

**COMPLETE PROGRAM DETAILS
&
REGISTRATION FORMS INSIDE**



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GENERAL INFORMATION**CONVENTION HEADQUARTERS**

The Conrad Hilton Hotel is the Headquarters Hotel.

- All Technical Sessions and Exhibits will be held at the Conrad Hilton Hotel.
- All Continuing Education Courses will be held at the Pick Congress Hotel, which is approximately one block away from the Conrad Hilton.
- For Committee Meetings, check agendas and Information Center.

REGISTRATION

Weekly Registration	Pre-Reg	On Site
Member, ASCE	\$50.00	\$55.00
Member, Founder Societies	\$50.00	\$55.00
Non-Member, ASCE	\$60.00	\$65.00

Weekly registration includes admission to all technical sessions, and exhibit area, Sunday afternoon Open House Reception, the Monday evening Icebreaker Party and a publications ticket worth \$1.

Daily Registration	Pre-Reg	On-Site
Member, ASCE	\$20.00	\$20.00
Member, Founder Societies	\$20.00	\$20.00
Non-Member, ASCE	\$25.00	\$25.00

Daily registration includes admission to all technical sessions and exhibit area on the day(s) chosen, the Monday evening Icebreaker and publications ticket worth \$1.

PRE-REGISTRATION

There is a Pre-Registration Form on Page 25. The use of this form for advance Convention registration is advantageous to you in that it entitles you to lower Convention registration fees and ensures tickets to the various activities. It will also save you time at the Convention because your badge and tickets will be prepared in advance and there will be no waiting in line.

These conveniences can only be accomplished if you mail the Pre-Registration Form, together with your check, prior to October 2, 1978. Pre-registrations will not be accepted after this date. On-site registration will be available at the Convention. Keep in mind, however, that pre-registration saves money and time.

Accompanying Spouses Registration

Pre-Reg \$15.00 On-Site \$15.00
Spouses registration includes admission to the Open House Reception, the Monday evening Icebreaker Party and the Ladies Hospitality Room — where refreshments will be served each day and a special souvenir will be given to each lady registrant.

Student Registration

On-Site Only \$3.00
Student registration includes admission to all technical sessions, the exhibit area and the Student Hospitality Room.

CONTINUING EDUCATION REGISTRATION

All courses will be held, October 16 through 20, 1978 at the Pic Congress Hotel, 520 South Michigan Avenue, Chicago. Refer to Pages 27-36 for full details, registration and hotel information.

SPEAKER REGISTRATION

Special registration facilities will be available for Speakers. All Speakers are requested to register in the Speakers Room. If a Speaker has pre-registered, badge and tickets will be prepared in advance and will be available for pick-up in the Speakers Room.

REGISTRATION TIME AND PLACE

Conrad Hilton Hotel	Chicago, Illinois
Sunday	12 Noon-5:00 p.m.
Monday	7:00 a.m.-6:00 p.m.
Tuesday	7:00 a.m.-5:30 p.m.
Wednesday	7:30 a.m.-6:00 p.m.
Thursday	7:30 a.m.-5:30 p.m.
Friday	7:30 a.m.-2:30 p.m.

HOTEL RESERVATIONS

To insure accommodations, use Hotel Reservation Form, Page 26. A block of rooms is being held at the Headquarters Hotel (Conrad Hilton) for ASCE Convention attendees with Continuing Education Course participants and overflow at the Pic Congress Hotel, 520 South Michigan Avenue, Chicago, Illinois, approximately one block away from the Conrad Hilton Hotel. Refer to Page 34 for Pick Congress Hotel Reservation Form.

TICKET SALES

Tickets to all special events and ladies events should be ordered with your pre-registration form.

CANCELLATIONS AND REFUNDS

Cancellations of pre-registrations will be accepted, if received prior to October 2, 1978. Refunds of fees will be made promptly by mail.

SPEAKERS ROOM

All Speakers, Presiding Officers and Session Assistants are requested to check in and register in the Speakers Room. This will give ample opportunity to verify all audio visual arrangements. The Speakers Room will be open concurrently with Convention registration.

NEWS ROOM

A News Room will be maintained from 7:30 a.m. to 5:30 p.m. daily at the Conrad Hilton Hotel. All News-Media representatives are requested to check in for assistance.

ASCE PUBLICATIONS CENTER

Copies have been prepared of those papers submitted in advance by authors and will be on sale at the Society's Publications Center at \$1 each. After the Convention, copies can be obtained, while they last, from ASCE Headquarters. ASCE publications and jewelry will also be on sale.

LADIES HOSPITALITY HEADQUARTERS

The place to meet other ladies attending the Convention. This room will be staffed daily from 8:30 a.m. to 4:00 p.m. by Illinois Section Hostesses. Start your day here with a continental breakfast, meet your friends and plan the day's activities from the Hospitality Headquarters.

MESSAGE CENTER

Messages will be held for members at the Information Message Center. Announcements seeking individuals cannot be made during sessions.

Telephone No. 312-922-4400

HOSPITALITY AND INFORMATION CENTER

Hospitality and Information Center will advise guests of how to get to the various places by commercial tours, public transportation or private automobile. It will also advise on restaurants and assist attendees in making his or her visit a most pleasant one.

CIVIL ENGINEERING EXPOSITION ...**CExpo '78**

The ASCE Civil Engineering Exposition, an added attraction to the Society's Annual Convention, will be a Showcase of Materials, Equipment and Services for the Engineered Construction Market. Supplement information and discussions generated from technical sessions by a visit to CExpo '78. See page 18 for partial list of exhibitors.

Exhibit Hours

Tuesday October 17	11:00 a.m. to 2:30 p.m. 4:30 p.m. to 6:00 p.m.
Wednesday October 18	11:00 a.m. to 2:30 p.m. 4:30 p.m. to 6:00 p.m.
Thursday October 19	11:00 a.m. to 3:00 p.m.

TRANSPORTATION FROM AIRPORTS

Chicago has three airports, two of which are commercial and the third is private.

If you fly into O'Hare Airport, several modes of transportation will take you downtown. Taxis, coaches, buses and trains make the 18 mile run into the loop throughout the day and evening hours.

Three Continental Air Transport routes serve downtown hotels. One way fare is currently \$2.75.

Taxi rides to downtown Chicago take approximately 30 to 40 minutes.

If you do not choose to fly into O'Hare, Midway Airport, Chicago's original airport is located on the city's southwest side about seven miles from the loop. Limousines carry visitors to downtown hotels. Rental cars and taxis are also available.

Meigs Field, located on a peninsula in Lake Michigan adjacent to the Loop serves private carriers travelling within a 500-mile radius of the City. McCormick Place is opposite Meigs Field. Taxi service is available.

All three airports service private aircraft.

PARTICIPATING ORGANIZATIONS

- Portland Cement Association
- American Concrete Institute

PROGRAM MATRIX FOR 1978 ANNUAL MEETING, CHICAGO, ILL. OCT. 16-20, 1978

Session Number #	MONDAY AM OCT. 16										P A C	MONDAY PM OCT. 16										TUESDAY AM OCT. 17										TUESDAY PM OCT. 17										WED. AM OCT. 18	WEDNESDAY PM OCT. 18										THURSDAY AM OCT. 19										THURSDAY PM OCT. 19										T E R Z A G H	FRIDAY AM OCT. 20										P A C	FRIDAY PM OCT. 20															
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DIVISIONS & COUNCILS																																																																																																				
Aero Space																																																																																																				
Air Transport																																																																																																				
Computer Practices																																																																																																				
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Lifeline Earthquake Engineering																																																																																																				
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Surveying and Mapping																																																																																																				
Urban Planning and Development																																																																																																				
Urban Transportation																																																																																																				
Water Resources Planning and Mngmt.																																																																																																				
Waterway, Port, Coastal and Ocean																																																																																																				
Portland Cement Association																																																																																																				
Structural Engineers Assoc. of Illinois																																																																																																				
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Steel Manufacture																																																																																																				
PROFESSIONAL ACTIVITIES																																																																																																				
ANNUAL BUSINESS MEETING																																																																																																				

• Sponsoring Unit/Primary Area ○ Related to Primary Area

SPECIAL

OPEN HOUSE RECEPTION

An opportunity to meet your hosts for the Chicago Convention at this informal get-together.

KEYNOTE LUNCHEON

William R. Gibbs, *Presiding*
Ted M. Brown, *Toastmaster*
Admiral Stansfield Turner, *Speaker*

ICEBREAKER PARTY

A *No Charge* event. Enjoy the hospitable, social atmosphere.



ENGINEERING EDUCATION BREAKFAST

Topic: Teaching Engineering Design
Dwight A. Sangrey, *Presiding*
Elmer F. Ballotti, *Speaker*

HONORARY MEMBERSHIP LUNCHEON

David A. Novick, *Presiding*
Walter E. Blessey, *Toastmaster*
Presentation of Certificate to newly Elected Honorary Members.

ANNUAL BANQUET & PRESIDENTS RECEPTION

The Highlight of the Convention:

- Reception for President and newly elected Honorary members
- Dinner
- Entertainment featuring Broadway and TV star, *Dom DeLuise*
- Chicago Civil Engineers of the Year Award
- Dancing

FIELD TRIPS



CHICAGO AERIAL SURVEY

Observation of procedures in preparation of maps and drawings, aerial photography equipment and complex technical equipment.



BETHLEHEM STEEL CORPORATION

Tour of facilities including open hearth, slabbing mill and hot and cold strip mills.

SPECIAL SESSION HIGHLIGHTS

"Cracking, Grouting and Seepage Control in Embankment Dams"

1. Engineering Geology and Rock Mechanics (Session 15)
2. Properties, Placement and Improvements of Soils in Embankment Construction-Part I (Session 25)
3. Properties, Placement and Improvements of Soils in Embankment Construction-Part II (Session 37)
4. Grouting of Embankment Dams (Session 46)
5. Safety of Dams (Session 58)
6. A Review of Possible Causes of Failure of Teton Dam (Session 68)



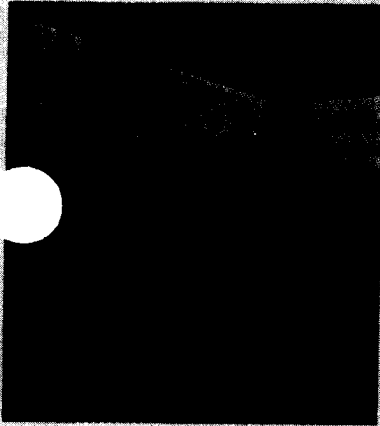
EVENTS

METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

Tour of West-Southwest Sewage Treatment Works for examination of activated sludge facilities, heat drying units, excavation and barge loading.

PORTLAND CEMENT ASSOCIATION

Tour of International Headquarters — one of the world's largest cement and concrete research facilities



ARGONNE NATIONAL LABORATORY

... of nation's largest federally d, research & development Center for physical, biomedical and environment sciences.

CONTINUING EDUCATION FOR MEN & WOMEN

A New Dimension In Communications — Parts I & II Faculty — Reba Holm of Verbal Communications, Inc.



A group of Texas women have created a storm of excitement with their unique approach to communications technique. *Fascinating! Provocative! Fun!*

ANNUAL BUSINESS MEETING

Opening Ceremony

Inaugural Address — *President Walter E. Blessey*

Report to Membership — *Executive Director, Eugene Zwoyer*

Highlights of Past Year — *Retiring President, William R. Gibbs*

Session: *Dam Safety Update*



ACCREDITATION FORUMS

Civil Engineering

ASCE Committee on Curricula & Accreditation

Russel C. Jones, Presiding

Engineering Technology

ASCE Subcommittee on Technology Curricula

John D. Antrim, Presiding



PRELIMINARY EVENTS SCHEDULE

		8:30-11:00 A.M.	9:00 A.M.-5:00 P.M.	11:00 A.M.	12:30 P.M.-2:00 P.M.	2:30 P.M.-5:00 P.M.	
	Board of Direction					SUN. Open House Reception	
MONDAY OCTOBER 16	Welcome to Chicago	1 Community Dev 2 Rel. Assess. Struct. Fatigue 3 Liquid Storage Tanks 4 Coastal Engng 5 Soil-Struct. Interaction 6 Energy Policy 7 Const. Impacts on Society 8 Transit Opn. & Efficiency 9 Res. & Reality in WR 10 Grd. Water Aquifers • Student Session	Continuing Education • Building Effect Work Project Teams • Effective Marketing of Professional Services • Field Instrumentation for Soil & Rock Mechs. • A New Dimension In Communications I & II • Construction Cost Estimating and Bidding • Effective Program Implementation • Engineer As An Expert Witness	PAC Session A Career Assessment & Planning For The Young Engineer	KEYNOTE LUNCHEON	11 Urb. Planning Guide 12 Tall Buildings 13 Wind Effects on Struct. 14 Research Needs 15 Eng. Geol. Rock Mechs. 16 Prof. Const. Man. 17 Major Activity Center Improvements 18 Regional Water Qual. 19 Proj. Formulation 20 Lifelines & Earthquakes • Field Trip: Chicago Aerial Survey • Spouses: Museum of Science & Industry Tour	ICEBREAKER PARTY
TUESDAY OCTOBER 17	Engineering Education Breakfast	21 State-of-Art. Planning 22 Reinf. Conc. Joints 23 Load & Res. Factor Des. 24 Res. Goals for Next Decade 25 Embankment Const. I 26 Fract. Mechs-Nuclear React. Vessels 27 Tunneling & Underground Construction 28 Traffic Surveillance & Control 29 Env. & Energy Considerations 30 Compact. for IR Water 31 Engr. as Manager 32 Exhibitors Sess. • Spouses Long Grove Village Tour & Lunch	Continuing Education • Construction Cost Estimating and Bidding • Environmental Program Implementation • Improving Employer Performance • Inspection of Pile Installation & Concrete Operations • Personal Estate Planning	Exhibits Opening		33 Engrg. Ethics 34 Prestressed Conc. Segmental Bridges 35 Response to Blast Shock 36 Offshore Positioning 37 Embankment Const. II 38 Inelastic Resp. of Concrete 39 Const. Contracts 40 Transp. Safety & Res. 41 WR-Systems Anal. 42 Environ. Mgmt. 43 Aerospace Sluct. • Field Trip: Bethlehem Steel • Field Trip: S.W. Sewage Treatment Works	
WEDNESDAY OCTOBER 18		ANNUAL BUSINESS MEETING	• Spouses Highlights of Chicago Tour	Exhibits	HONORARY MEMBERSHIP LUNCHEON	44 Prestressed Conc. Slabs 45 Inelastic Behavior Tubular Mbrs. & Structures 46 Grouting 47 Earthquake & Wind Engrg. Similarities 48 Water & Wastewater Technology I 49 Cost Est. & Control 50 Lake Michigan Water Resource 51 Remote Sensing Case Studies 52 State-of-Art. Fuel Technology 53 Non-Point Sources • CE Accreditation Forum • CE Technology Accreditation Forum • Field Trip: Portland Cement Assn.	ASCE DINNER-DANCE
THURSDAY OCTOBER 19		54 Hydraulic Fracturing Process I 55 Precast Concrete 56 Long Span Steel Bridges 57 Toxic Air Pollutants 58 Safety of Dams 59 Dynamic Response of Structures 60 Water & Wastewater Technology II 61 Advanced as Technology 62 Objectives. WR Planning 63 Employment Conditions • Spouses Oak Park Tour	Continuing Education • Managing & Resolving Conflict • Professional Liability & Loss Prevention • Seepage Control By Chemical Grouting • Construction Claims • Analysis-Presentation Defense • The Design & Construction of Reinforced Masonry Structures • Engineering Economics • Site Planning • Wastewater Facility Planning	Exhibits		64 Shear & Tors. Prestressed Conc. 65 Reinf. Ice Struct. 66 Minicomputers 67 Hydraulic Fracturing Process II 68 Teton Dam: Possible Failure Causes 69 Solid Waste Mgmt. 70 High Strength Concrete 71 Urban Water Research 72 Educ. & Training 73 Wind Engineering 74 Rehabilitation of Streets • Field Trip: Argonne National Lab.	TERZAGHI LECTURE
FRIDAY OCTOBER 20		75 Risk & Reliability 76 Cooling Tower Shells I 77 Elec. Computation 78 Water Supply & Waste Disposal I 79 Soil Sampling 80 Reclamation of Coal lands 81 Project Engineering 82 Offshore Airports 83 Traffic & Highway Safety	Continuing Education • Construction Claims: • Analysis Presentation Defense • The Design & Construction of Reinforced Masonry Structures • Engineering Economics • Site Planning • Wastewater Facility Planning	PAC Session B Discussion of Joint Contract Documents		84 Timber Structures 85 Water Supply & Waste Disposal II 86 Cooling Tower Shells II 87 Storm Water Management 88 Software Center 89 Power Plant Siting 90 Short Haul Air Transp. 91 New Applications for Highways	

**SATURDAY-SUNDAY
OCTOBER 14-15**

OPEN BOARD MEETING IN CHICAGO

Members of the Society planning to arrive prior to the opening of the Chicago Annual Convention & Exposition are invited to observe the ASCE Board of Direction Meeting on October 14-15, 1978. Certain agenda items will be considered during executive session. The meeting will be held in the Beverly Room on the third floor of the Conrad Hilton Hotel. Come early if you are interested.

**SUNDAY AFTERNOON
OCTOBER 15**

**SUNDAY OPEN HOUSE
2:00 p.m. — 4:00 p.m.**

Take the opportunity to meet your hosts for the Chicago Convention. Coffee, punch and cake will be served at this informal get-together. Illinois Section members and their ladies will meet and greet visiting members, their spouses and guests.

**MONDAY MORNING
OCTOBER 16**

WELCOME TO CHICAGO

8:00 a.m.

Waldorf Room

Hear about the "City" of mile high buildings and the birthplace of Frank Lloyd Wright's Prairie House. Find out what Chicago is ... a Picasso, a Chagall and a Calder getting together on Dearborn Street ... the home of the world's greatest symphony orchestra and the nation's finest collection of French Impressionist printings ... corn, oats, soybeans, plywood and gold trading ... six major league teams with the eternal hope of a winning season. Hear about the week's highlights and how you can enjoy your convention trip.



**MONDAY MORNING
OCTOBER 16**

Session No. 18:30 a.m.

**Innovations in Community
Development**

Bel Air Room

Urban Planning and Development Division
Presiding:

8:30 Cooperative Decision Making for Local Capital Improvement Programming: G. A. EMISON, Planning Policy Coord. Montgomery County Council, Rockville, MD

9:00 Business Planning for a Coordinated System of Municipal Utility Districts: G.W. TROXELL, Friendswood Dev. Co., Houston, TX

9:30 New Opportunities in Neighborhood Development: MICHAEL SHYMANSKI, Environment 7, Ltd., Chicago, IL
10:00

HARRY WEISS, Architect, Chicago, IL

Session No. 28:30 a.m.

**Reliability Assessment in
Structural Fatigue**

Parlor C

Structural Division — Committee on Fatigue and Fracture Reliability

Presiding: JAMES T.P. YAO, Purdue Univ., W. Lafayette, IN; JANN N. YANG, George Washington Univ., Washington, DC

8:30 Fatigue and Brittle Fracture Criteria for Temporary Steel Stringer Bridges: L.I. KNAB, Res. Civil Engr., Bldg. Safety Sec., Cent. for Bldg. Tech., Nat'l. Bur. of Stnds., Washington, DC; W.H. MUNSE, Prof., Dept. of Civil Engrg., Univ. of IL, Urbana, IL; and S.T. ROLFE, Prof. and Head, Dept. of Civil Engrg., Univ. of Kansas, Lawrence, KS

9:00 A Formulation of Random Fatigue: J.P. TANG, Prof. and Chmn., Civil Engrg. Dept., Nat'l. Central Univ., CHUNG-LI, Taiwan

9:30 Fatigue and Reliability Criteria for Transit Structures: A.T. LE, Sen. Engr., Tudor Engrg. Co., San Francisco, CA

10:00 Quality Assurance and Maintainability in Fatigue and Fracture Reliability: W.G. BYERS, Bridge Eng., The Atchison, Topeka, and Sante Fe Railway Co., Amarillo, TX; J.N. YANG, Assoc. Prof., Dept. of Civil Engrg., George Washington Univ., Washington, DC; and P. H. WIRSCHING, Assoc. Prof., Aerospace and Mechanical Engrg. Dept., The Univ. of Arizona, Tucson, AZ

10:30 Fatigue Evaluation of Existing Railroad Bridges in Switzerland: M.A. HIRT, Departement de genie civil, Ecole Polytechnique Federale de Lausanne

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10:30 Fatigue Evaluation of Existing Railroad Bridges in Switzerland: M.A. HIRT, Departement de genie civil, Ecole Polytechnique Federale de Lausanne

Session No. 38:30 a.m.

