prosaic of subjects is in fact one of the most interesting, and one of those presenting the toughest challenges. What's new here? Featured are unusual projects and key trends.

**November — Transportation. Highways, Seaports, Public Transit, Airports, Pipelines**

Civil Engineers build them all. These are the arteries tying the nation together and having much to do with her economic and social success. Here are case histories reporting some of the newest and most interesting projects.

**December — Construction Materials & Equipment**

Among the key construction materials — steel, cement, wood, plastic — what are the major new trends, problems projects? Is any new class of construction equipment so changing construction practice as to effect design? These questions will be asked in planning this issue.