**Seismic Behavior and Design of
Liquid Storage Tanks**

Parlor B

Structural Division — Committee on Dynamic Forces

Presiding: ROBERT D. HANSON, Dept. of Civil Engrg., Univ. of Michigan, Ann Arbor, MI

8:30 Behavior of Cylindrical Liquid Storage Tanks During the 1977 Argentina Earthquake: VITELMO V. BERTERO, Dept. of Civil Engrg., Univ. of California, Berkeley, CA

8:55 Basis for Current and Proposed Design Codes: ROBERT S. WOZNIEK, Chicago Bridge and Iron Co., Oak Brook, IL, and WARREN W. MITCHELL, Standard Oil Co. of California, San Francisco, CA

9:20 Experimental Observations on Seismic Response of Cylindrical Tanks: RAY W. CLOUGH and AKIRA NIWA, Dept. of Civil Engrg., Univ. of California, Berkeley, CA and DOUGLAS P. CLOUGH, Dept. of Civil Engrg., Univ. of New Hampshire, Durham, NH

9:45 Analytical Studies of Seismic Response of Cylindrical Tanks: ANESTIS S. VELETOS and J.W. TURNER, Dept. of Civil Engrg., Rice Univ., Houston, TX

10:10 Finite Element Analysis of Cylindrical Tanks of Seismic Response: WILLIAM A. NASH, Dept. of Civil Engrg., Univ. of Massachusetts, Amherst, MA

10:35 Design of Storage Tanks for Earthquake Loadings — Panel Discussion: V.V. BERTERO, R.W. CLOUGH, R.D. HANSON, W.A. NASH, A.S. VELETOS and R.S. WOZNIAC

Session No. 48:30 a.m.

**Coastal Engineering in the Great
Lakes**

Lake Michigan Room

Waterway, Port, Coastal and Ocean Division

Presiding:

8:30 Design Wave Information in the Great Lakes: DONALD T. RESIO

9:00 Observations on Low Cost Shore Protection in Michigan: ERNEST F. BRATER

9:30 Profile and Sediment Stability for a Glacial Till Beach Nourishment Sand: WILLIAM WOODS

10:00 Storm Surge Studies on the Great Lakes: DAVID J. SCHWAB

10:30 The Lakefront Plan of Chicago: Opportunities and Problems in Implementation: RUSSEL DAVENPORT

Session No. 58:30 a.m.

**Design and Performance of Special
Structures with Complex Loading
and Soil-Structure Interaction**

Waldorf Room

Geotechnical Engineering Division — Earth Retaining Structures Committee and Shallow Foundations Committee

Presiding: WOODLAND G. SHOCKLEY, U.S. Army Corps of Engrs., Waterways Experiment Station, Vicksburg, MS

8:30 Measured and Predicted Response of a Buried Flexible Structure: E.T. SELIG, Prof., Univ. of Mass., Amherst, MA, and C.S. CHANG, Asst. Prof., State Univ. of New York, Buffalo, NY

**MONDAY MORNING
OCTOBER 16**

**CONTINUING EDUCATION FOR MEN AND WOMEN
A NEW DIMENSION IN COMMUNICATIONS
— PART I**

9:00 a.m.-12 Noon Pick Congress Hotel

Faculty: Reba Holm, Verbal Communications, Inc., Dallas, Texas.

A group of Texas women have created a storm of excitement with their unique approach to communications techniques! They have been profiled in Ladies Home Journal, Successful Meetings and International Management magazines among others, as well as in numerous newspaper articles. They've appeared on talk shows and have been featured at countless conventions. Besides travelling nationally, corporations have asked them to present programs in Vienna, Mexico City, the islands of Nassau and St. Maarten, and in Japan. The consensus is always the same: "Fascinating ... provocative ... fun."

Wherever they go, whenever they present a program it is a conversational topic for the entire convention ... and after. Their common sense, practical communications ideas give people new insight into how to deal with spouses, children, community and business associates.

So, we are delighted that Reba Holm of Verbal Communications, Inc., will be here on October 16 to present this program.

Price Per Person \$20.00

See Pages 27-36 (Continuing Education) for full details.



BIRGER SCHMIDT and WALTER GRANTZ, Parsons, Brinckerhoff, Quade & Douglas, Inc., San Francisco, CA, and New York, NY

9:30 Fondedile Reticulated Pali Radice Structures to Correct Landslides and Slope Instabilities: F. LIZZI, Chf. Engr., Fondedile, S.A., Boston, MA

10:00 Reinforced Abutments — Their Design and Performance: VICTOR ELIAS, Vice Pres., Engrg., The Reinforced Earth Co., Washington, DC

10:30 Cellular Bulkheads in Deep Sands: W.L. SCHROEDER, Prof., Oregon State Univ., Corvallis, OR and JAMES K. MAITLAND, Cnsltg. Engr., Corvallis, OR

Session No. 6 8:30 a.m.

National Energy Policy Panel

Parlor A

Committee on National Energy Policy
Presiding: RICHARD N. BERGSTROM, Sargent & Lundy, Chicago, IL
A panel presentation will be developed related to national policy on energy that will be of a timely nature for the Convention.

Session No. 7 8:30 a.m.

Construction Impacts on Society

Private Dining Room No. 2

Construction Division
Presiding: E.R. LEWANDOWSKI, Bureau of Reclamation, Denver, CO

8:30 Social and Economic Impacts of Construction — A Research: DARRELL ADAMS, Bureau of Reclamation, Denver, CO

9:00 Preservation of Historic Sites During Construction: WARD WEAKLY, Bureau of Reclamation, Denver, CO

9:30 Health Considerations During Construction: ARIEL E. MORELLI, Council for Airport Opportunity, New York, NY

10:00 Cost of Preparing Environmental Impact Statements: ENNO KOEHN, Prof., Ohio Northern Univ., Ada, OH

10:30 Sedimentation Aspects of Construction Excavation and Dredging: WALTER KONON, Prof., New Jersey Inst. of Technology, Newark, NJ

Session No. 8 8:30 a.m.

Transit System Operation and Efficiency

Astoria Room

Urban Transportation Division
Presiding: MILTON PIKARSKY, Chmn., Regional Transit, Chicago, IL

8:30 CTA Vehicle Maintenance System: TERRY MCGUIGAN, Supervisor of Vehicle Maintenance System, Chicago Transit Authority, Chicago, IL

9:00 Strategies for Improving Operational Efficiency in Rapid Transit Systems: (Note: Baltimore System) HARVISON HUNT, Mngr., Safety and Systems Assurance, DMJM/KE, Baltimore, MD

9:30 Evaluation of High Occupancy Vehicles and Facilities: MORRIS J. ROTHENBERG, Vice Pres., JHK & Associates, Alexandria, VA

10:00 Transit System Productivity: An Assessment of the State-of-the-Art: ALINDA BURKE, Vice Pres., Public Technology, Inc., Washington, DC

iority Techniques for High Occupancy Vehicles — A Technology-Sharing Demonstration in Four Cities: GARY HEBERT, Public Technology, Inc., San Jose, CA

Session No. 9 8:30 a.m.

The Gap Between Research and Reality in Water Resources

Private Dining Room No. 4

Water Resources Planning and Management Division — Committee on Research and Information

Presiding: YORAM GORDON, Reston, VA

8:30

LEO EISEL, Dir., U.S. Water Resources Council, Washington, D.C.

9:00

NEIL GRIGG, Dir., Water Resources Research Center, Durham, NC

9:30

G.K. YOUNG, Prncpl., Chf. Exec. Offcr. GKY Assoc., Alexandria, VA

10:00

JERRY R. SCHUBEL, Dir., Marine Sci. Rsch. Cntr., Stony Brook, NY

Session No. 10 8:30 a.m.

Competition For Ground Water Aquifers — Case Histories of Utilization or Destruction

Private Dining Room No. 3

Irrigation and Drainage Division

Presiding: TOM BUCHANAN, Asst. Chf. Hydrologist for Opers., USGS, Reston, VA

8:30 Gravel as a Building Material vs.

Ground Water Recharge Media: STANLEY SAYLOR, Chf. Engr. and Mngr. Alameda Cnty. Water Dist., Fremont, CA

9:00 Gravels as a Building Material vs. Ground Water Storage Media: MUN J. MAR, Acting Gen. Mngr., Alameda Cnty. Flood Control Dist., Hayward, CA

9:30 Destruction of Coal Aquifers in North Central Powder River Basin, Wyoming and Consequent Impact on Ground Water Flow: JAMES MARIE, Chf. Hydrologist, Investigations Sect., Water Resrcs. Div., USGS, Cheyenne, WY

10:00 Ground Water Resources of Northwestern Colorado, Energy vs. Agriculture: JOSEPH J. D'LUGOSZ, Hydrologist, Water Resrcs. Div., USGS, Denver Federal Central, Lakewood, CO

10:30 Present Accelerated Use of Ground Water vs. Future Use in Utah: CALVIN G. CLYDE, Prof. of Civil Engrg., Utah Water Resch. Lab., Utah State Univ., Logan, UT and JOHN E. KEITH, Assoc. Prof. of Economics, Utah State Univ.

PAC Session A 11:00 a.m.

Career Assessment and Planning for the Young Engineer

Parlor A

Presiding: MICHAEL N. GOODKIND, Proj. Mngr., Alfred Benesch & Co., Chicago, IL

STEPHEN C. MITCHELL, Vice Pres., Lester B. Knight & Assoc. Inc., Chicago, IL

WALTER W. FARRELL, Prtnr., Eskenazi & Farrell Assoc., Chicago, IL

JOHN MCNICHOL, Pres., McNichol Assoc., Philadelphia, PA

WILLIAM H. SANDARS, Deputy Dir., Water Div., U.S. Environmental Protection Admn. Rgn. 5, Chicago, IL

**MONDAY AFTERNOON
OCTOBER 16**

Session No. 11 2:30 p.m.

Urban Planning Guide

Hotel Air Room

Urban Planning and Development Division
Presiding: RICHARD HOWE, Prof., Univ. of Texas at San Antonio

2:30 Planning: A Process for Managing: GENE WILLEKE, Dir. of Envir. Studies, Univ. of Miami of Ohio, Oxford, OH

2:50 Planning: A Process for Managing: JAMES MEEK, Chf., Prog. Dev. Brch., Water Planning Div., U.S. EPA, Washington, DC

3:00 Tools for Planning: SIGURD GRAVA, Parsons, Brinckerhoff, Quade & Douglas, Inc., New York, NY

3:30 Tools for Planning: C. THOMAS KOCH, Pres., C. Thomas Koch, Inc., Blanco, TX

3:50 The Institutional Setting: JOHN G. MORRIS, Pres., J.G. Morris Envir. Engrs., Glen Ellyn, IL

4:10 The Institutional Setting: RICHARD S. HOWE, Prof. and Dir., Envir. Studies, the Univ. of Texas at San Antonio, San Antonio, TX

4:30 Evaluating Intangibles: PAOLO F. RICCI, Dept. of Geography and Regl. Planning, Univ. of Ottawa, Ottawa, Ontario, Canada

Session No. 12 2:30 p.m.

Downtown Plazas and the Environmental Impact of Tall Buildings

Parlor C

Structural Division — Committee on Tall Buildings

Presiding: FAZLUR R. KHAN, Partner, Skidmore, Owings and Merrill, Chicago, IL

2:30 Highrise Impact Study in Chicago: HAROLD A. SIMON, Prof. of Energy Engrg., Univ. of Illinois at Chicago Circle, Chicago, IL

3:05 User Evaluation of Chicago Downtown Plazas: FRANK J. SMITH, Sears and Roebuck Co., Chicago, IL

3:40 The Plaza As A Public Amenity — A New York City Experience: RAQUEL RAMATI, Dir., Urban Design Group, Dept. of Planning, City of New York, New York

4:15 Evaluation of Effects of Tall Buildings on Pedestrian Level Wind Environment: N. ISYUMOV and A.G. DAVENPORT, Univ. of Western Ontario, London, Ontario, Canada

Session No. 13 2:30 p.m.

Wind Effects on Structures

Parlor B

Structural Division

Presiding: RICHARD A. PARMELEE, Prof., Dept. of Civil Engrg. Northwestern Univ., Evanston, IL

2:30 Wind Induced Motion of a Tall Office Building: W. ALAN DALGLIESH, Div. of Bldg. Rsrch., Natl. Rsrch. Council of Canada, Ottawa, Canada

3:00 Wind Loads on Cladding: MICHAEL D. FLYNN, Sen. Assoc., I.M. Pei & Ptnrs., New York, NY

SHOR C. MEHTA, Prof., Dept. of Civil Engrg., Texas Tech Univ., Lubbock, TX
4:00 The Structural Design of Cable-Supported Roofs for Wind Loading: FAZLUR R. KHAN, J. ZILIS and A. ROKACH; Skidmore, Owings & Merrill, Chicago, IL
4:30 The Assessment of Wind Forces on Cable-Supported Roofs: ALAN G. DAVENPORT, D. SURRY and N. ISYUMOV; Profs., Faculty of Engrg. Sci., Univ. of Western Ontario, London, Canada

Session No. 14 2:30 p.m.

Research Needs

Lake Michigan Room

Waterway, Port, Coastal and Ocean Division

Presiding: DUNCAN HAY, Dir., Western Canada Hydraulic Laboratories, Ltd., Port Coquitlam, B.C.

2:30 Research Needs in Inland Waterways: JOHN ANDREW, Water and Environmental Consultants, Inc., Fort Collins, CO

3:05 Some Specific Research Needs in Coastal Engineering: THORNDIKE SAVILLE, Coastal Engrg. Research Center, Fort Belvoir, VA

3:40 Some Specific Research Needs in Deep Ocean Engineering: DON KEACH, Inst. of Marine and Coastal Studies, Univ. of So. Calif., Los Angeles, CA

4:15 Research Needs in Ports and Harbors:

Session No. 15 2:30 p.m.

Cracking, Grouting and Seepage Control in Embankment Dams: Engineering Geology and Rock Mechanics

Waldorf Room

Geotechnical Engineering Division — Committee on Rock Mechanics; Joint ASCE-GSA-AEG Committee on Engineering Geology

Presiding: JOHN A. FOCHT, JR., McClelland Engrs., Inc., Houston, TX

2:30 The Influence of Cracks and Vugs on the Permeability of Rock: R.E. GOODMAN, Prof., Univ. of Calif., Berkeley, CA, and P.N. SUNDARAM, Asst. Prof., Univ. of Wisconsin, Milwaukee, WI

2:55 Geotechnical Monitoring of Groundwater Conditions: F.D. PATTON, Cnsltg. Engrg. Geologist, F.D. Patton Consultants Ltd., West Vancouver, B.C., and J.D. MC FARLANE, Vice Pres., Westbay Instruments Ltd., West Vancouver, V.C.

3:20 Foundation Treatment for Embankment Dams: D.U. DEERE and ANDREW H. MERRITT, Cnsltg., Don U. Deere and Andrew H. Merritt, Inc., Gainseville, FL
3:45 Rock Mechanics Considerations in the Design and Analysis of Embankment Dams: T. THARP, J.L. VON THUN and G. SCOTT, U.S. Bur. of Reclamation, Denver, CO

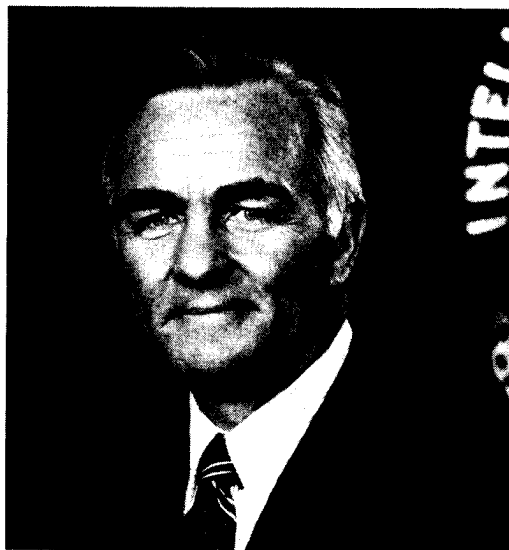
4:10 Treatment of Solution Features in a Multiple Limestone Dam Foundation, Patoka Lake Project, Indiana: B. KELLY and S. MARKWELL, Louisville Dist. Corps of Engrs., Louisville, KY

4:35 Teton Dam Foundation Geology: R.J. FARINA and F.J. ROUTE, U.S. Bur. of Reclamation, Denver, CO and B.H. CARTER and D.N. MAGLEBY, U.S. Bur. of Reclamation, Boise, ID

RETROFURNITURE

12:30 p.m.

Presiding: William R. Gibbs, President, ASCE
Toastmaster: Richard A. Pavia, President, Illinois Section, ASCE



Speaker: Admiral Stansfield Turner, Director, C.I.A.
Price Per Person: \$10.50

**CONTINUING EDUCATION FOR MEN AND WOMEN
A NEW DIMENSION IN COMMUNICATIONS
— PART II**

2:00-5:00 p.m.

Pick Congress Hotel

Faculty: Reba Holm, Verbal Communications, Inc., Dallas, Texas.

Because of the great demand for a follow-up program to the successful "A New Dimension in Communications," Verbal Communications, Inc., is offering this opportunity. A natural follow-through to the concepts developed in Part I. Part II carries on the techniques to a deeper and a more advanced level. Group communications, techniques, body language and other stimulating exercises are offered.

Price Per Person: \$20.00

See Pages 27-36 (Continuing Education) for full details.



**MONDAY AFTERNOON
OCTOBER 16****FIELD TRIP: CHICAGO AERIAL SURVEY**

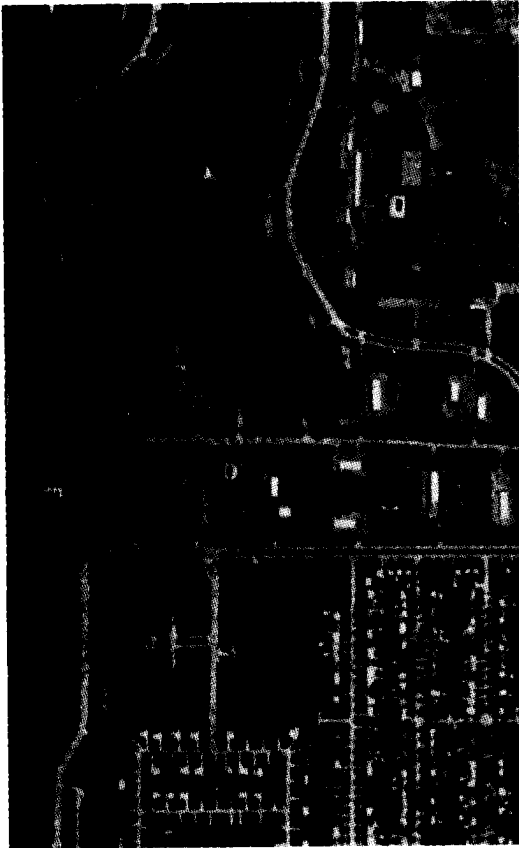
2:30 p.m. to 5:00 p.m.

An observation of the procedures utilized in the preparation of maps, the equipment used in aerial photography and the complex technical equipment utilized in the preparation of the final drawings and maps.

Buses depart hotel 2:30 p.m.

Price \$3.50 per person

This trip is limited to 50 persons and will be on a first-come, first-served basis.

**MONDAY EVENING
OCTOBER 16****ICEBREAKER PARTY**

6:00-7:30 p.m.



This is your opportunity to renew old acquaintances and make new friends. It is an event that will nurture the friendly hospitable atmosphere that prevails at ASCE meetings. It's all social, all fun, all great.

*No Charge.***Professional Construction
Management****Private Dining Room No. 2**

Construction Division

Presiding: D.S. BARRIE, Professional Construction Mgmt. Comm. Chmn.**2:30 Task List for Professional Construction Managers:** J.D. MADSEN**3:05 Evaluating PCM Firm Potential and Performance:** C.B. TATUM**3:40 Specification for Professional Construction Management Service:** KENATH KETTLE**4:15 Case Study of a Professional Construction Management Project:** JAMES V. GUIDICE**Session No. 172:30 p.m.****Major Activity Center
Improvements****Astoria Room**

Urban Transportation Division

Presiding: WALTER KRAFT, Vice Pres., Edwards and Kelcey, Inc., Newark, NJ**2:30 Planning a Downtown People Mover System for Houston:** BARRY GOODMAN, Adminstr. of Publ. Trans., Houston, TX**3:00 TSM Measures for Major Activity Centers:** WALTER KUDLICK, Vice Pres., DeLeuw, Cather & Co., San Francisco, CA**3:30 Activity Center Improvements in Detroit:** ROBERT P. HICKS, Dept. of Trans., Planning & Traffic Engrg. Detroit, MI**4:00 CBD Transportation Centers — A Functional Assessment:** RICHARD J. HOCKING and BRIAN S. BOCHNER, Barton-Aschman Assoc., Inc., Evanston, IL**Session No. 182:30 p.m.****Case Studies in Regional Water
Quality Planning****Private Dining Room No. 4**

Water Resources Planning and Management Division — Committee on Water Resources Systems

Presiding: RICHARD MALES, W.E. Gates and Assoc., Batavia, OH**2:30 Political and Technical Considerations in Waste Load Allocation for Regional Water Quality Management in Northeastern Wisconsin:** H.J. DAY, College of Environmental Sci., Univ. of Wisconsin at Green Bay, Green Bay, WI; WILLIAM ELMAN, Exec. Dir., Fox Valley Water Planning Agency; D. THEILER and R. CHRISTIANSEN, Wisconsin Dept. of Natural Rsrscs.**3:00 Fifteen Years to Fruition:** MICHAEL B. SONNEN, Prncpl. Engr. Water Rsrscs. Engrs., Inc., Walnut Creek, CA; DAVID C. JOSEPH, Exec. Ofcr, Calif. Regl. Water Quality Control Bd., North Coast Reg., Santa Rosa, CA**3:30 Use of Wetlands for Water Resource Management in Florida's Kissimmee River Basin:** DOUGLAS C. AMMON, Grad. Ass't., WAYNE C. HUBER, Assoc. Prof., and JAMES P. HEANEY, Assoc. Prof., Dept. of Environmental Engrg. Sci., Univ. of Florida, Gainesville, FL**Quality Problems on the Urban Fringe:** DARRYL R. GOEHRING, Planning Proj. Mngr., New Castle Country Areawide Waste Treatment Mngmt. Pgm., Newark, DE; ROBERT F. CARR, Proj. Mngr., MCA Engrg. Div. of Kidde Cnslts., Inc., Newark, DE**4:30 The Consideration of Waste Load Location Issues in Statewide 208 Planning for Ohio:** C.A. WILHELM, Chf., Office of the Planning Coordinator, Ohio Environmental Protection Agency., Columbus, OH; W.E. GATES, Pres., W.E. Gates and Assoc., Fairfax, VA; P.D. KOCH, Vice Pres., W.E. Gates and Assoc., Batavia, OH**Session No. 192:30 p.m.****Project Formulation Principles****Private Dining Room No. 3**

Irrigation and Drainage Division — Committee on Project Formulation

Presiding: DAVID B. PALMER, Head, Land Rsrscs. Div., Harza Engrg. Co., Chicago, IL**2:30 Definitions:** JAMES N. KRIDER, Water Mngt. Eng.-Irrigation, U.S. Soil Conservation Service, Broomall, PA**3:00 Project Need and Objectives:** GEORGE R. BAUMILI, Chf., Png. Br., Calif. Dept. of Water Rsrscs., Los Angeles**3:30 Physical Resources:** KARL R. KLINGELHOFER, Chf., Flood Plain Mngmt. and Special Proj. Br., U.S. Soil Conservation Service, Washington, DC**4:00 Plan Formulation:** W. MARTIN ROCHE, Supervisory Civil Engr., Water Quality, U.S. Bur. of Reclamation, Sacramento, CA**Session No. 202:30 p.m.****Lifelines and Earthquakes****Parlor A**

Technical Council on Lifeline Earthquake Engineering

Presiding: ANSHEL J. SCHIFF, Prof. of Mechanical Engrg., Purdue Univ., Lafayette, IN**2:30 Lifeline Reliability in Seismically Active Regions:** MARTIN C. DUKE, KENNETH W. CAMPBELL, Univ. of Calif., Los Angeles CA; RONALD L. EGUCHI, J. H. Wiggins Co.**2:50 Seismic Analysis of Lifelines by Interference Response Spectra:** IVAN NELSON and PAUL WEIDLINGER, Weidlinger Assoc.**3:10 Estimation of Water and Transportation System Earthquake Vulnerability:** IRVING J. OPPENHEIM, Dept. of Civil Engrg., Carnegie-Mellon Univ.**3:30 Seismic Shaking of Buried Pipelines:** MICHAEL O'ROURKE, and LEON R.L. WANG, Dept. of Civil Engrg., Rensselaer Polytechnic Inst.**3:50 Effects of Power System Changes on Seismic Response:** ANSHEL J. SCHIFF, Dept. of Mechanical Engrg., Purdue Univ., and DONALD E. NEWSOM, Argonne Natl. Lab.**4:10 Evaluation of the Seismic Stability of Earth Dams:** BOLTON H. SEED, Dept. of Civil Engrg., Univ. of Calif.**4:30 Analysis of Traveling Wave Effects on the Three-Dimensional Response of Soil/Structure Systems:** STUART D. WERNER, L.C. LEE, Agabian Assoc.; H.L. WONG and M.D. TRIFUNAC, Univ. of Calif., Los Angeles, CA

**TUESDAY MORNING
OCTOBER 17**

Session No. 21 8:30 a.m.

**State-of-the-Art in Planning
Lower Summit Room**

Urban Planning and Development Division
Presiding:

8:30 State-of-the-Art in Regional Land Use Planning Techniques: WILLIAM POWERS, Univ. of IL Dept. of Urban and Regl. Plng.

9:00 State-of-the-Art in Land Suitability Analysis: LEWIS D. HOPKINS, Asst. Prof., Dept. of Landscape Architecture and Inst. for Environmental Studies, Univ. of IL at Urbana-Champaign, IL

9:30 State-of-the-Art in Low Income Housing Planning: LEONARD F. HEUMANN, Asst. Prof. of Urban and Regl. Plng. of the Housing Resch. and Dev. Prgm., Univ. of IL at Urbana-Champaign, IL

10:00 A Civil Engineer's View of Planning: THOMAS B. BERNS, Berns, Clancy and Assocs., Urbana, IL

Session No. 22 8:30 a.m.

Behavior and Design of Reinforced Concrete Joints

Parlor C

Structural Division — Committee on Masonry and Reinforced Concrete

Presiding: JAMES O. JIRSA, Univ. of Texas at Austin, Austin, TX

8:30 Slab-Column Connections Under Cyclic Loading: NEIL M. HAWKINS, Dept. of Civil Engrg., Univ. of Wash., Seattle, WA

9:00 Behavior and Design of Slab-Column Connections: MARVIN E. CRISWELL, Dept. of Civil Engrs., Colorado State Univ., Fort Collins, CO

9:30 Current Practice for Detailing Reinforced Concrete Joints: WILLIAM C. BLACK, Bethlehem Steel Corp., Bethlehem, PA

10:00 Design Requirements for Various Joint Problems: JAMES K. WIGHT, Dept. of Civil Engrg., Univ. of Mich., Ann Arbor, MI and LORING A. WYLLIE, JR., H.J. Degenkolb and Assoc., 350 Sansome Street, San Francisco, CA

10:30 Beam-Column Joints — A Progress Report: JAMES O. JIRSA, Dept. of Civil Engrg., The Univ. of Texas at Austin, Austin, TX

Session No. 23 8:30 a.m.

Load and Resistance Factor Design for Steel Buildings

Parlor B

Structural Division — Committee on Metals
Presiding: WILLIAM A. MILEK JR., Dir. of Engrg. Rsrch., Amer. Inst. of Steel Constr.

8:30 Load and Resistance Factor Design for Steel: R.V. GALAMBOS, Prof. and Chmn., Civil Engrg. Dept., Wash. Univ., St. Louis, MO

9:00 Teams: J.A. YURA, Prof. of Civil Engrg., Univ. of Texas, Austin, TX

9:10 L.R.F.D. Criteria for Plate Girders: PETER B. COOPER, Prof., Dept. of Civil Engrg., Kansas State Univ., Manhattan, KS

9:30 L.R.F.D. Criteria for Steel Beam Columns: REIDAR BJORHOVDE, Assoc. Prof., Dept. of Civil Engrg., Univ. of Alberta, Edmonton, Alberta, Canada

9:50 Composite Beam Criteria In L.R.F.D.: W.C. HANSELL, Structural Consultant, Bethlehem Steel Corp., Bethlehem, PA

10:10 L.R.F.D. Criteria for Connections: J.W. FISHER, Prof., Dept. of Civil Engrg., Lehigh Univ.

10:30 Wind and Snow Factors for Use in L.R.F.D.: C.A. CORNELL, Prof. of Civil Engrg., M.I.T.

Session No. 24 8:30 a.m.

Surveying and Mapping Research Goals for the Next Decade

Private Dining Room No. 3

Surveying and Mapping Division

Presiding: ROGER DWYER, Asst. Chf., Rocky Mt. Mapping Cntr., USGS, Denver, CO

8:30 Land Surveying Research Needs — Next Decade: ROSCOE B. SNEDEKER, Asst. Dir., Geometrics Service Cntr., Dept. of Agri., Salt Lake City, UT

8:55 Surveying from Space in the Next Decade: JAMES COLLINS, Dir., Coastal Zone Mapping Prgm., Natl. Oceanic & Atmospheric Admin., Rockville, MD; PHILIP GUS, Cartographer, USGS, Reston, VA

9:20 Geodetic Surveying in the Next Decade: DAVID F. MEZERA, Assoc. Prof., Dept. of Civil Engrg., Texas A & M Univ., College Sta., TX

9:45 Research Needs in Oceanographic and Hydrographic Surveying and Charting: HAROLD D. PALMER, Assoc., Dames & Moore, Washington, DC

10:10 A Proposed Program for Sustained Research in Engineering Surveys: JOSEPH P. BURNS, P.E., Cnsltg. Eng., Minneapolis, MN

10:35 Overview, the Next Ten Years in Surveying and Mapping Research: MORRIS THOMPSON, Former Chf., Office of Rsch. and Tech. Stnds., USGS, Reston, VA

Session No. 25 8:30 a.m.

Cracking, Grouting and Seepage Control in Embankment Dams: Properties, Placement and Improvements of Soils in Embankment Construction — Part I

Waldorf Room

Geotechnical Engineering Division — Soil Properties Committee; Placement and Improvement Committee

Presiding: E.T. SELIG, Prof., Civil Engrg., Univ. of Massachusetts, Amherst, MA

8:30 Physical Chemistry of Dispersive Clay Particle Interaction: R.F. YONG and A.J. SETHI, Geotechnical Rsrch. Cntr., McGill Univ., Canada

7:30 a.m.

Sponsored by ASCE Education Division

Presiding: Dwight A. Sangrey, Professor of Civil and Environmental Engineering, Cornell University, Ithaca, NY; Chairman, ASCE Committee on Curricula and Accreditation

Speaker: Elmer F. Ballotti, Partner, Greeley and Hansen, Chicago, IL

Topic: Teaching Engineering Design — The Practitioner-Educator Team Approach at Cornell University

Course work in engineering design is an essential part of all ECPD-accredited engineering programs, both basic and advanced. This "early-bird" session will outline how several teams of consulting engineers and faculty members teach engineering design to graduate civil engineering students at Cornell University.

All members are invited to join in the discussion of this and other examples of interchange between practice and education at this no-host continental breakfast.

Price Per Person: \$4.50



COUNCIL OF PRESIDENTS

All Section/Branch Presidents are invited to attend the 4th Annual Council of Presidents. This is a unique opportunity for all local associations to meet and exchange 1978 plans with national leaders. Sections and Branches are being asked to send their President's visit to this important meeting as so many did last year.

SCHEDULE

Tuesday, October 17

Registration

1:15-1:50 p.m. "1977-1978 Review"

1978 President William P. ...

2:00-4:30 p.m. 2 Briefing Sessions

4:30-5:00 p.m. Summary Session

Wednesday, October 18

8:00-12 Noon Annual Business Meeting

2:30-4:30 p.m. 2 Briefing Sessions

4:30-5:00 p.m. Summary Session

"1978 Plans"

1979 President Walter E. ...

Plan now to attend this Annual Council of Presidents

(For additional information contact Carl E. ... Director, Field Services)

**TUESDAY MORNING
OCTOBER 17**

9:00 Dispersive Soil Problems at Los Esteros Dam: T. N. MC DANIEL, U.S. Corps. of Engrs., Albuquerque, NM and R.S. DECKER, Hoskins, Western, and Sonderger, Lincoln, NB

9:30 Tensile Properties of Compacted Soils: M.M. AL-HUSSAINI and F.C. TOWNSAND, U.S. Corps. of Engrs., Waterways Experiment Sta., Vicksburg, MS

10:00 Design of Filters for the Protection of Dams Against Internal Erosion: P.R. VAUGHEN, Imperial College, London, England

10:30 Current Trends for Evaluation of Soil Properties for the Impervious Material in Central Core Embankment Dams: J.L. SHERARD, Consulting Engr., Devonshire, Bermuda

Session No. 26 8:30 a.m.

Application of Fracture Mechanics to Nuclear Reactor Vessels

Private Dining Room No. 4

Engineering Mechanics Division
Presiding: GEORGE C. SIH, Lehigh Univ., Bethlehem, PA and Z. BAZANT, Northwestern Univ., Evanston, IL

8:30 On Slow Crack Growth in Nuclear Materials: T.R. HSU, The Univ. of Manitoba, Canada

9:05 Stress Intensity Factors for Nozzle Corner Flaws: G.T. EMBLEY, Gen. Elec. Co., New York, NY

9:40 Growth Characteristics of Surface Flaws: G.C. SIH, Lehigh Univ., PA
10:15

Session No. 27 8:30 a.m.

Tunneling and Underground Construction

Parlor A

Construction Division
Presiding: RICHARD D. HARZA, Pres., Harza Engrs. Co., Chicago, IL

8:30 Tunnel and Reservoir Plan — The Need, Dev. and Fncng: B.T. LYNAM and F.C. NEIL

8:50 Design, Subsurface Exploration and Special Geotechnical Requirements: R.S. LA RUSSO and F.E. DALTON

9:10 Construction Status Mining Rates and Significant Events: J.I. IRONS and R.C. ANSANI

9:30 Mainstream Tunnel System — Contractors Report on Progress and Construction Techniques: J. KENNY, Kenny Constr. Co. and E.W. BRICKLE of Jarva

nelling Experience Application — Nationwide Panelists: F.C. NEIL, R.S. LA RUSSO, J. KENNY, E.W. BRICKLE and N. DAHLMAN

Session No. 28 8:30 a.m.

Urban Traffic Surveillance and Control

Bel Air Room

Urban Transportation Division
Presiding: SIGMUND ZIEJEWSKI, Dist. Engr. IL Dept. of Trans., Div. of Highways/Dist. I, Schaumburg, IL

8:30 Freeway Surveillance and Control in the Chicago Area: JOSEPH McDERMOTT, Dist. Traffic Surveillance Engr., IL Dept. of Trans., Oak Park, IL

9:05 Chicago CBD Traffic Control Project: RON POOLE, Proj. Engr., Chicago Dept. of Streets & Sanitation, Bur. of Street Traffic, Chicago, IL

9:40 Arterial Master Traffic Surveillance and Control: J.L. SCHLAEFLI, Gen. Mgr., Applied Trans. Systems, Inc., Gulf & Western Industries, Inc., Palo Alto, CA

10:15 Sensitivity Analysis of Selected Transportation Control Strategies in the San Francisco Bay Area: ROBERT MAXMAN and DARWIN STUART, Barton-Aschman Assoc., Inc., Evanston, IL

Session No. 29 8:30 a.m.

Environmental Aspects of Water Use and Related Energy Considerations

Private Dining Room No. 2

Water Resources Planning and Management Division — Committee on Impact Analysis
Presiding: WAYNE MACROSTIE, Carmichael, CA

8:30 Energy-Water Pollution Interactions: G. KENNETH YOUNG and JOHN PHILIPPE, Cnsltg. Engrs., GKY and Assoc., Inc., Alexandria, VA

9:00 Denver Water Development and Associated Energy Impacts: WILLIAM TOLLE, Dir., Engrg. and Const., Denver Water Dept., Denver, CO

9:30 Water Resources Impacts of Once-Through Cooling Systems in Thermal Power Plants: THOMAS QUINN, Dir., Energy Waste Coordination Unit, New York State Dept. of Environmental Conservation, Albany, NY

10:00 Environmental and Engineering Aspects of Pumped Storage Power Generation Utilizing Water Supply Reservoirs: BELMONT CUCULO, Prncpl. Engr., Pumped Storage, Power Auth., State of New York, New York, NY

10:30 Cost of Conserving Water in Power Generation: KENNETH HENWOOD, Rsrch.

lif. Engr. Comm., ROBERT MITCHELL, R.W. Beck and Assoc., Sacramento, CA and Denver, CO

Session No. 30 8:30 a.m.

Increased Competition for Irrigation Water

Lake Michigan Room

Irrigation and Drainage Division — Committee on Irrigation Water Requirements
Presiding: R.D. BURMAN, Prof. of Agricultural Engr., Univ. of Wyoming

8:30 Long Term Implications of Energy and Municipal Demands on Agricultural Irrigation Water: RONALD K. BLATCHLEY and LAWRENCE H. WOODBURY, Blatchley and Assoc., Denver, CO

9:05 Competition for Irrigation Water: GEORGE L. CHRISTOPULOS, Wyoming State Engr., Cheyenne, WY

9:40 Irrigation System Rehabilitation and Competition for Water in the Teton Flood Area: J.R. BUSCH, R.G. ALLEN and C.E. BROCKAWAY, Univ. of Idaho, Moscow and Kimberly, ID

10:15 The Influence of State Water Right Transfer Laws on Irrigation Water Requirement Calculations: W.R. HASFURTHER and R.D. BURMAN, College of Engrg., Univ. of Wyoming, WY

Session No. 31 8:30 a.m.

The Engineer as a Manager

Upper Summit Room

Engineering Management Division — Committees on Engineering Management at the Project Level and Engineering Management at the Organizational Level and Professional Activities Committee

Presiding: KEITH E. MCKEE, IIT Rsrch. Inst., Chicago, IL

8:30 The Role of the Civil Engr. as Project Manager, Overview: KENT LANDE, Kirkham, Michael & Assoc., Minneapolis, MN; *In Industry:* JAMES BOYLE, E.I. DuPont De Nemours & Co. Inc., Wilmington, DE; *In Private Practice:* LOUIS APOLDO, Dames & Moore, Cranford, NJ; *In Research & Education:* HAROLD PRITCHETT, Oregon State Univ., Corvallis, OR

9:45 Civil Engineering Organizations, Overview: MEL HENSEY, Org. Cons., Cincinnati, OH; *For Government:* WILLIAM FLATHAU, Waterways Experiment Sta., Vicksburg, MS; *For the Cnsltg. Engr.:* KENNETH GIBBLE, Besier & Gible, Old Saybrook, CT; *Data Processing for Mngmt. in Engrg. Org.:* LARRY BENNETT, Univ. of Alaska, AK

Session No. 32 8:30 a.m.

Exhibitors Forum — New Advances in Technology

Astoria Room

Participating exhibitors only of CExpo '78 will make 10-minute technical presentations on new technology, development and application relative to their products and services. Discussion will resume at each exhibitor's booth in the Exhibit Hall.

The final program will include a listing of exhibitors' papers and speakers.



Reversal of Chicago River, 1900 — National Historic Civil Engineering Landmark.

**TUESDAY AFTERNOON
OCTOBER 17**

Session No. 33 2:30 p.m.

Engineering Ethics: Education, Examples, Expectations

Upper Summit Room

Professional Activities Committee, Illinois Section, ASCE

Presiding: STEPHEN MITCHELL, Vice Pres., Lester B. Knight & Assoc., Chicago, IL.; ERNEST T. D'ANJOU, Proj. Mngr., Cntr. for the Study of Ethics in the Professions, IL Inst. of Tech. Chicago, IL

2:30 Recent Developments in Ethics Education for Engineers: VIVIAN WEIL, Research Associate, Center for the Study of Ethics in the Professions, IIT, Chicago, IL

2:50 Obligations to the Public: WILLIAM WISELY, Dept. of Civil Engineering, University of Florida, Gainesville, FL

3:10 Examples of Current Ethical Problems: (not yet selected)

3:30 Audience and Speaker Discussion:

4:00 Panel Discussion: Conflict Between Courts and Code

Panel members: RUSSEL C. JONES, Dean, School of Engineering, Univ. of Mass. Amherst, MA, EDWIN LAYTON, Prof., Dept. of Mech. Engrg., Univ. of Minnesota, Minneapolis, MN, ARTHUR SAWINSKI, Ass't. Prof. of Philosophy, Ill. Inst. of Tech., Chicago, IL, (Representative Dept. of Justice — to be named)

Session No. 34 2:30 p.m.

Prestressed Concrete Segmental Bridges

Parlor C

Structural Division — Committee on Masonry and Reinforced Concrete

Presiding: JAMES R. LIBBY, James R. Libby and Assoc., San Diego, CA

2:30 Koro-Babelthuap Bridge, Design and Construction: MAN-CHUNG TANG, Geyerhoff and Widmann, Inc., New York, NY

3:00 Concrete Segmental Bridge in Colorado: CAPE BENSON, Internatl. Engrg. Co., Inc., Denver, CO

3:30 Pasco-Kennewick Bridge: ARVID GRANT, Arvid Grant and Assoc., Inc., Olympic, WA

4:00: Bridge Construction Computer Program: JEAN C. DUTERTRE, Eurpouse Etudes, Boulogne Billancourt, France

4:30 Analysis of Curved Segmental Concrete Box Girder Bridges: A.C. SCORDELIS, and S.F. VAN ZYL, Univ. of California, Berkeley, CA

EXHIBITS OPEN

11:00 a.m. to 2:30 p.m.

4:30 p.m. to 6:00 p.m.

Session No. 35 2:30 p.m.

Structural Response to Blast and Shock

Parlor B

Structural Division — Committee on Dynamic Forces

Presiding: PETER K. DAI, TRW Defense and Space Systems Group, Redondo Beach, CA

2:30 Structural Response to Blast and Shock — a State-of-the-Art: P.K. DAI, TRW Defense and Space Systems Grp., Redondo Beach, CA; M.S. AGABIAN, Agabian Assoc., El Segundo, CA and H.F. COOPER, JR., RDA, Washington, DC

2:45 Analysis of Blast Waves in Shallow Buried Ducts: ALLEN L. KUHL, TRW Defense and Space Systems Grp., One Space Park, Redondo Beh., CA

3:00 Ground Shock Effects from Multiple Explosive Detonations: JIMMIE L. BRATTON, JAMES S. PHILLIPS, SAI, Albuquerque, NM

3:15 Probabilistic Design of Rock Cavity Reinforcement Under Repeated Ground Shock Loading: M.B. BALACHANDRA, Princpl. Engr., Agbagian Assoc., El Segundo, CA; C.F. BAGGE, Vice Pres. Systems Engrs., Agabian Assoc., El Segundo, CA

3:30 Response of Steel Girder Bridges to Airblast Loading: JAMES M. WATT, JR., U.S. Army Engrg. WW Experiment Sta., Corps of Engrs., Vicksburg, MS

3:45 Structural Damage Caused by Typhoons Thelma and Vera in Taiwan, 1977: C.W. CHANG, S.T. CHEN and S.T. MAU, Natl. Taiwan Univ., College of Engrg., Taipei, Taiwan

4:00 Design of Shallowly Buried Structures to Blast and Shock: J.J. FARELL and N. LIPNER, TRW Defense and Space Systems Grp., Redondo Beh., CA

4:15 Recent Progress in Structure-Medium: M. BARON, Weidlinger Engrg. Assoc., New York, NY

4:30 Behavior of Shallowly Buried Structures to Blast & Shock: T. WEBSTER, Air Force Weapons Lab., Albuquerque, NM

4:45 Protective Structure Blast Door Design Analysis: P.H. CHEN, TRW, Redondo Beh., CA

Session No. 36 2:30 p.m.

Applications for Offshore Positioning

Private Dining Room No. 3

Surveying and Mapping Division

Presiding: DONALD GRAFF, Cnsltg. Engr., Beaver Dam, WI

2:30 Pipelines — Positioning and Survey Problems: STANLEY W. HOLE, Pres., Suboceanic Consultants, Inc., Naples, FL

2:50 Positioning for Dredging: ANTHONY G. STEPHENSON, Pres., Gardline Hydrographic Surveys, Houston, TX

3:10 Ports and Harbors — Positioning Requirements: JERRY C. WILSON, Sen. Geologist, Dames & Moore, Los Angeles, CA

3:30 Wetland Surveying and Mapping: CARVEL BLAIR, Asst. Prof., Old Dominion Univ., Norfolk, VA

3:50 Positioning for Ocean Disposal Activi-

FIELD TRIP:

METRC LITAN SANITARY DISTRICT OF GREATER CHICAGO, WEST-SOUTHWEST SEWAGE TREATMENT WORKS

1:30 p.m. to 5:30 p.m.

The tour includes an examination of the activated sludge facilities for treatment of sewage, the sludge drying beds, the heat drying units including vacuum filters, flash dryers and steam systems. Also included are the sludge lagoons, dewatering of the lagoons, excavation of the sludge and barge loading of the concentrated sludge for shipment to land reclamation facilities.

Price Per Person \$4.00

FIELD TRIP: BETHLEHEM STEEL CORPORATION

1:30 p.m. to 5:30 p.m.

The tour of the facilities includes the open hearth furnaces for the manufacturing of steel, the slabbing mill and the hot and cold strip mills for the manufacture of finished products.

Buses depart hotel 1:30 a.m.

Price \$4.50 per person

This trip is limited and will be on a first-come, first-served basis.



**TUESDAY AFTERNOON
OCTOBER 17**

ties: HAROLD D. PALMER, Assoc., Dames & Moore, Washington, DC

4:10 Nearshore Survey in Littoral Transport Studies: RICHARD O. BRUNO, Coastal Engr., Coastal Engrg. Rsrch. Cntr., Ft. Belvoir, VA

Session No. 37 2:30 p.m.

Cracking, Grouting and Seepage Control in Embankment Dams: Properties, Placement and Improvements of Soils in Embankment Construction — Part II

Waldorf Room

Geotechnical Engineering Division — Soil Properties Committee; Placement and Improvement Committee

Presiding: JOHN LYSMER, Prof., Dept. of Civil Engrg., Univ. of Calif., Berkeley, CA
2:30 Methods for Effective Placement and Compaction Control During Earth Embankment Construction: D.P. HAMMER, U.S. Corps of Engrs., Waterways Experiment Sta., Vicksburg, MS

3:00 Placement of Fill Around Conduits: G.F. SOWERS, Law Engrg., Atlanta, GA

3:30 Improvement of Soils for Conduit Bedding: W.G. HOLTZ, Woodward Clyde Consultants, Denver, CO

4:00 Foundation Seepage Problems and Concrete Diaphragm Wall at Wolf Creek Dam: F.B. COUCH, U.S. Corps of Engrs., Nashville, TN

4:30 Deep Cut-Off in Dam Foundations at James Bay Project: R.H. SEEMEL, Societe d'Energie de la Baie James, Montreal, Canada, and Q.G. AHMAD, Societe de l'Energie de la Baie James, La Grand, Canada

Session No. 38 2:30 p.m.

Inelastic Response of Normal, Lightweight and High Strength Concrete

Private Dining Room No. 4

Engineering Mechanics Division — Committee on Properties of Materials
Presiding: Z.P. BAZANT and S. SHAH, Profs. of Civil Engrg., Northwestern Univ., Evanston, IL and Univ. of Illinois at Chicago Cir., Chicago, IL

2:30 Load-Deformation Relationship of Normal and Light-weight Aggregate Concrete under Different Degrees of Confinement: V. BERTERO, B BRESLER, Univ. of Calif., Berkeley, CA

2:50 Plastic-Fracturing Models for Non-linear Behavior of Concrete: Z.P. BAZANT, Northwestern Univ., Evanston, IL

3:10 Stress-Strain Relation for High Strength, Normal Weight, and Lightweight Concretes: S. SHAH, Univ. of Illinois at Chicago Cir., Chicago, IL

3:30 Properties of High Strength Concrete: A.H. NILSON, F.O. SLATE, Cornell Univ., Ithaca, NY

3:50 Inelastic Behavior of Concrete in Biaxial Compression: M.A. TAYLOR, Univ. of Calif., Davis, CA

W.F. CHEN, Purdue Univ., Lafayette, IN
4:30 Behavior of Concrete Under Multiaxial Stress States: H. ASCHL, Tech. Univ., Munich

Session No. 39 2:30 p.m.

Recommended Endorsement and Comments on NSPE/ACEC 1910-8 (1978) Standard General Conditions of the Construction Contract

Parlor A

Construction Division

Presiding: ROBERT J. SMITH, Asst. Prof. of Engrg., Univ. of Wisconsin, Madison, WI

Program: Key speaker, JOHN R. CLARK, ESQ., Dechert Price and Rhoads, Philadelphia, PA; Legal council to the NSPE/ACEC Contract Documents Comm., Three panel members to be named.

Session No. 40 2:30 p.m.

Transportation Safety and Research

Bel Air Room

Urban Transportation Division

Presiding: DONALD WARD, Chief of Urban Analysis, Transp. Syst. Center, Cambridge, MA

2:30 Chicago Transit Authority Transit Security Project: RON JOHNSON and JIM ANDERSON, Chicago Dept. of Public Works, Resrch. & Dev. Div., Chicago, IL

3:00 Transportation System Safety Methodologies: LOUIS J. PIGNATARO, Head of Dept., Transp. Planning & Engrg., Polytechnic Inst. of New York, Brooklyn, NY

3:30 Alternatives Analysis for New Transit Service in Chicago's Southwest Corridor: CHARLES W. LUSTING, Chicago Dept. of Public Works, Resrch & Dev. Div., Chicago, IL

4:00 A Classification of Urban Areas for Passenger Travel Forecasting: YUPO CHAN, The Pennsylvania Transp. Inst., Pennsylvania State Univ., University Park, PA

4:30 Bus Route Patronage Model for Small to Medium Size Cities: LARRY J. MATEL, Transp. Dev. Assoc., Boulder, CO

Session No. 41 2:30 p.m.

Research Frontiers in Water Resources Systems Analysis

Private Dining Room No. 2

Water Resources Planning and Management Division, Water Resources Systems Analysis Committee

Presiding: WILLIAM S. BUTCHER, Acting Prog. Dir., Water Rsrch. Urban and Environmental Engrg., Engrg. Div., Washington, DC

2:30 Robustness and Systems Analysis: MYRON B. FIERING, Prof. of Engrg. and Applied Math., Harvard Univ., Cambridge, MA

3:00 Models for Planning, Design and

John A. DRACUP, Assoc. Prof., Univ. of Calif., Los Angeles, CA

3:30 Use of Forecasted Seasonal Runoff Volumes in Reservoir Management: STEPHEN J. BURGESS, Assoc., Prof. of Civil Engrg., Dept. of Civil Engrg., Univ. of Wash., Seattle, WA

4:00 Analysis of Water and Energy Systems: NATHAN BURAS, Prof. of Water Rsrch. Engrg., Technion-Israel Inst. of Tech., Haifa, Israel

4:30 Analysis of Water Resource Systems Using Interactive Computer Graphics: DANIEL P. LOUCKS, Prof. and Chmn., Dept. of Civil & Envir. Engrg., Cornell Univ., Ithaca, NY

Session No. 42 2:30 p.m.

Current and Local Issues in Environmental Management

Astoria Room

Environmental Engineering Division

Presiding:

2:30 Technical and Institutional Requirements for Control of Pollutants from Irrigated Agriculture: W. TOM PITTS, Toups Corp.

3:00 Water Quality Management Classification — Minnesota's New Approach: WM. H. ANDERL, Minn. Pollution Control Agency

3:30 Water for Energy — An Environmental Issue: HARVEY O. BANKS, Dresser & McKee, Inc.

4:00 Domestic Water Reuse through Toilet Flushing: JOHN P. COLLINS, SAMUEL L. ROBINSON and MAHLON B. WHITE, Dept. of the Navy

Session No. 43 2:30 p.m.

Aerospace Structures and Materials

Private Dining Room No. 1

Aerospace Division

Presiding: G.S. BJORKMAN, JR., Asst. Prof., Drexel Univ., Philadelphia, PA

2:30 Harmonic Inclusions: G.S. BJORKMAN, JR., Asst. Prof., Drexel Univ., Philadelphia, PA, and R. RICHARDS, JR., Assoc. Prof., Univ. of Delaware, Newark, DE

3:00 Radiation Effects on Elasticity of Metals: N. AFZALI and S. MEMAT-NASSER, Prof. of Civil Engrg. and Applied Mathematics, Northwestern Univ., Evanston, IL

3:30 Deteriorating Adhesive/Resin Bonded Structure Exposed to Commercial Aircraft Service Environments: M. KUPERMAN, Staff Engr., Structures and Control Engrg., United Airlines

4:00 Experimental Determination of Moisture Diffusion Characteristics and Moisture Distribution in Graphite/Epoxy Laminates: P.E. SANDORFF, Staff Engr., and T. TAJIMA, Lockheed-California Co., Burbank, CA

4:30 Environmental-Load Interaction Effects on Crack Growth Correlation of Center Crack and Surface Flaw Results: N.E. ARTLEY, USAF Flight Dynamics Lab., Wright-Patterson AFB, Dayton, OH; H.D. DILL and C.R. SAFF, McDonnell-Douglas Aircraft Co., St. Louis, MO

ASCE ANNUAL BUSINESS MEETING AND GENERAL SESSION

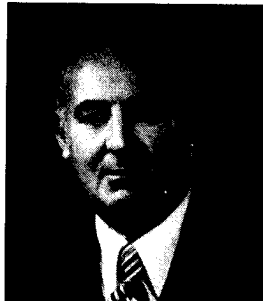
8:30 a.m.

The 1978 Meeting will feature an impressive opening ceremony and will include the President's Inaugural Address.

- 8:30 a.m. Music and posting of the colors.
National Anthem led by Patricia K. Irmen, ASCE Staff
- 8:50 a.m. Executive Director, Eugene Zwoyer will present a brief report to the membership
- 9:00 a.m. Retiring President, William R. Gibbs Speaks on the year's highlights and new programs
- 9:20 a.m. **Session — Dam Safety Update**
An update on this critical national concern by a panel of engineers, public officials and legislators. An examination of the dimensions of the problem, the corrective steps that must be taken, responsibility and costs.
Panel Moderator: William A. Wahler
Panel Members: Idaho Senator James McClure
Lt. General John W. Morris, Chief of Engineers, U.S. Army
Guy Martin, Assistant Secretary of the Interior
West Virginia Senator Jennings Randolph
- 10:05 a.m. Presentation of awards for technical and professional achievements.
- 10:40 a.m. Report of the Tellers Committee, followed by the recognition of retiring officers and induction of new National Officers
- 11:10 a.m. New President's Inaugural Address Walter E. Blessey



Incoming President
WALTER E. BLESSEY



Outgoing President
WILLIAM R. GIBBS



Executive Director
EUGENE ZWOYER

WEDNESDAY AFTERNOON OCTOBER 18

HONORARY MEMBERSHIP LUNCHEON

12:30 p.m.

- Presiding:* David A. Novick, Director, District 8, ASCE
Toastmaster: Walter E. Blessey, President, ASCE
Presentation of Certificates to Nine Newly Elected Honorary Members:
- | | |
|----------------------|-------------------|
| Walter T. Daniels | William H. Mueser |
| Henry J. Degenkolb | Chester P. Siess |
| Ralph E. Fadum | Wilbur S. Smith |
| Milo S. Ketchum | Anton Tedesko |
| Charles B. Molineaux | Eugene W. Weber |

Price Per Person \$10.50

WEDNESDAY AFTERNOON OCTOBER 18

Session No. 442:30 p.m.

Prestressed Concrete Slabs

Parlor C

Structural Division — Committee on Masonry and Reinforced Concrete
Presiding: WILLIAM L. GAMBLE, Univ. of IL, Urbana, IL

2:30 **Development of the Prestressed Structural Slab:** KENNETH B. BONDY, Seneca Constr. Sys., Canoga Park, CA

3:05 **Test Results — Prestressed Structural Slabs:** NED H. BURNS, Prof. of Civil Engrg., The Univ. of Texas at Austin, Austin, TX

3:40 **Moment Transfer from Prestressed Slab to Column:** NEIL HAWKINS, Prof. of Civil Engrg., Univ. of Wash., Seattle, WA

4:15 **Prestressed Slabs on Expansive Soils:** ROBERT LYTTON, Assoc. Prof. of Civil Engrg., Texas A & M Univ., College Station, TX

Session No. 452:30 p.m.

Inelastic Behavior of Tubular Members and Structures

Parlor B

Structural Division, Committee on Metals
Presiding: PETER W. MARSHALL, Shell Oil Co., Houston, TX

2:30 **Past Yield Flexural Properties of Tubular Members:** STRAVOS ANAGNOSTOPOULOS, Shell Develop. Co.

2:55 **Cyclic Inelastic Behavior of Tubular Struts and Beam-Columns:** D.R. SHERMAN, Dept. of Mechanics, Univ. of Wisc.

3:20 **Test of X-Braced Tubular Subassemblages:** J.R. MAISON and M.J. BRIGGS, Southwest Resrch. Inst., San Antonio, TX

3:45 **Cyclic Buckling of Tubular Members and Applications in Braced Frames:** EGOR POPOV, Dept. of Civil Engrg., Univ. of Calif.

4:10 **Structured Programming for Non-linear Dynamic Analysis of Large Soil-Pile Structural System:** R.B. REIMER and R.W. LITTON, PMB Systems Engrg., San Francisco, CA

4:35 **Design Considerations for Off-Shore Structures Having Nonlinear Response to Earthquakes:** P.W. MARSHALL, Shell Oil Co., Houston, TX

Session No. 462:30

Cracking, Grouting and Seepage Control in Embankment Dams: Grouting of Embankment Dams

Waldorf Room

Geotechnical Engineering Division — Grouting Committee

Presiding: WILLIAM F. SWIGGER, Stone & Webster Engrg. Corp., Boston, MA

2:30 **Detection Methods for Location of Subsurface Water and Seepage Prior to Grouting:** R.M. KOERNER, Prof., Drexel Univ., Phila., PA

3:00 **Hydraulic Fracturing in Embank-**

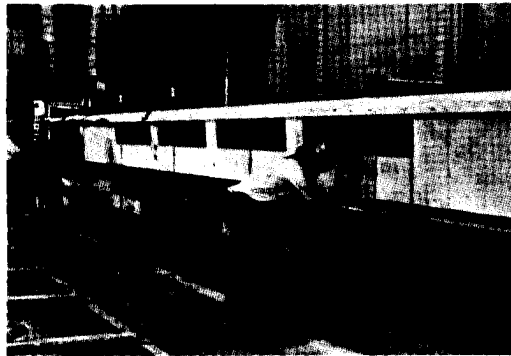
FIELD TRIP: PORTLAND CEMENT ASSOCIATION

2:00 p.m. to 5:30 p.m.

The tour is at the International Headquarters of the Portland Cement Association. This 41 acre, 20 million dollar, 6 building complex is one of the world's largest and most complete cement and concrete research facilities. It provides basic and materials research, engineering and product development, and field and laboratory testing services in the applications of cement and concrete products.

Buses depart hotel 2:00 P.M.

Price \$4.00 per person



ENGINEERING TECHNOLOGY ACCREDITATION FORUM

2:30 p.m.

Presiding: John D. Antrim, Director, Engineering Technology Programs, University of Alabama; Chairman, ASCE Subcommittee on Technology Curricula and Accreditation (SCTC&A)

This forum, sponsored by the ASCE Subcommittee on Technology Curricula and Accreditation, is open to current and prospective accreditation visitors, engineering technology educators, and all interested ASCE members. The purpose is to review EDPD criteria and procedures as well as ASCE guidelines for ECPD accreditation of 2-year and 4-year technology programs related to civil engineering. Selection of evaluators and their duties during and reports following campus visits will be discussed.

CIVIL ENGINEERING ACCREDITATION FORUM

2:30 p.m.

Presiding: Russel C. Jones, Dean of Engineering, University of Massachusetts; Member ECPD Engineering Education and Accreditation Committee (EE&AC)

This forum, sponsored by the ASCE Committee on Curricula and Accreditation, is open to current and prospective accreditation visitors, civil engineering educators and all interested ASCE members. The purposes are to review criteria and procedures for accrediting basic and advanced engineering curricula and to discuss the duties of evaluators during campus visits.

3:30 Instrumentation of a Grouting Program for Embankment Dams: EARL HALL, Earl B. Hall, Inc., San Rafael, CA
4:00 Curtain Grouting Beneath Earth and Concrete Dams: Recent Experiences: A.H. MERRITT and D.U. DEERE, Don U. Deere and Andrew H. Merritt, Inc., Gainesville, FL
4:30 Design and Rectification of Seepage in Existing Embankment Dams by Grouting: J.P. WELSH, Mgr., Soiltech Dept., Raymond Intl., Inc., Pennsauken, NJ, and C. FETZER, U.S. Army Corps of Engineers, Ohio River Div., Cincinnati, OH

Session No. 47 2:30 p.m.

Earthquake and Wind Engineering Similarities

Parlor A

Engineering Mechanics Division
Presiding: ANSHEL J. SCHIFF, Purdue Univ., School of Mechanical Engrg., West Lafayette, IN

2:30 Comparison of Design Criteria for Wind and Seismic Loads: ALAN G. DAVENPORT, Faculty of Engrg. Sci., Univ. of Western Ontario, Canada

3:00 Comparison of Analysis Methods for Wind and Seismic Loading: JOSEPH VELLOZZI, Ammann and Whitney, New York, NY

3:30 Observation of Wind Damage: JOSEPH MINOR, Texas Tech. Univ., Lubbock, TX

4:00 Observation of Seismic Damage and Its Implications to Structural Design: LORING WYLLIE, H.J. Degenkolb and Assoc., San Francisco, CA

4:30 The Role and Methods of Measurements for Earthquake Wind Engineering: ANSHEL J. SCHIFF, Purdue Univ. School of Mechanical Engrg., West Lafayette, IN

Session No. 48 2:30 p.m.

Advances In Water and Wastewater Technology I

Astoria Room

Environmental Engineering Division
Presiding:

2:30 Biodegradation Techniques for Problematic Industrial Organic Wastes: WARREN G. HANSEN, MARK S. MONTGOMERY, DONALD M. SHILESKY, SCS Engrs. and CHARLES ROGERS, U.S. Environ. Protection Agency

3:00 Operation of a Large Advanced Waste Treatment Plant: DONALD E. ECKMANN, Alvord, Brudick & Howson
3:30 Corrosion Resistant Design of Sanitary Sewer Pipe: KENNETH K. KIENOW, Hydro Conduit Corp.

4:00 Computer Modeling for the Economic Analysis of Land Treatment Systems: NICK FERRARI, Boyle Engrg. Corp.

Session No. 49 2:30 p.m.

Construction Cost Estimating and Cost Control

Beverly Room

Construction Division
Presiding: L.T. BOYER — Univ. of Illinois

Engrg. Rsrch Lab.
3:00 The Development and Implementation of Computer Assistance for Cost Estimating at Los Alamos Scientific Laboratory: JAMES SPOONER, Systems Designer, Los Alamos Scientific Lab.

3:30 Computer Applications in Analysis of Uncertainty in Construction: ROBERT CARR, Dept. of Civil Engrg., Univ. of Michigan

4:00 Computerized Cost Control of Nuclear Power Plants: DANIEL W. HALPIN, Dept. of Civil Engrg., Georgia Inst. of Tech.

4:30 Computerized Interface Between Estimating and Scheduling: DICK SHARAD, Supv., Proj. Control Sect., Sargent & Lundy Engrs., Inc.

EXHIBITS OPEN
11:00 a.m. to 2:30 p.m.
4:30 p.m. to 6:00 p.m.

Session No. 50 2:30 p.m.

Lake Michigan Water Resources

Private Dining Room No. 4

Water Resources Planning and Management Division — Committee on Water Resources Planning

Presiding: FRANK KUDRNA, The Metropolitan Sanitary Dist. of Greater Chicago, IL

2:30 History and Future of the Lake Michigan Water Resource for Chicago: FORREST C. NEIL, Chf. Engr., Metropolitan Sanitary Dist. of Greater Chicago, Chicago, IL

3:00 Present and Future Operation of the Chicago Water System: RICHARD A. PAVIA, Comm., Dept. of Water and Sewers of the City of Chicago, Chicago, IL

3:30 Lake Michigan Water Allocation in Illinois: KENNETH BREWSTER, Prog. Mgr., State of Ill. — Div. of Water Resources, Chicago, IL

4:00 Lake Michigan Water Resource — Expanded Water Supply Through Reallocations of Water: CLINT J. KEIFER, Pres., Keifer and Assoc., Chicago, IL

Session No. 51 2:30 p.m.

Remote Sensing Case Studies in Environmental Impact Assessment

Private Dining Room No. 3

Aerospace Division
Presiding:

2:30 Use of Remote Sensing to Monitor Wetland Vegetation Changes Resulting from Power Plant Construction and Operation/A Case Study, 1974-1978: SARAH L. WYNN, Grad. Rsrch. Asst., Inst. for Envir. Studies, Univ. of Wisconsin-Madison; and RALPH W. KIEFER, Pr. Civil and Envir. Engrg., Univ. of Wisconsin, Madison, WI

3:00 Remote Sensing and Photogrammetry in Archaeological Sampling Designs/A Case Study for the Lower Co-

NELL, Chm., and Phys., Dept. of Anthropology, Univ. of Washington, Seattle, WA

3:30 Use of Remote Sensing in Environmental Impact Studies for Highway Project: WILLIAM L. TENG and HAROLD T. RIB, Fed. H'way Admin., Dept. of Transp.

4:00 The Surveillance and Prediction by Remote Sensing of the Environmental Effects of a New Transportation Facility: B. SEN MATHUR, Head, Remote Sensing Sect., Ontario Ministry of Transp. and Communications, Downsview, Ontario, Canada

4:30 LANDSAT as an Engineering Tool for Siting and Environmental Impact Studies: CATHERINE A. KITCHO, Geologist, Bechtel Inc., San Francisco, CA

Session No. 522:30 p.m.

State-of-the-Art of Fuel Technology in the Power Industry

Bel Air Room

Power Division

Presiding: CHARLES BECK, Sargent and Lundy, Chicago, IL

2:30 The Effectiveness of Energy Recovery from Wastes: EUGENE C. BAILEY, Dolio and Metz, Ltd., Chicago, IL

3:00 Status of Coal Gasification Program: JIM M. OSBORN, Sargent & Lundy, Chicago, IL

4:00 Storage and Reclamation of Nuclear Fuel: EDWARD ZEBROWSKI and R.F. WILLIAMS, Elec. Power Rsrch. Instit., Palo Alto, CA

4:30 Regional Studies for Underground Energy Storage Development: A.E. ALLEN, H.H. CHEN, and E.E. KOMIE, Harza Engrg. Co., Chicago, IL

Session No. 532:30 p.m.

Non-Point Sources of Water Pollution

Private Dining Room No. 2

Hydraulics Division — Committee on Surface Water Hydrology

Presiding Officer: WALTER A. GARVEY, Head, Urban Hydrology Dept., Resource Develop. Br., Harza Engrg. Co., Chicago, IL

2:30 Canadian Research on Non-Point Sources of Pollution with Particular Emphasis on Urban Runoff: JIRI MARSALEK and DONALD G. WEATHERBE, Hydraulic Rsrch. Div., Canada Cntr. for Inland Waters, Dept. of the Envir., Burlington, Ontario

3:05 The State of the Art on the Environmental Protection Agencies' Research in Urban Stormwater and Combined Sewer Overflow Pollution Control: RICHARD FIELD, Chf., Storm and Combined Sewer Sect., Municipal Envir. Rsrch. Lab., U.S. Envir. Protection Agency, Edison, NJ

3:45 Development of a Control Strategy for Urban Runoff — Cincinnati SMSA: ROBERT MOLZANN, Envir./Sanitary Engrg. Br., Harza Engrg. Co., Chicago, IL

4:20 Program Emphasis at the Utah Water Research Laboratory for Evaluating Diffuse Sources of Pollution: W.J. GRENNEY, Assoc. Prof., and J. PAUL RILEY, Prof., Dept. of Civil and Envir. Engrg., Utah Water Rsrch. Lab., Logan, UT

**WEDNESDAY EVENING
OCTOBER 18**

ASCE'S ANNUAL BANQUET & PRESIDENT'S RECEPTION

This is THE EVENT — the highlight of the Annual Convention & Exposition and includes the Chicago Civil Engineer of the Year Award Presentation and Ceremony.

6:30 p.m. Reception for the President and newly-elected Honorary Members of ASCE

7:45 p.m. Dinner

9:00 p.m. Entertainment: Dom DeLuise
Broadway/T.V. Personality

9:45 p.m. Dancing



Celanese Fibers Marketing Co. presents Dom DeLuise, well-known TV and film comedian, at the ASCE Banquet. DeLuise is currently co-starring in the movie "The End".

Table seating reservations may be made at special desks in the ASCE Registration Area in Chicago and will be handled on a first-come, first-served basis. Reservations may be made for tables seating 10 persons each. Complete tables may be purchased or reservations may be pooled with others.

Black Tie Optional

Price Per Person \$25.00



HERE ARE 4 STEPS TO BETTER LEARNING IN CHICAGO

1. Attend the ASCE Exposition.

It's where civil engineers can learn even more. And it's right in the hotel with the technical sessions. Scheduling permits visiting the exposition without sacrificing any of the technical sessions you'd like to see. See list of exhibit hours below.

2. Come to the Tuesday morning "Exhibitors Forum." It's Session 32, "New Advances in Technology." 10-minute technical presentations by various exhibitors will highlight pertinent

new technological developments and applications in the engineered construction business.

3. Study the August issue of Civil Engineering. Our editors have surveyed exhibitors to help identify exhibit plans and to help you locate the ones of importance to you.

4. Prepare questions in advance. Start now. Talk to your colleagues and associates. Make a list. Check your catalog file, too.

TO HELP YOU PLAN, HERE'S A LIST OF EXHIBITORS

Adhesive Engineering
AILTECH

American Colloid Company
American Concrete Institute

American Institute of
Steel Construction

American Society of
Civil Engineers

Bailey Scientific

Boeing Computer Services
Company

The D.S. Brown Company
Caisson Corp.

Calcomp

Celanese Fibers Marketing
Company

Chicago Aerial Survey

Civil Engineering Magazine

Concrete Construction
Publications, Inc.

Concrete Reinforcing Steel
Institute

Control Data Corp.

Du Pont Company

Encyclopaedia Britannica

Engineered Construction
International, Inc.

Epic Metals Corporation

Erosion Control, Inc.

Forestry Supplies Inc.

Hewlett Packard

Humboldt Mfg. Co.

Intrusion-Prepakt, Inc.

Kara. Co. Inc.

Kern Instruments, Inc.

L & M Construction Chemicals Inc.

M & S Computing, Inc.

Microphor

Monsanto Company

McDonnell Douglas Automation

Co., Sub. of McDonnell Douglas
Corp.

National Ready Mixed Concrete
Association

National Science Foundation
Publishers for Conventions, Inc.

The Ranney Company

The Reinforced Earth Company

Schnabel Foundation Company

Schonstedt Instrument Company

Set Products Inc.

The Sidwell Company

Soiltest, Inc.

Standard Dry Wall Products

Townsend Fasteners Systems

Water Pollution Control
Federation

Watersaver Co., Inc.

Watson Bowman Associates Inc.

Western Geophysical

Wild Heerbrugg Instruments, Inc.

John Wiley & Sons Inc.

Wilson Anchor Sleeve Inc.

Carl Zeiss, Inc.

List current as of July 15, 1978

SHOW HOURS: TUESDAY/WEDNESDAY, 11-2:30 & 4:30-6; THURSDAY, 11-3.

Session No. 548:30 a.m.

Hydraulic Fracturing Process I

Parlor A

Hydraulics Division

Presiding: L.M. KEER, Dept. of Civil Engrg., Northwestern Univ., Evanston, IL

8:30 Creation and Evaluation of Closely Spaced Horizontal Hydraulic Fractures in an Underground Oil Shale Bed: R.L. PARRISH and R.R. NEEL, Sandia Labs. Albuquerque, NM

9:05 Containment of Massive Hydraulic Fractures in Tight Gas Reservoirs: A.H. JONES, A.S. ABOU-SAYED, and S.J. GREEN, Terra Tech, Inc., Univ. Rsrch. Park, 420 Wakera Way, Salt Lake City, UT

9:40 Fluid Pressure Variation During Hydraulic Fracture: A.A. DANESHY and NICK CONRAD, Haliburton Corp., Duncan, OK

10:15 Model Experiments on the Interaction of Two Hydraulic Fractures: JOHN DUNDURS, Dept. of Civil Engrg., Northwestern Univ., Evanston, IL

Session No. 558:30 a.m.

Precast Concrete

Parlor C

Structural Division — Masonry and Reinforced Concrete Committee; ACI-ASCE Committee 512, Precast Concrete Committee

Presiding: DONALD W. PFEIFER, Wiss, Janney, Elstner and Assoc., Inc., Northbrook, IL

8:30 On-site Precasting Equals Quality, Schedule and Cost Control: BRAD D. INMAN, Charles Pankow, Inc., San Francisco, CA

9:00 Large Panel Concrete Buildings: Elimination of Progressive Collapse: DONALD M. SCHULTZ, Portland Cement Assoc., Skokie, IL

9:30 Precast Concrete Cooling Tower Developments: JOE BEN DICKEY, JR., The Marley Cooling Tower Co., Mission, KS

10:00 Load Distribution in Hollow-Core Slab Floor Systems with Openings: DONALD R. BUETTNER, Computerized Structural Design, Inc., Milwaukee, WI

10:30 Analysis, Design, Construction and Erection of Precast Concrete Tilt-up Walls and Lift Slabs: NOEL J. EVERARD and JOSEPH PHUNGPOL, Dept. of Civil Engrg., Univ. of Texas at Arlington, Arlington, TX

Session No. 568:30 a.m.

Long Span Steel Bridges

Parlor B

Structural Division — Committee on Metals
Presiding: D. ALLAN FIRMAGE, Dept. of Civil Engrg., Brigham Young Univ., Provo, UT

8:30 The Design of Cable Hung Ruck-a-Chucky Bridge: T.Y. LIN, Prof., T.Y. Lin International, D.ALLAN FIRMAGE, Prof., Dept. of Civil Engrg., Brigham Young Univ., Provo, UT

9:20 East Huntington Cable Stayed Steel

Engrs., Design Engr., New York, NY

10:10 The Repair of the Damage to the San Francisco-Oakland Bay Bridge: CHARLES SEIM, State of Calif., Transp. Dept. Chf., Operations/Support — Toll Bridges

Session No. 578:30 a.m.

Atmospheric Sulfate and the Emerging Interest in Toxic Air Pollutants

Private Dining Room No. 2

Power Division

Presiding: RICHARD MCGINNIS, Northern States Power Co.

8:30 Modeling Atmospheric Sulfate East of the Mississippi (Long Range Transport): RON MEYERS, Brookhaven Lab.

9:00 Atmospheric Sulfur Transformations and Effects on Terrestrial Vegetation: SAGER KRUPA, Univ. of Minnesota

9:30 The Effects of Sulfate Aerosols on Human Health: EDWARD J. FALDER, So. Calif. Edison

10:00 Regulations of Toxic Air Pollutants: JOHN D. BACHMANN, USEPA.

10:30 Impact of Future Sulfate Regulations: ANTHONY V. COLUCCI, ScD, Vice Pres., Greenfield, Altaway and Tyler

Session No. 588:30 a.m.

Cracking, Grouting and Seepage Control in Embankment Dams: Safety of Dams

Waldorf Room

Geotechnical Engineering Division — Committee on Reliability and Probabilistic Concepts in Geotechnical Engineering Designs

Presiding: RICHARD E. GRAY, GAI Consultants, Monroeville, PA

Panel consists of members of National Research Council Committee on Safety of Dams:

ELIO D'APPOLONIA, E. D'Appolonia Cons. Engrs., Pittsburgh, PA

WILLIAM A. CLEVINGER, Chmn. of the Bd., Woodward-Clyde Conslts., San Francisco, CA

GORDON W. DUKLETH, Div. Engr., Calif. Dept. of Water Rsrchs., Sacramento, CA

JOSEPH J. ELLAM, Dam Safety Chf., Penn. Dept. of Envir. Rsrchs., Harrisburg, PA

LAURENCE B. JAMES, Engrg. Geologist, Calif. Dept. of Water Rsrchs., Sacramento, CA

DAVID B. SLEMMONS, Prof., Mackay School of Mines, Univ. of Nevada, Reno, NV

KARL V. TAYLOR, Engr. Mgr., Bechtel Corp., San Francisco, CA

ERICK H. VANMARCKE, Prof., Mass. Inst. of Techn., Cambridge, MA

CHARLES F. CORNS, Chf. Structural Engr., Corps. of Engrs., Washington, DC

KENNETH DOWNEY, Attorney, L.A. Dept. of Water & Power, Los Angeles, CA

WILLIAM R. JUDD, Prof., Purdue Univ., Lafayette, IN

FRANK E. PERKINS, MIT, Cambridge, MA

HARESH C. SHAH, Prof., Stanford Univ., Stanford, CA

PAUL SLOVIC, Psychologist, Decision Research, Eugene, OR

Francisco, CA

ALLAN L. O'NEILL, Converse, Davis, Dixon Assoc., San Francisco, CA

Session No. 598:30 a.m.

Dynamic Response of Structures

Bel Air Room

Engineering Mechanics Division

Presiding: J.M. ROESSET, Massachusetts Instit. of Technology

8:30 Response Characteristics of the TRESTLE test stand — Aircraft — Foundation System: KEN MEDEARIS — KMA, Ft. Collins, CO

9:00 Sensitivity of the Dynamic Response of Off-shore structures to Various Sources of Uncertainty: D. ANGELIDES and J.J. CONNOR, Dept. of CE., MIT, Cambridge, MA

9:30 Seismic Response of Embedded Foundation: STEVEN DAY, Systems Science and Software, La Jolla, CA and J.W. TURNER, Dept. of Civil Engrg., Rice Univ., Houston, TX

10:00 Approximate Model Analysis of Bilinear MDF Systems: V. TANSIRIKONGKOL and D.A. PECKNOLD, Univ. of Ill. Urbana, IL

10:30 Damping Properties of Structures with Constrained Viscoelastic Layers: D. GASPARINI and A. DEB-CHAUDBURY, Dept. of Civil Engrg., Case Western Res. Univ., Cleveland, OH

Session No. 608:30 a.m.

Advances in Water and Wastewater Technology II

Astoria Room

Environmental Engineering Division

Presiding:

8:30 Feasibility of Wastewater Treatment with Iron (VI) Ferrate: THOMAS D. WAITE, Northwestern Univ.

9:10 The Role of Geometric Programming in Environmental Engineering Design: DONALD T. LAURIA, Univ. of No. Carolina, Chapel Hill, NC

10:00 A Predictive Model of Sedimentation Basin Performance: DAVID R. SCHAMBER and BRUCE E. LAROCK, Univ. of California, Davis, CA

Session No. 618:30 a.m.

Application of Advanced Aerospace Technology to Civil Engineering

Private Dining Room No. 3

Aerospace Division

Presiding:

8:30 Quantitative Terrain Analysis Using Remotely Sensed Data: BOB BENN, U.S. Army Corps of Engrs., Vicksburg, MS

9:00 Current Status of Corps of Engrs. Hydrometeorological Data Collection System: NANCY LOPEX, U.S. Army Corps of Engrs., Washington, DC

9:30 Selected Areas of Aerospace Technical Applications to Civil Engineering — A Task Committee Report: ALLEN F. FLANDERS, National Weather Serv., Silver Springs, MD

Session No. 628:30 a.m.

Changing Objectives for Water Resources Project Planning

Private Dining Room No. 4

Water Resources Planning and Management Division — Committee on Session Programs and Committee on Social and Environmental Objectives

Presiding:

8:30 Technology Assessment, Futures Research and Water Resources Planning: EVAN VLACHOS, Colorado State Univ., Ft. Collins, CO

9:05 Use of Environmental Information by the Bureau of Reclamation: JAMES F. PRICE and LEONARD ORTOLANO, Graduate Assist. and Assoc. Prof., Dept. Civil Engrg., Stanford Univ., Stanford, CA
9:40 Changing Objectives for Flood Control Planning — A Water District's Experience: B.H. GOLDNER and L.C. PRESTON, Santa Clara Valley Water Dist., San Jose, CA

10:15 Changing Objectives — Chicago Metropolitan Floodwater Management Plan: FRANK L. KUDRNA and ROGER OLSEN, Dir., State of Ill., Div. of Water Rsrce., Chicago, IL

Session No. 638:30 a.m.

Employment Conditions/Minority Programs

Beverly Room

Committee on Employment Conditions and Committee on Minority Programs

Presiding: PHILIP J. DINAUER, Vice Pres.-Engrg., J.C. Zimmerman Engrg. Corp., Greendale, WI, and CLYDE N. BAKER, JR., Pres., Soil Testing Services, Inc., Chicago, IL

8:30 Employment Conditions Manual 55 — Guideline for Employment Conditions for Civil Engineers: Its Development and Use: DONALD VAN SICKLE, Vice Pres.-Tech. Opns., Turner, Collie and Braden, Inc., Houston, TX
Use of Section Handbook for Implementation of Manual 55: PHILIP J. DINAUER, Vice Pres.-Engrg., J.C. Zimmerman Engrg. Corp., Greendale, WI

Accreditation Program in Compliance with Manual 55 Sponsored by ASCE Metropolitan Section: THOMAS A. MULHERN, Dept. Chief, Western Electric Co., New York, NY

9:45 Motivating Minorities Toward Careers in Civil Engineering Summer Institutes for Minority Students — Where Do We Go From Here?: JERRY MARLEY, Dept. of Civil Engrg., Notre Dame Univ., South Bend, IN

Update of ASCE National Report on Minority Programs: ARTHUR T. NIELSEN, Parsons, Brinckerhoff, Quade and Douglas, New York, NY

Critical Evaluation of Employment Practices From A Minority Perspective: CORDELL REED, Asst. Vice Pres., Commonwealth Edison Co., Chicago, IL

Session No. 642:30 p.m.

Shear and Torsion Design for Prestressed Concrete

Parlor B

Structural Division — Committee on Masonry and Reinforced Concrete

Presiding: NEIL M. HAWKINS, Dept. of Civil Engrg., Univ. of Wash., Seattle, WA
2:30 Experience with Shear and Torsion in Recent Construction: JOHN M. HANSON, Wiss, Janney, Elstner & Assocs., Northbrook, IL

3:05 Simplified Design for Shear and Torsion in Discrete Prestressed Concrete Members: TERRY A. NETTLES, ABAM Engrs. Inc., Tacoma, WA

3:40 Design Proposals for Prestressed Concrete in Combined Shear and Torsion: PAUL Z. ZIA, Dept. of Civil Engrg., No. Carolina State Univ. at Raleigh, and THOMAS T.C. HSU, Dept. of Civil Engrg., Univ. of Miami, Coral Gables, FL

4:15 A Rational Model for the Computer Aided Design of Prestressed Concrete in Shear and Torsion: MICHAEL P. COLLINS, Dept. of Civil Engrg., Univ. of Toronto, Toronto, Ontario, Canada

Session No. 652:30 p.m.

Analysis and Design of Reinforced Ice Structures

Private Dining Room No. 2

Structural Division — Analysis and Design of Structures

Presiding: P.G. GLOCKNER, Univ. of Calgary, Dept. of Mech. Engrg., Calgary, Canada

2:30 Applications of Probabilistic Methods in Ice Mechanics: F.G. BERCHA, Pres., of Bercha & Assoc. Ltd., Calgary, Alberta

2:50 Flexural Characteristics of Sea Ice: C.B. BROWN and R.J. EVANS, Dept. of Civil Engrg., Univ. of Wash., Seattle, WA

3:10 Reinforced Ice Domes: Buckling and Creep Behavior: P.G. GLOCKNER and A. VINOGRADOV, Dept. of Mech. Engrg., Univ. of Calgary, Calgary, Alberta

3:30 Oil Platforms Built of Ice: D.M. MATERSON and H.R. KIVISILID, FENCO Cnslts. Ltd., Calgary, Alberta

3:50 Ice Forces on Bridge Piers: CHARLES NEILL, Northwest Hydraulic Cnslts., Edmonton, Alberta

4:10 Design and Analysis of Ice Crossings: DON NEVEL, Dept. of the Army, U.S. Army Cold Regions Rsrch. & Engrg. Lab., Hanover, NH

4:30 The Analysis, Design and Construction of Floating Ice Islands for Offshore Drillings: Lehresthal B. Fur Mechanick, State-of-the-Art: A.S.J. SWANIDAS and D.V. REDDY, Tech. Univ. of Hannover, Applistrasse, Hannover, West Germany

Session No. 662:30 p.m.

Minicomputers/Computer Graphics

Parlor C

Structural Division — Committee on Electronic Computation

Presiding: BARRY FLACHSBART, MCAUTO, St. Louis, MO

through
the Computation of the Cholesky Factor
a Structural Stiffness Matrix:
VICTOR WILHELMY, IKO Software Service, Stuttgart, Germany

2:55 The Use of a Minicomputer in the Design and Analysis of Floating Roofs: HOWARD I. EPSTEIN, Asst. Prof., Dept. of Civil Engrg., Univ. of Conn., Storrs, CT

3:20 Integrated Analysis and Design of Steel Structures using a Minicomputer: ATUL PATEL, Engrg. Analyst, Olivetti, New York, NY

3:45 GRAPHITI: Portable Interactive Computer Graphics: ROBERT WELLS, Mgr., Engrg. Svcs., Proj. Software & Development, Inc., Cambridge, MA

4:10 An Interactive Mesh Generation System: DANIEL P. FOUSEK, Sr. Scientific Programmer, MCAUTO, St. Louis, MO

4:35 Minicomputers and Computer Graphics for Structural Mechanics: GARY ROMANS, Applications Proj. Mgr., Tektronix, Wilsonville, OR

Session No. 672:30 p.m.

Hydraulic Fracturing Process II

Parlor A

Hydraulics Division

Presiding: L.M. KEER, Dept. of Civil Engrg., Northwestern Univ., Evanston, IL

2:30 Acoustic Studies of an Artificial Geothermal Reservoir: JAMES N. ALBRIGHT, R. LEE AAMODT, RODERICK W. SPENCE, ROBERT M. POTTER, and CARL A. NEWTON, Univ. of Calif., Los Alamos Scientific Lab., Los Alamos, NM

3:15 An Overview of the Electric Potential Method for Determining Fracture Orientation: CARL L. SCHUSTER, Sandia Labs., Albuquerque, NM

4:00 Growth and Arrest of Penny-Shaped Cracks Under Linearly Changing Internal Pressure: E.A. MASTROJANNIS, T. MURA, and L.M. KEER, Dept. of Civil Engrg., Northwestern Univ., Evanston, IL



FIELD TRIP: ARGONNE NATIONAL LABORATORY

1:30 p.m. to 5:30 p.m.

This tour is to the nation's largest federally funded research and development center. Argonne conducts broad programs of fundamental research in physical biomedical and environmental sciences and serves as a major center for energy research and development. It also plays a major role in the nation's liquid metal fast breeder reactor program. Buses depart hotel 1:30 p.m.

Price \$4.50 per person

Cracking, Grouting and Seepage Control in Embankment Dams: A Review of the Possible Causes of the Failure of Teton Dam

Waldorf Room

Geotechnical Engineering Division — Committee on Embankment Dams and Slopes

Presiding: WILLIAM F. SWIGER, Stone & Webster Engrg. Corp., Boston, MA

Moderator: J. MICHAEL DUNCAN, Prof., Dept. of Civil Engrg., Univ. of Calif., Berkeley, CA

Panel Members:

ROBERT L. SCHUSTER, U.S. Geological Survey, Denver, CO

ROBERT JANSEN, Dir., Design and Constr., U.S. Bur. of Reclamation, Denver, CO

MUNSON DOWD, Chf. Engr., Metropolitan Water Dist. of So. Calif., Los Angeles, CA

NEIL BOGNER, Dir., Engrg. Div., U.S. Dept. of Agri., Wash., DC

EDWARD FUCIK, Chmn. Emeritus, Harza Engrg. Co., Chicago, IL

KEITH HIGGINSON, Comm. of Reclamation, Dept. of the Interior, Wash., DC

THOMAS LEPS, Cnsltg. Engr., Atherton, CA

HARRY B. SEED, Prof., Dept. of Civil Engrg., Univ. of Calif., Berkeley, CA

FLOYD P. LACEY, JR., Div. of Engrg. Des., TVA, Knoxville, TN

HOMER WILLIS, Office of Chief of Engrs., Washington, DC

WALLACE CHADWICK, Consultant, Los Angeles, CA

Session No. 69 2:30 p.m.

Advances in Solid Waste Management

Astoria Room

Environmental Engineering Division

Presiding:

2:30 The Environmental Impact of FGD Sludge Disposal: JOHN P. WOODYARD, SCS Engrs. and DONALD E. SANNING, U.S. Envir. Protection Agency

3:00 Utilization of Processed Incinerator Residue as Cover Material for Sanitary Landfills: RUSSELL E. CUMMINGS, Russell E. Cummings and Assoc.

3:30 A New Approach to Dewatering and Disposal of Lagooned Digested Sludge: RAYMOND R. RIMKUS, JOHN M. RAYAN, ROSS W. DRING, The Metropolitan Sanitary Dist. Greater Chicago

4:00 Mass Firing and Refuse Derived Fuels: Experience and Future Directions: JOHN P. COLLINS, Atlantic Div., Naval Facilities Engrg. Command

4:30 Alum Mud Disposal Site — Two Case Histories: TIMOTHY K. DAHLSTRAND, DOUGLAS J. HERMANN and WILLIAM M. PERPICH, Soil Testing Serv. of Wisconsin, Inc.

Session No. 70 2:30 p.m.

High Strength Concrete

Beverly Room

Portland Cement Association

Presiding: FAZLUR KHAN, Skidmore, Owings and Merrill, Chicago, IL

Session No. 71 2:30 p.m.

Urban Water Resources Research

Lake Michigan Room

Technical Council on Research

Presiding: RICHARD LANYON, Ass't. Dir., Rsrch. and Develop., Metropolitan Sanitary Dist. of Greater Chicago

2:30 Buildup, Potency, and Washoff of Pollutants from Street Surfaces: MICHAEL L. TERSTRIEP, Engr., Ill. State Water Survey

3:00 Quality and Quantity of Non-Point Runoff in Northeastern Illinois: IRWIN POLLS, Aquatic Biologist, Metropolitan Sanitary Dist. of Greater Chicago, PAUL LARSON, Engr., Hydrocomp, Inc., DONALD HEY, Vice Pres., Hydrocomp, Inc., RICHARD LANYON, Ass't. Dir. of Rsrch. and Develop., Metropolitan Sanitary Dist. of Greater Chicago

4:00 Effect of Land Use on Stormwater Runoff Quality in South Florida: H.C. MATTRAW, JR., R.A. MILLER, and M.E. JENNINGS, Hydrologist, U.S. Geological Survey

4:30 Nonpoint Pollution Loadings for Southeast Michigan: PETER G. COLLINS, Tech. Coord., Envir. Pgms., Southeast Mich. Council of Gvts.

High-Strength Ready-Mix Concrete: MIKE WINTER, Genl. Mgr., Eng. Sales and Service Material Serv. Corp., Chicago, IL

2:50 Designer's Viewpoint for High-Rise Buildings: S.P. ASROW, Prncpl., S.P. Asrow and Assoc., Chicago, IL

3:10 Material Properties: W.F. PERENCHIO, Prncpl. Rsrch. Engr., Concrete Materials Rsrch. Dept., Portland Cement Assoc., Skokie, IL

3:30 Field Investigations — 900 psi at Water Tower Place: H.G. RUSSELL, Mgr., Structural Develop. Sec., Portland Cement Assoc., Skokie, IL

3:50 Field Investigations — 11,000 psi at River Plaza: J. MORENO, Mgr., Tech. Mktg., Concrete Prod. Div., Material Service Corp., Chicago, IL

4:10 Economic and Energy-Conservation Potentials in Bridge Construction: ARTHUR R. ANDERSON, Sc.D., Chmn. of the Bd., ABAM, Tacoma, WA

Session No. 72 2:30 p.m.

Education and Training to Meet National Goals

Private Dining Room No. 4

Water Resources Planning and Management Division — Committee on Session Programs

Presiding:

2:30 Who Should Teach Hydrology?: STANLEY N. DAVIS, Dept. of Hydrology and Water Rsrchs., Univ. of Ariz., Tucson, AZ

3:00 Water Resources Education Requirements as Seen by an A/E Firm: JOHN J. CASSIDY, Chf. Hydrologic Engr., Bechtel, Inc. San Francisco, CA

3:30 Minority Education and Training for Hydrological and Related Careers: CLARKE R. WATSON, Pres., Westlands Co., Denver, CO

4:00 Manpower Projections for Environmental Pollution Control: ERNEST T. SMERDON, Vice Pres. for Academic Affairs, Univ. of Texas System, Austin, TX

Training for Resource Management: THEODORE G. ROEFS, Staff Scientist, Office of Water Rsrch. and Tech., U.S. Dept. of the Interior, Washington, DC

Session No. 73 2:30 p.m.

Wind Engineering

Private Dining Room No. 3

Aerospace Division

Presiding:

2:30 Wind Engineering — Application to Civil Engineering: JACK E. CERMAK and JON A. PATERKA, Colorado State Univ., Ft. Collins, CO

3:00 Viability of Wind Energy Conversion Systems: ROBERT V. BRULLE, McDonnell-Douglas Aircraft, St. Louis, MO and STUART B. SAVAGE, McGill Univ., Montreal, Canada

3:30 Aerospace Test Facilities — Current Trends: EARL J. TURNER and W.A. WUNDRACK, Sverdrup & Parcel, St. Louis, MO

4:00 A Transportation Alternative — Pneumatic Capsule Pipeline: M. ROBERT CARSTENS, Georgia Inst. of Tech., Atlanta, GA

4:30 Aerodynamics in Air Pollution Studies: HUA WANG, Dames and Moore, Park Ridge, IL and HENRY LIU, Univ. of Missouri, Columbia, MO

Session No. 74 2:30 p.m.

Rehabilitation of City and County Streets

Bel Air Room

Highway Division

Presiding: MARSHALL SULOWAY, Comm., City of Chicago, Chicago, IL

2:30 The Rehabilitation Problem: W.R. HUNSON, Prof. of Civil Engrg., Univ. of Texas, Austin, TX

3:00 Identifying the Need for Rehabilitation: MICHAEL I. DARTER, Asst. Prof. of Civil Engrg., Univ. of Illinois, Urbana-Champaign, IL

3:30 Structural Thickness Design: HARVEY J. TREYBIG, Pres., Austin Rsrch. Engrs., Inc., Austin, TX

4:00 Other Alternatives of Rehabilitation: JON A. EPPS, Prof. of Civil Engrg., Texas A & M Univ., College Sta., TX

4:30 Planning and Implementing Pavement Priorities for Rehabilitation: FRED N. FINN, Consl., Woodward-Clyde Conslts., San Francisco, CA

**THURSDAY EVENING
OCTOBER 19**

KARL TERZAGHI LECTURE

7:00 p.m. Waldorf Room

"OBSERVATIONS ON STRESSES IN TUNNEL LININGS"

DR. NATHAN M. NEWMARK, Head of Civil Engineering Department, University of Illinois, Urbana, Illinois

Presiding Officer: JOHN LYSMER, Chairman, Geotechnical Engineering Division Executive Committee

Presentation of Certificate and Honorarium: WILLIAM R. GIBBS, Past President, ASCE

Session No. 75 8:30 a.m.

Risk and Reliability

Parlor B

Structural Engineers Association of Illinois
Presiding: NICHOLAS A. BILANDIC, Holabird & Root, Chicago, IL
8:30 Risk and Liability Workshop: JOHN P. GNAEDINGER, Pres., Soil Testing Services, Inc., Northbrook, IL; WALTER E. HANSON, Pres., Hanson Engrs. Inc., Springfield, IL; and NARBEBY KHACHATURIAN, Prof. of Civil Engrg., Univ. of Ill., Urbana, IL
9:10 Unit or Central Computers Reliability: KOLBJORN SAETHER, Pres., Kolbjorn Saether & Assoc., Chicago, IL; HAROLD R. SANDBERG, Pres., Alfred Benesch and Co., Chicago, IL; MAX ZAR, Mng., Structural Dept., Sargent and Lundy, Chicago, IL
9:50 Building Enclosures — What Risk: RICHARD C. ELSTNER, Vice President, Wiss, Janney, Elstner and Assoc., Northbrook, IL; JERRY STOCKBRIDGE, Wiss, Janney, Elstner and Assoc., Northbrook, IL; JOSEPH F. FITZGERALD, Comm. City of Chicago, Chicago, IL
10:30 Slurry Walls — Foreign and Domestic: SAFDAR GILL, Soil Testing Services, Inc., Northbrook, IL; PETER XANTHAKOS, Pedros P. Xanthakos, Ltd. Chicago, IL

Session No. 76 8:30 a.m.

Analysis and Design of Hyperbolic Cooling Tower Shells — Concrete Shell Design and Construction — I

Boulevard Room

Structural Division and Power Division, ACI-ASCE Committee 334
Presiding: PHILLIP L. GOULD, Wash. Univ., St. Louis, MO
8:30 Construction of Hyperboloidal Large Cooling Towers: W. ZERNA and I. MUNGAN, Ruhr-Universitat Bochum, Bochum, West Germany
9:00 Thermal Stresses in Reinforced Hyperboloidal Cooling Towers: K. SHARMA and A.P. BORESI, Univ. of Ill., Urbana-Champaign, IL
9:30 Effect of Cracking on Meridional Imperfection Forces and Moments in Hyperbolic Cooling Towers: AL-DABBAGH, Sargent & Lundy, and K. GUPTA, IIT Rsrch., Inst., Chicago, IL
10:00 The Buckling of Cooling Tower Shells: D.P. BILLINGTON, Princeton Univ., Princeton, NJ; J.F. ABEL, Cornell Univ., Ithaca, NY; and D. NAGY, Princeton Univ., Princeton, NJ
10:30 Buckling Criteria for Hyperboloidal Cooling Towers Including the Effect of Stiffeners: I. MUNGAN and O. LEHMKAMPER, Ruhr-Universitat, Bochum, West Germany

Session No. 77 8:30 a.m.

Increasing Design Productivity with Computers

Bel Air Room

Structural Division — Committee on Electronic Computation

8:30 Increasing Design Productivity By Public Works Engineering: JOSEPH H. APPLETON, Univ. of Alabama, Birmingham, AL
9:00 Routine Computer Usage By Structural Consultants: J.R. FINCHER, Pres., QUO MODO, Inc., Atlanta, GA
9:30 City Engineering Application For Computers: E.A. FITE, Ass't. City Engr., Florence, AL
10:00 Dynamic Seismic Analysis In A Small Firm: C.K. McDONALD, McDonald Engrg. Analysis Co., Inc., Birmingham, AL
10:30 Computerization of County Design Functions: J.M. HILLMAN, Chf. Design Engr., Jefferson County, Birmingham, AL

Session No. 78 8:30 a.m.

Appropriate Technology in Water Supply and Waste Disposal I

Parlor A

Technical Council on Research — Environmental Impact Analysis Research Council
Presiding: BERNDT H. DIETRICH, Dir., Div. of Envir. Health, World Health Org., 1121 Geneva 27, Switzerland
8:30 Historical Thresholds in Water and Waste Systems: CHARLES G. GUNNERSON, Envir. Engr. Advisor, Natl. Oceanic and Atmospheric Admin., Envir. Rsrch. Labs., Boulder, CO
8:55 Behavioral Factors in Selection of Technologies: ANNE U. WHITE and GILBERT F. WHITE, Inst. of Behavioral Sci., Univ. of Colorado, Boulder, CO
9:20 Economics and Policy in Village Water Supply: ROBERT J. SAUNDERS and JEREMY J. WARFORD, Economist and Economics Adviser, World Bank, Washington, DC
9:45 Tradition and Innovation in Water Reclamation: SAUL ARLOSOFF, Cons. Engr., Tel Aviv, Israel
10:10 Simplified Water Treatment: ROBERT L. WHITE, and N.L. PRESECAN, Pres. and Chf. Engr., Engrg.-Sci., Inc., Arcadia, CA
10:35 Intermediate Service Levels in Water Distribution: DONALD T. LAURIA, and RICHARD N. MIDDLETON, Assoc. Prof., Univ. of No. Carolina, Chapel Hill, NC and Sen. Sanitary Engr., World Bank, Washington, DC

Session No. 79 8:30 a.m.

Soil Sampling and its Importance to Dynamic Laboratory Testing

Parlor C

Geotechnical Engineering Division — Committee on Soil Dynamics
Presiding: RICHARD E. GRAY, GAI Consultants, Inc., Monroeville, PA
Moderator: MARSHALL L. SILVER, Prof., Univ. of Illinois, Chicago, IL
8:30 European Experience in Soil Sampling and Its Influence on Dynamic Laboratory Testing: BENGT BROMS, Prof., Royal Inst. of Technology, Stockholm, Sweden
8:55 Japanese Experience in Soil Sampling and Its Influence on Dynamic Laboratory Testing: H. MORI, Pres., Mori Geotechnique, Tokyo, Japan

ce in Soil Sampling and its Influence on Dynamic Laboratory Testing: H. HORN, Vice Pres., Woodward-Clyde Consultants, Clifton, NJ
9:45 Panel Discussion:
Panel Chairman: JORG OSTERBERG, Prof., Northwestern Univ., Evanston, IL
Panel Members: B. BROMS, Royal Inst. of Technology, Stockholm, Sweden; H. MORI, Mori Geotechnique, Tokyo, Japan; V. DRNEVICH, Univ. of Kentucky, Lexington, KY; H. HORN, Woodward-Clyde, Clifton, NJ

Additional Papers Submitted For Session:

Effect of Sample Disturbance on Stress-Strain Behavior of Cohesive Soils: V.P. DRNEVICH, Assoc. Prof., and K.R. MASSARSCH, Visiting Asst. Prof., Univ. of Kentucky, Lexington, KY
Field Sampling Effects on Cyclic Strength of Sand: M.L. SILVER, Assoc. Prof. Univ. of Illinois, Chicago, IL, K. ISHIHARA, Prof., Univ. of Tokyo, Tokyo, Japan, and H. KITAGAWA, Engr., Kajima Corp., Tokyo, Japan
Comparison of Thin Wall and Block Sampling Techniques on Liquefaction Strength: C. ESPANA and R.C. CHANEY, Fugro, Inc., Long Beach, CA and D. DUFFY, Asst. Prof., Univ. of Arizona, Tempe, AZ
Improved Sampling Methods in Variably Cemented Sand: H. SINGH, Partner, L.A. SOLOMONE, Proj. Mgr., V.G. MILLER, Senior Engr., and J.A. FISHER, Partner, Dames & Moore, Cranford, NJ



Session No. 80 8:30 a.m.

Reclamation of Coal Mined Lands in the Midwest

Astoria Room

Environmental Engineering Division
Presiding: ERIC ZIMMERMAN, Sr. Envir. Engr., Soil Testing Services, Northbrook, IL
8:30 Engineering Aspects of Federal Surface Mining Legislation and Regulations: JEROME HARPER, Energy and Minerals Rsrch. Sec., Argonne Natl. Lab., Argonne, IL
9:00 The Illinois Abandoned Mined Lands Reclamation Plan: ALLEN GROSBOLL, Exec. Dir., State of Ill., Abandoned Mined Land Reclamation Council, Springfield, IL
9:30 Industry's Perspective of Land Reclamation at Active Mines: GLENN PHILLIPS, Reg. Mgr. of Engr. and Envir. Affairs and EARL SMITH, Envir., Quality Control Supv., Cosolidation Coal Co., Evansville, IN
10:00 Reclamation of the Abandoned Reliance Mine Site at Nokomis-Coalton III: JAMES JOHNSON, Landscape Archit., Moss, Johnson, Sandoval and Assoc., Ltd., Springfield, IL

ect at an Abandoned Deep Mine Site:
MICHAEL WILKEY, Envir. Engr. and
STANLEY ZELLMER, Proj. Ldr., Land Re-
clamation Prog., Argonne Nat. Lab., Ar-
gonne, IL.

Session No. 81 8:30 a.m.
Project Engineering

Private Dining Room No. 2

Technical Council on Computer Practices
Presiding: EVERETT C.E. MOONE, Rum-
mel, Klepper & Kahl, Baltimore, MD
8:30 Data Management for Complex Proj-
ects: DANIEL W. HALPIN, Georgia Inst. of
Tech., School of Civil Engrg., Atlanta, GA
9:20 Construction Management:
CHARLES F. BECK, Sargent & Lundy
Engrs., Chicago, IL
10:10 Operations Simulation: BOYD C.
PAULSON, Dept. of Civil Engrg., Stanford
Univ., Stanford, CA

Session No. 82 8:30 a.m.
Offshore Airports

Private Dining Room No. 3

Air Transport Division
Presiding: HERBERT R. CRAWFORD, Sr.
Projs. Dir., Howard Needles Tammen &
Bergendoff
8:30 Two Offshore Runways on Pacific Is-
lands — Honolulu and Truk Int'l Airports
9:05 The Lake Erie Airport — A Status
Update: CAMERON M. SMITH, Exec. Dir.,
Lake Erie Reg. Transp. Auth.
9:40 Engineering Planning of Dike and
Polder Airports: FRANK T. WHEBY,
Conslg. Civil and GT Engr.
10:15 Offshore Airports — Are They Vi-
able?: PETER F.R. BAILEY, Sr. Airport
Planner, Howard Needles, Tammen &
Bergendoff

Session No. 83 8:30 a.m.
Traffic & Highway Safety

Private Dining Room No. 4

Highway Division — Traffic and Safety En-
gineering Committee
Presiding: ROBERT WORTMAN, Dept. of
Civil Engrg., Univ. of Arizona
8:30 Neighborhood Traffic Controls:
MARTIN LIPINSKI, Assoc. Prof. of Civil
Engrg., Memphis State Univ.
9:05 Vehicle Size and Safety: JOHN
KUNNA, NJ Turnpike Auth., New
Brunswick, NJ
9:40 Passing and No Passing Zones:
GRAHAM WEAVER, Assoc. Rsrch. Engr.,
Texas Transp. Inst., Texas A & M Univ.,
College Sta., TX
10:15 Safety, Design and Liability: SHEL-
DON I. PIVNIK, Metro Dade County, Dept.
of Transp., Miami, FL

PAC B 11:00 a.m.

Discussion of Joint Contract Documents

Bel Air Room

Committee on Standards of Practice
Presiding: MILTON LUNCH, Esq., Counsel
for the National Society of Professional En-
gineers, Wash. DC

TRIP/AT AFTERNOON
OCTOBER 20

Session No. 84 1:30 p.m.
Evaluation, Maintenance, and
Upgrading of Timber Structures

Parlor C

Structural Division — Committee on Wood
Presiding: ALAN D. FREAS, Asst. Dir.,
U.S. FPL (Retired) Madison, WI
1:30 Historical Considerations in Evaluat-
ing Timber Structures: R.C. MOODY and
R. L. TUOMI, Engrs., U.S. Forest Prod.
Lab., Madison, WI
1:55 Wood Truss Experiences of 322
Years: CARL C. HANSE, Cnsltg. Engr.,
Silver Spring, MD
2:20 After a Fire: E.L. SCHAFFER, Engr.,
U.S. Forest Prod. Lab., Madison, WI and
T.G. WILLIAMSON, Pres. Laminated Fab-
ricators, Inc., Indianapolis, IN
2:45 Designing for Long Life: P.T.
NICHOLAS, Mng. of Engrg. Services,
Amer. Inst. of Timber Cons., Englewood,
CO
3:10 Reinforcing Structural Wood Mem-
bers: R.M. POWELL, Pres., Powell, Mika
and Assoc., Pasadena, CA
3:35 Strength Evaluation of Wood in
Existing Buildings: R.M. LANIUS, JR.,
Prof., School of Engrg., Univ. of New Ha-
ven, West Haven, CT

Session No. 85 1:30 p.m.

Appropriate Technology in Water
Supply and Waste Disposal II

Parlor A

Technical Council on Research — En-
vironmental Impact Analysis Research
Council
Presiding: DRAKE WILSON, Deputy Dir. of
Civil Works, Corp of Engrs., U.S. Army,
Wash., DC
1:30 Intermediate Service Levels in San-
itation Systems: J.M. KALBERMATTEN and
DEANNE JULIUS, Water and Wastes Ad-
viser and Econ., World Bank, Wash. DC
1:50 Environmental Epidemiology and
Sanitation: DAVID J. BRADLEY and
RICHARD FEACHEM, Ross Inst. of Tropical
Hygiene, London School of Hygiene and
Tropical Medicine, London, England
2:10 Cost-effective Use of Waste Treat-
ment Ponds: SHERWOOD C. REED, and
ALAN B. HAIS, Sanit. Engr., Cold Region
Rsrch. Engr. Lab., US Army Corps of
Engrs., Hanover, NH, and Chf., Municipal
Treatment Br., USEPA, Wash., DC
2:30 Land Treatment Systems for the En-
vironment: HARLAN L. MCKIM and JOHN
R. BOUZON, Rsrch. Scientist, Cold Re-
gions Rsrch. and Engr. Lab., US Army
Corps of Engrs., Hanover, NH
2:50 Alternative Systems in European
Waste Disposal: WILLI GUJER and HANS
WASMER, Swiss Fed. Inst. for Water Rsrch.
and Water Pollution Control, Zurich,
Duebendorf, Switzerland
3:10 Environmental Impacts of Marine
Waste Disposal: WILLARD F. BASCOM,
Dir., So. Calif. Coastal Water Rsrch. Proj.,
El Segundo, CA
3:30 General Discussion

Dynamic Response of Hyperbolic
Cooling Tower Shells

Boulevard Room

Structural Division and Power Division;
ACE-ASCE Committee 334 (Concrete
Shell Design and Construction)
Presiding: DAVID P. BILLINGTON, Prince-
ton, Univ., Princeton, NJ
1:30 Cooling Tower Dynamic Analysis
with Use of a General Shell Element: L.
CEDOLIN and R. GALLAGHER, Cornell
Univ., Ithaca, NY and W. SCHWINDEN,
Zurn Industires, Tampa, FL
2:00 Approximate Earthquake Analysis of
Cooling Towers by a Beam Model: W.B.
KRATZIG and K. MESKOURIS, Ruhr-
Universitat Bochum, Bochum, West Ger-
many
2:30 Earthquake-Induced Rocking and
Translation of Cooling Tower: H.L. LAN-
GHAAR, A.P. BORESI and R.E. MILLER,
Univ. of Ill., Urbana-Champaign, IL
3:00 A Comparison of the Time History
and Response Spectrum Approaches to
the Seismic Analysis of Hyperbolic Cool-
ing
3:30 The Application of Stiffening Rings
in Large Cooling Tower Shells to Improve
Dynamic Behavior: W. TSCHESLOG, Engr.
Bur. of Prof. H. Ebner, Hamburg, West
Germany

Session No. 87 1:30 p.m.

Advances in Storm Water
Management

Astoria Room

Environmental Engineering Division
Presiding:
1:30 Factors Governing the Results of
Stormwater Management Studies: AL-
BERT T. BAIN and WALTER A.
STOTTMANN, Gannett, Fleming, Corddry
and Carpenter, Inc.
2:00 Analysis of Urban Storm Drainage
Systems Using the Penn State Runoff
Model A Case Study: DAVID F. LAKATOS
and KENNETH C. WISWALL, Roy F. Wes-
ton, Inc.
2:30 Steady and Unsteady State Dissolved
Oxygen and Nitrogen Modeling on the
Chattahoochee River, Georgia: JEFFREY
E. MILLER and MARSHALL E. JENNINGS,
U.S. Geological Survey, Gulf Coast Hy-
droscience Cntr.
3:00 Application of the EPA — SWMM
Model to the Combined Sewerage System
in New Haven, CT.: JOSEPH A. CERMOLA
and SERGIO DECARLI, Cardinal Engr. As-
soc. and DEV R. SACHDEV and HASSAN
EL-BAROUDI, Envirosphere Co.

Session No. 88 1:30 p.m.

Software Center

Private Dining Room No. 2

Technical Council on Computer Practices
Presiding: EVERETT C.E. MOONE, Rum-
mel, Klepper & Kahl, Baltimore, MD
1:30 University Software Centers:
LEONARD A. LOPEZ, Univ. of Ill.,
Urbana, IL
2:30 Current ASCE Efforts in Establish-
ing a Software Center: NORMAN R.
GREVE, Chmn., TCCP, Systems Profes-
sional, Los Angeles, CA

Session No. 89 1:30 p.m.**Power Plant Siting****Parlor B**

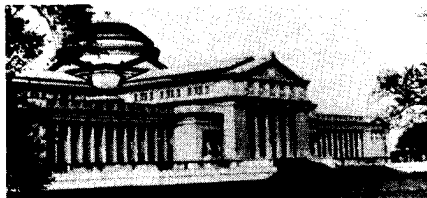
Power Division

Presiding: ROBERT D. GLYNN, Woodward-Clyde Consultants**1:30 Site Selection Process for Nuclear Power Reactors:** MALCOLM L. ERNST, H.S. Nuclear Regulatory Comm.**2:00 Siting of Energy Facilities:** KESHAVAN NAIR, Woodward-Clyde Cnslts.**2:30 Case Studies of Power Plant Site Selection:** PHILIP M. CHEN, DONALD L. MATCHELL, Stone and Webster Engr. Corp.**3:00 Power Plant Siting:** J. SENSER HUSTON and DAMON R. RUNYAN, Dames and Moore**Session No. 90 1:30 p.m.****Realities and Potential of Short Haul Air Transportation****Private Dining Room No. 3**

Air Transport Division

Presiding: DONALD O. COVAULT, Prof. of Civil Engrg., Georgia Inst. of Tech., Atlanta, GA**1:30 Impact of Regulatory Reform on the Short-Haul Market:** CHARLES E. BARCLAY, U.S. Senate Staff, Wash., DC**2:20 Role of the Commuter Airlines in Short-Haul Air Transport:** JANET ST. MARK, Exec. Vice Pres., Commuter Carriers, Washington, DC**3:10 Realities and Potential of Short-Haul Air Transportation:** RON PULLING, Cnsltnt., Alexandria, VA.; GILBERT DUNKIN, Dehavilland Aircraft Co., Downsview, Ontario; GROVER JONES, State of Florida, Dept. of Transp., Tallahassee, FL.; TOM MILES, Commuter Airline Assoc. of Amer., Wash., DC; JOSEPH ADAMS, Assoc. of Local Transport Air Lines, Wash., DC**Session No. 91 1:30 p.m.****New Applications For Highways****Private Dining Room No. 4**

Highway Division — Committee Geometrics and Esthetics

Presiding: SHELDON SCHUMACHER, Schumacher and Svoboda, Inc., Chicago, IL**1:30 New Application of Road User Benefit — Analysis for Highway Improvements:** TIMOTHY R. NEUMAN, Jack E. Leisch and Assocs., Evanston, IL**2:05 Design Application of Collector — Distributor Roads in Freeway Rehabilitation Projects:** JOEL LEISCH, Jack E. Leisch and Assocs., Evanston, IL**2:40 Geometric Guidelines for Access Control:** GEORGE PILKINGTON, Fed. Hwy. Admin., Off. of Rsrch., Wash., DC**3:15 Analysis Techniques for Freeway Rehabilitation Projects:** SIGMUND C. ZIEJEWSKI, State of Ill., Dept. of Transp., Schaumburg, IL**MONDAY AFTERNOON,
OCTOBER 16****TOUR — MUSEUM OF SCIENCE AND
INDUSTRY, UNIVERSITY OF
CHICAGO AREA, CHINATOWN****12:30 p.m. — 5:30 p.m.**

A trip to Chicago's most popular tourist attraction, the fabulous Museum of Science and Industry, which explains the principles of science and technology and shows how they are applied in everyday life. Visitors are encouraged to push buttons, turn cranks, and lift levers! It is possible to erase the evolution of automotive, rail, and air transportation ... walk through a working coal mine, a captured German submarine, or Colleen Moore's famous doll house. In addition, our tour will include a visit to the architecturally elegant University of Chicago area; a look at Frank Lloyd Wright's famed Robie House; and will conclude with a tour of Chicago's colorful Chinatown.

Price Per Person: \$9.50**TUESDAY MORNING,
OCTOBER 17****SPOUSES TOUR OF LONG GROVE
NINETEENTH CENTURY VILLAGE &
LUNCH****9:30 a.m. — 4:00 p.m.**

A visit to Long Grove is a nostalgic return to the late nineteenth century. It is a charming German village with its beginnings in the early 1800's, which through careful planning and restoration, maintains its authenticity and cleverly conceals the more than sixty high-quality shops ... a shopper's paradise.

Our day in Long Grove will be spent browsing and strolling through the delightful antique, boutique, jewelry, art, import, book, craft, plant, and flower shops to be discovered along the cobble-stone walkways through the town.

A special treat enroute will be a tour of Chicago's North Shore ... a viewing of stately mansions, handsome estates, Northwestern University's exciting landfill campus, and the world-famous Baha'i Temple. A country buffet luncheon at the Hobson House in Long Grove is included in the day's arrangements.

Price Per Person: \$14.75**WEDNESDAY MORNING
OCTOBER 18****SPOUSES TOUR: HIGHLIGHTS OF
CHICAGO . . . PLUS . . . QUAKER
OATS KITCHENS WATER TOWER
PLACE ART INSTITUTE****9:30 a.m. — 1:00 p.m.**

Our Highlights tour combines the fascinating history of Chicago and its people with a viewing of the spectacular attractions found in the central city area ... a selection of the buildings and plazas which have earned Chicago the title of architectural capital of the world; interesting historical sites; the center of Chicago's bohemian life; and fascinating ethnic areas. Our tour will not only acquaint us with Chicago, but it will, also, give a real sense of the city and its inhabitants. The tour will conclude with one of three options (your choice):

Quaker Oats Test Kitchens (limit of 125)

A visit to see how recipes are created; how some of Quaker Oats products are made; a viewing of six "dream" kitchens with ultra modern equipment; and a rare antique copper collection.

Water Tower Place

Chicago's glamorous vertical shopping center housing boutique and department stores (including Marshall Field, Lord and Taylor, Halston, and Pierre Cardin.) Intriguing shops and atmospheric restaurants, too.

Art Institute of Chicago

World-renowned collection of French Impressionists paintings; the new Chagall stained glass windows, Louis Sullivan's spectacular Stock Exchange trading room; and the exquisite miniature Thorne rooms are but a few of the delights to see!

Price Per Person: \$8.50**THURSDAY MORNING
OCTOBER 19****SPOUSES OAK PARK HISTORIC
PRESERVATION DISTRICT TOUR &
LUNCH****9:30 a.m. — 4:00 p.m.**

A tour of the beautiful Oak Park historic preservation district with visits to the world-famous Frank Lloyd Wright Home and Studio; the elegant Farson Mills home, known for its beautiful interior design, stained glass, and magnificent carvings; and Wright's monumental work, the Unity Temple. Our tour of the district will feature Frank Lloyd Wright-designed homes, as well as residences designed by other Prairie School architects. A special feature of our tour will be a gourmet box luncheon with wine accompaniment.

Price Per Person: \$20.75

Function	Price	No. of Tickets	Amount
REGISTRATION FEES			
ASCE MEMBERS & MEMBERS, FOUNDER SOCIETIES — Weekly	\$50.00		\$
— Daily (circle day)	\$20.00		\$
Mon. Tues. Wed. Thurs. Fri.			
ASCE NON-MEMBERS — Weekly	\$60.00		\$
— Daily (circle day)	\$25.00		\$
Mon. Tues. Wed. Thurs. Fri.			
SPOUSES — Weekly	\$15.00		\$
Monday, October 16			
Continuing Education Course Part I — A New Dimension in Communications	\$20.00		\$
Continuing Education Course Part II — A New Dimension in Communications	\$20.00		\$
Spouses Museum of Science & Industry Tour	\$ 9.50		\$
Keynote Luncheon	\$10.50		\$
Field Trip — Chicago Aerial Survey	\$ 3.50		\$
Icebreaker Party	NC		NC
Tuesday, October 17			
Engineering Education Breakfast	\$ 4.50		\$
Spouses Long Grove Village Tour	\$14.75		\$
Field Trip — Bethlehem Steel	\$ 4.50		\$
Southwest Sewage Treatment Plant	\$ 4.00		\$
Wednesday, October 18			
Spouses Highlights of Chicago	\$ 8.50		\$
Check one: ___ Quaker Oats Kitchens			
___ Water Tower Place			
___ Art Institute			
Honorary Membership Luncheon	\$10.50		\$
Field Trip — Portland Cement Assn.	\$ 4.00		\$
ASCE Annual Banquet	\$25.00		\$
Thursday, October 19			
Spouses Oak Park Tour & Lunch	\$20.75		\$
Field Trip — Argonne National Lab.	\$ 4.50		\$
Checks to be made payable to "ASCE"		Totals: \$	

(Check one category for each question)

Which classification most closely applies to the type of organization with which you are now employed or affiliated?

- | | |
|---|---|
| <input type="checkbox"/> Consulting, Engineering | <input type="checkbox"/> Educator |
| <input type="checkbox"/> Consulting, Architectural | <input type="checkbox"/> Research |
| <input type="checkbox"/> Design/Construct | Government: |
| <input type="checkbox"/> Construction Contractor | <input type="checkbox"/> Federal |
| <input type="checkbox"/> Commercial of Industrial Organization (incl. transportation and privately owned utility companies) | <input type="checkbox"/> State, County, Township and District |
| | <input type="checkbox"/> Municipal |
| | <input type="checkbox"/> Other _____ |
- Please explain.

Which classification applies to your title and occupation?

- Owner, Corporate Executive, General Manager or Manager
- Chief or Staff Engineer
- Staff Architect, Designer or Draftsman
- Construction Superintendent or Member of Supervisory Staff
- Others including Department Managers or Department Heads

Which classification applies to your purchasing authority?

- Specify Authorize Recommend Specify/Recommend
- Specify/Authorize Specify/Recommend/Authorize Not Applicable

What types of projects are your principal concern?

- | | |
|--|--|
| <input type="checkbox"/> Airports | <input type="checkbox"/> Pollution Control (Air, Waste, Water) |
| <input type="checkbox"/> Bridges | <input type="checkbox"/> Power Plants |
| <input type="checkbox"/> Buildings, Industrial | <input type="checkbox"/> Rail Transit, Mass |
| <input type="checkbox"/> Buildings, Commercial | <input type="checkbox"/> Rivers & Harbors |
| <input type="checkbox"/> Buildings, Housing | <input type="checkbox"/> Sewage Works |
| <input type="checkbox"/> Dams | <input type="checkbox"/> Transmission Lines |
| <input type="checkbox"/> Foundations | <input type="checkbox"/> Tunnels |
| <input type="checkbox"/> Highways | <input type="checkbox"/> Urban Development |
| <input type="checkbox"/> Pipelines | <input type="checkbox"/> Water Supply Systems |

Other _____ Please explain

CONRAD HILTON OFFICIAL RESERVATION REQUEST

AMERICAN SOCIETY OF CIVIL ENGINEERS ANNUAL CONVENTION AND EXPOSITION OCTOBER 16-20, 1978

Name _____

Firm _____

Confirm to (Address) _____

City _____ State _____ Zip _____

Arr. Date _____ Hour _____ a.m. Dep. Date _____ p.m.

FOR MORE THAN 2 ROOMS CONTACT RESERVATION MGR.

PLEASE CHECK RATE REQUESTED					
Singles:	\$35	\$41	\$44	\$47	\$62*
Doubles:	\$47	\$53	\$56	\$59	
Twins:	\$47	\$53	\$56	\$59	\$62*
Deluxe Twins:	\$62				

THE CONRAD HILTON TOWERS	
Singles:	\$44 \$67*
Doubles:	\$56
Twins:	\$56 \$67*
*DELUXE TWINS SUITES ON REQUEST TO HOTEL	

If rate requested is not available, next available rate will be confirmed.

Rooms will be held until 6 p.m. on the date of arrival unless a later time is specified.

Room reservations must be received 15 days prior to opening of convention.

All room rates subject to additional 6.1% charge to cover Illinois Hotel Operators' Occupation Tax and the Chicago Hotel Operators' Tax, as well as a 2% Chicago Hotel Accommodations Tax imposed by the City of Chicago.

For those attending Continuing Education Courses at the Pick Congress Hotel, the Hotel Reservation Form is on page 34.

Hotel Reservations must be sent directly to:
The Conrad Hilton • Michigan Boulevard •
7th to 8th Streets • Chicago, Illinois 60605

ASCE CONTINUING EDUCATION**COURSE OFFERINGS in conjunction with the ASCE Annual Convention and Exposition
Chicago, Illinois — October 16-20, 1978****COMPLIMENTARY CONVENTION
REGISTRATION**

Each course participant will automatically receive a complimentary registration to the ASCE Annual Convention and Exposition. (Course No. 5 is not included in this offer.)

REGISTRATION DISCOUNT

If an organization registers two or more persons OR one person registers for two or more courses, there is a discount of \$25 per day per person per course after paying the full fee for one course. (Course No. 5 is not included in this offer.)

STUDENT DISCOUNT

Students in good standing with their ASCE Student Chapter may register at half the course fee on a space available basis.

GENERAL INFORMATION

Certificates: Each course participant will be awarded a certificate of completion indicating the number of CEUs (Continuing Education Units). One CEU equals ten contact hours of instruction in an approved curriculum taught by qualified instructors. The CEU is a nationally adopted continuing education unit developed by the National University Extension Association.

Class Sizes: Class sizes are limited. Registration will be handled on a "first-come, first-served" basis. All reservations will be confirmed by letter. Courses that do not meet minimum registration requirements will be cancelled.

Time Schedule: All courses will run from 9:00 a.m. to 5:00 p.m. with a break for lunch except for Course No. 5 which is a half day course.

Location: All courses will be held at the Pick Congress Hotel, 520 South Michigan Blvd., Chicago, Illinois 60605, (312) 427-3800.

Hotel Reservations: If such are desired, reservations should be made directly with the hotel. A hotel reservation appears on page 34.

Tax Deduction for Education Expenses: Treasury regulation 1.162-5 permits an income tax deduction for education expenses (registration fees and cost of travel, meals and lodging) undertaken to maintain or improve skills required in one's employment or other trade or business.

Further information: Continuing Education Services, ASCE, 345 East 47th Street, New York, N.Y. 10017 (212) 644-7668.

**Course No. 1 — October 16, 1978****Building Effective Work/Project Teams**

Faculty: DR. BURTON A. GROSSMAN, Elliott, Pfisterer, Chinetti Associates, Inc., Chicago, Illinois.

This workshop is intended for people who have responsibility for an ongoing work team or group and those who are leading project teams. The purpose of this program is to help managers get a better understanding of what happens in a group and why it happens. With this knowledge in hand we move on to discuss how one can be more effective in leading a group effort, identifying specific techniques that participants can utilize back home.

Particular attention is given to how to integrate individual efforts into a coordinated group effort. Participants will acquire techniques to use in identifying why a group is not working together effectively. A variety of approaches to improving team performance will be examined, giving the manager a range of alternatives from which to tailor a method for his/her particular situation. Time will be set aside to discuss the unique team/group problems that the participants are encountering in their own organizations.

Course Outline

1. The Process of Team Development
 - A. Managing a group effort
 - B. Objectives of team development
2. Characteristics of an Effective Work Team
3. Factors that Impact on How Groups Function
 - A. Emotional issues
 - B. How people behave in groups
 - C. The work to be done
4. The Individual in the Group
 - A. Interpersonal conflict in a group
 - B. The roles that people play
 - C. Behaviors that hinder group efforts
 - D. Blending individual styles
5. Leadership in the Group Setting
 - A. How to become an effective leader
6. Approaches to Team Development
 - A. How to diagnose group problems
 - B. Facilitating group problem solving
 - C. Work and role clarification; definition of responsibilities
 - D. Running effective meetings
 - E. Establishing group objectives
7. Unique Team Development
 - A. The new team
 - B. The "complacent" team
 - C. The project team

Fee: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.



BURTON A. GROSSMAN received his M.A. and Ph.D. in Organizational Psychology from Michigan State University. Subsequently he worked for the Industrial Relations Center of the University of Chicago as a Project Director and Staff Psychologist. In this position he was responsible for designing and implementing management development and organization improvement programs for a wide variety of client organizations. He then joined

the Atlantic Richfield Company as Senior Advisor. Management Development with responsibility for establishing individual development programs for managers, and for conducting team building workshops. Currently he is a Senior Associate with the consulting firm of Elliott, Pfisterer and Chinetti Associates, Inc. in Chicago. Since joining this firm in 1974 he has worked as a management consultant in the application of behavioral science methods to help organizations and the individuals working within them to become more effective. Dr. Grossman is a Registered Psychologist in Illinois and has conducted workshops and seminars for a variety of managerial and professional groups. He has previously served on the faculty of ASCE Continuing Education.

Course No. 2 — October 16, 1978**Effective Marketing of Professional Services**

Faculty: ARNOLD OLITT, Consultant on Business Development with Woodward-Clyde Consultants, San Francisco, California.

This one-day course is primarily designed for partners and associates of small and medium sized engineering firms. It will emphasize concepts and techniques to organize the marketing functions of your firm, retaining present clients, attracting new business, planning for change and growth. The course will include: factors affecting future growth planning; the fundamentals of effective marketing; the organization and development of new business; the role of public relations.

Fee: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.



ARNOLD OLITT is a graduate of the University of California at Berkeley where he also did graduate work. He was on the faculty there until 1950. In 1950 he was a founder of the firm of Woodward-Clyde and was with that firm until his retirement in 1973. He was responsible for developing and administering the marketing program used by this organization. Mr. Olitt's past experience for ASCE includes: President of the San Francisco Section, Chairman of the Civic Affairs Committee of the Metropolitan New York Section, Representative from Zone IV on the ASCE National Committee on Employment Conditions, Program Chairman for the October 1973 National ASCE Convention held in New York City, Representative from Zone 1 on the Executive Committee of ASCE's National Professional Practice Division, ASCE's representative on the Ethics Committee of the Engineers' Council for Professional Development, ASCE's representative, as well as Chairman, of the Joint Committee on Employment Practices. Mr. Olitt is a licensed professional engineer and holds membership in NSPE, APWA, SAME, ACEC, USCOLD and SEAONC. He has taught throughout his profession for many professional engineering societies and has previously served on the faculty of ASCE Continuing Education.

The Engineer as an Expert Witness

Faculty: SAYWARD MAZUR, ROBERT A. RUBIN, ROBERT N. SHIVERTS and STANLEY J. SIEGELBAUM, all members of the law firm of Max E. Greenberg, Trayman, Cantor, Reiss & Blasky, New York, New York.

This one-day course will focus on the Civil Engineer's role when called as an expert witness in court. The purpose of this course, therefore, will be to explain courtroom procedures, the rules of evidence, and "do's and don'ts" for appearance in court as an expert witness. The course format will include the "dramatic" presentation of a segment of a trial involving the collapse of a precast concrete structure. The structural engineer, called as an expert witness to explain the cause of the collapse, will be put through direct examination, cross examination, and rebuttal examination by the attorneys for both sides. A "judge" will rule on objections to testimony and evidence. The "trial" will take place in a realistic courtroom setting, following normal rules of evidence and court procedures. The "cast" of instructors are all seasoned attorneys in construction litigation; two are professional engineers as well.

Course Outline

Investigation and Preparation for Trial — Site Visits; Photographs; Calculations; Measurements; Tests; Reports; Examinations Before Trial.

The Rules of Evidence — "Best Evidence"; Attorney's Work Product; Privileged Communication; Records Kept in the Regular Course of Business; Chain of Custody; Demonstrative Evidence; Hearsay; Opinion Evidence; Treatises and Texts.

Trial Procedure — 1. Order of Proof: Direct Testimony; Cross Examination; Rebuttal. 2. Testimony: Form of Questions; Leading Questions; "Yes and No" Answers; Use of Notes to Refresh Recollection; Use of Exhibits; Objections.

Expert's Conduct and Demeanor — Appearance and Dress; Communication with Judge and Jury; Self Contradiction; Mistakes and Lack of Knowledge; Outsmarting the Opposing Attorney; Expert's Compensation; Mannerisms of Speech; Wisecracks and Jokes; Self Confidence and Humility; Honesty, Integrity and Impartiality.

Differences Between Court and Arbitration

Fee: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.



Top right: Rubin, Siegelbaum.
Bottom right: Mazur, Shiverts.

SAYWARD MAZUR is a partner in the law firm of Max E. Greenberg, Trayman, Cantor,

an associate in law firm of Max E. Greenberg, Trayman, Cantor, Reiss, & Blasky of New York City. He received a Bachelor of Civil Engineering from New York University and a Juris Doctor from Brooklyn Law School.

Mr. Mazur was awarded a Bachelor Arts degree from Long Island University and a Juris Doctor from Brooklyn Law School. He has lectured for the American Management Association, New York State Society of Professional Engineers, Nassau County Bar Association, Federal Publications, Inc. and the American Bar Association on construction contract and surety law. He is the author of a chapter on construction cases in "Using Experts in Civil Cases" published by the Practising Law Institute. Mr. Mazur is a member of the New York Bar and also belongs to the New York State Bar Association and the New York County Lawyers' Association. He has previously served on the faculty of ASCE Continuing Education.

ROBERT A. RUBIN received a Bachelor of Civil Engineering from Cornell University and a Juris Doctor from Columbia University. He is a partner in the law firm of Max E. Greenberg, Trayman, Cantor, Reiss & Blasky, of New York City, whose practice is devoted exclusively to matters relating to the construction industry and, in particular, to government contracts. He has served as Secretary of the Executive Committee Construction Division, American Society of Civil Engineers, and is a member of the Committee on Contract Administration.

Mr. Rubin has lectured for the American Management Association, Federal Publications, Inc., New York University, School of Continuing Education, American Association of Cost Engineers, Practising Law Institute, and ASCE on construction contract documents, construction claims and state and local government contract law. He has also published papers on these subjects.

Mr. Rubin is a member of the New York Bar and is a licensed professional engineer in New York. He is a member of the Litigation and the Public Contract Law Sections of the American Bar Association and the New York State Bar Association. He is a past Director of the Kings County Chapter of the New York State Society of Professional Engineers and a member of The Moles. He has previously served on the faculty of ASCE Continuing Education.

ROBERT NELSON SHIVERTS is of counsel to the law firm of Max E. Greenberg, Trayman, Cantor, Reiss & Blasky of New York City. He has his B.A. from Virginia Military Institute and his J.D. from St. John's University where he was the Legislation Editor of the Law Review. He was admitted to the New York Bar in October, 1943, and is on the Panel of Arbitrators of the American Arbitration Association and is also a member of the New York County Lawyers' Association and the Queens County Bar Association. He is a member of the American Bar Association and its Litigation, Judicial Administration, and Insurance Compensation Claims Sections. In addition he is a member of the New York State Bar Association and its Litigation and Insurance Compensation Claims Sections and the Committee on Products Liability and Committee on Professional Liability of the latter section. He is a member of the Defense Research Institute and is on the Board of Governors of the Defense Association of New York and is also presently serving as a member of its Judiciary Committee. Mr. Shiverts has previously served on the faculty of ASCE Continuing Education.

Course No. 4 — October 16, 1978

Field Instrumentation For Soil and Rock Mechanics

Faculty: JOHN DUNNICLIFF, Principal, Vice President and Manager of Soil and Rock Instrumentation Division, Goldberg, Zoino, Dunicliff & Associates, Inc., Geotechnical Consultants, Newton, Massachusetts.

This one-day course is aimed at the practicing engineer concerned with field monitoring of civil engineering construction involving soil and rock. The course should also be of major interest to mining engineers. The need for monitoring instrumentation increases as the complexity of construction projects increases, and as regulatory agencies impose increased safeguards. Although many dependable monitoring instruments are available, the success of a monitoring program depends heavily on the skill with which engineers plan and perform the task. The course will be illustrated with case histories describing field monitoring of tied back and braced excavations, tunnels, piles, dams and earth fills.

The following topics will be covered:

1. **Reasons for using field instrumentation.**
2. **Commercially available instruments, with descriptions of principles of operation of each, discussion of advantages and limitations, installation procedures.** Some demonstration items:
 - Pore pressure, using piezometers
 - Earth pressure, using earth pressure cells
 - Deformation, using settlement gages, heave gages, inclinometers and extensometers.
 - Load and stress in supporting members, using load cells and strain gages.
3. **People problems associated with field monitoring programs:**
 - Systematic planning of monitoring programs
 - Specifications for furnishing and installing instrumentation, and for data collecting and processing.
 - Coordination between resident engineer and designer
 - Instrument quality
 - Personnel requirements
 - Communication between specialist personnel and construction contractor
 - Data collection, processing and interpretation
 - Maintenance
 - Use of measured data

Fees: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.



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ceived masters degrees from Oxford and Harvard Universities with concentration in soil mechanics and foundation engineering. He is a registered professional engineer in the State of Massachusetts, a member of the American Society of Civil Engineers, and many other professional societies. He has been responsible for designing and installing instrumentation for dams in Europe and Asia, and with his present firm has been in charge of major instrumentation projects for dams, tunnels, underground powerhouses, laterally supported excavations, slopes power plant foundations, earth and rock fills and piles. He is the author of many publications in his area of expertise and has presented lectures and seminars to consulting engineering firms and professional groups. He has previously served on the faculty of ASCE Continuing Education.

Course No. 5 — October 16, 1978
(Half-Day 9 a.m. to 12 p.m.)

A New Dimension in Communications — Part I

(In cooperation with the ASCE Chicago Ladies Activities Committee)

FOR MEN AND WOMEN

Faculty: REBA HOLM, Verbal Communications, Dallas, Texas.

This exciting and thought-provoking mini-seminar was presented to ASCE participants in Dallas, San Francisco and Pittsburgh. Each person has an opportunity to express his or her ideas and gain from others through a series of games (no scores given) and conversations. Techniques of communications with business associates, spouses, children, organizations, and friends are outlined. It is not speech-making, rather it is a discussion of awareness of communications.

The leaders and the seminar have been subjects of articles in the *San Francisco Examiner*, *Dallas Morning News*, *Dallas Times Herald*, *International Management*, *Ladies Home Journal*, *Successful Meetings*, *Meetings and Conventions*, and in *Association Management*. They have presented programs to many groups in all corners of the world, from Vienna, Austria, to St. Maarten Island, to Mexico. Part II will be offered in the afternoon for persons who have attended Part I.

Fee: \$20 per person

Certificate of completion: 0.3 CEUs.



REBA HOLM is a graduate of Southern Methodist University and is active in television and radio as a professional singer and educator. She has been associated with Verbal Communications for five years. Mrs. Holm has previously served on the faculty of ASCE Continuing Education.

Course No. 5 — October 16, 1978
(Half-Day 2 p.m. to 5 p.m.)

A New Dimension in Communications — Part II

(In cooperation with the ASCE Chicago Ladies Activities Committee)

FOR MEN AND WOMEN

Faculty: REBA HOLM, Verbal Communications, Dallas, Texas.

Because of the great demand for a follow-up program to the successful "A New Dimension in Communications," Verbal Communications is offering this opportunity. A natural follow-through to the concepts developed in Part I, Part II carries on the techniques to a deeper and a more advanced level. Group communications techniques, body language, and other stimulating exercises are offered.

Fee: \$20 per person

Certificate of completion: 0.3 CEUs.

(Biographical information on REBA HOLM appears in left-hand column below.)

Course No. 6 — October 16-17, 1978

Construction Cost Estimating and Bidding

Faculty: MARVIN GATES, Principal in Gates-Scarpa Associates and Construction Estimating, Inc., Elmwood, Connecticut.

This two-day course is addressed to the practicing construction industry, especially administrators, with knowledge of the industry and facility with non-college level mathematics. A pocket calculator would be helpful for use in the classroom.

Course Outline

I. Conceptual and Preliminary Estimates

- A. By Comparables
- B. By Capacity and Occupancy
 - 1. No Economy of Scale
 - 2. 0.75 Rule
- C. By Sq. Ft. and Cu. Ft.
- D. Ratio Estimating

II. Budget Estimates

- A. Quantity Take-Off
- B. Pricing
- C. Markups
 - 1. Miscellaneous and Contingencies
 - 2. General Conditions and Job Overhead
 - 3. Company Overhead
 - 4. Profit

III. Adjustments

- A. Time Index Numbers
- B. Location — Index Numbers
- C. Quantity — Experience Curve
- D. Efficiency of Labor
 - 1. Overtime
 - 2. Overcrowding
 - 3. Weather

IV. Definitive Estimates

- A. Classification of Items of Work
 - 1. Subcontract Items
 - 2. Minor Items
 - 3. Major Items

- 1. Cost of Labor
- 2. Cost of Equipment
- 3. Cost of Material
- 4. Overhead
- 5. Profit

V. Productivity

- A. Anticipated
- B. Break-Even
 - 1. Fixed and Variable Costs
 - 2. Cost Income Profit Relationship
- 3. Field Cost Guide
- C. Actual
 - 1. Profit-Loss
 - 2. Critical Time Chart

VI. Profit, Formula For

- A. Variance of Productivity
 - 1. Triangular Distribution
 - 2. Coefficient of Variation
- B. Confidence Level

VII. Estimating Under Conditions of Uncertainty

- A. Expected Monetary Value
- B. Subjective Case
- C. Objective Case
 - 1. General
 - 2. Cost Optimization
- D. Expected Utility Value

VIII. Planning

- A. Balancing the Crew
- B. Optimizing
- C. Resource Leveling and Cash Flow
 - 1. Resource Demand
 - 2. Cumulative Costs
 - 3. Cumulative Income

IX. Bidding Strategies

- A. Unbalanced Bidding
 - 1. Timing
 - 2. Convenience
 - 3. Deception
 - 4. Profit
- B. Substitution Model
- C. Money Left-On Table
- D. Maximizing Profit
 - 1. General Model
 - 2. Gates' Model

Fee: \$195 ASCE Member
\$234 Non-Member

Certificate of completion: 1.4 CEUs.



MARVIN GATES is a recipient of the Walter L. Huber Civil Engineering Prize, the James Laurie Prize and the Elwood Nettleton Award. He is a fellow in ASCE, a member of the Executive Committee of the Construction Division and past Chairman of the Committee on Estimating and Cost Control. He is a Registered Professional Engineer, Landscape Architect, Professional Planner and certified cost engineer. Mr. Gates attended the Cooper Union in New York City and is a member of Tau Beta Pi and Chi Epsilon. He is on the adjunct faculty of Hartford State Technical College and Worcester Polytechnic Institute. Mr. Gates is the author of numerous ASCE papers relating to constructing costs. He is a member of ASCE, NSPE, AACE and ASEE. His areas of specialization include: estimating, bidding, planning and economics; design and supervision of construction of civil works; feasibility studies for land development; and support to the legal profession. During his assignments he has visited more than 50 countries. Mr. Gates has previously served on the faculty of ASCE Continuing Education.

Environmental Program Implementation

Faculty: DR. IVAN METZGER, Consulting Engineer, Water and Wastewater Program Management, Belmar, New Jersey; JAMES W. FAGAN, Principal Engineer, Hazen and Sawyer, New York, New York.

This two-day course is designed for engineers who are required to develop detailed management plans for implementing environmental programs, especially "208" areawide waste management programs and "201" wastewater facility programs under Public Law 92-500, and water supply programs under Public Law 93-523.

The course emphasizes concepts and techniques for the organization and execution of implementation studies, and includes reviews of relevant current and pending environmental legislation and environmental policies. Attention is focused on the following areas:

- General management, including the development of plans for program supervision and coordination, public accountability, and continuous program planning.
- Financial management, including the development of plans for capital funding, rate structures, user charges, and industrial cost recovery.
- Regulatory management, including the development of plans for land use controls, ordinances, permits or licenses, and pretreatment and other standards.

Fee: \$195 ASCE Member
\$234 Non-Member

Certificate of completion: 1.4 CEUs.



DR. IVAN METZGER has 25 years of experience in civil and environmental engineering. Following a dozen years of teaching, research, and consulting as a professor in civil engineering at the New Jersey Institute of Technology, he joined Hazen and Sawyer in New York where he directed numerous environmental projects. He is presently in consulting practice, specializing in water and wastewater program management.

Dr. Metzger received his Ph.D. from New York University, and also holds degrees from Massachusetts Institute of Technology and Newark College of Engineering. He is a licensed professional engineer and land surveyor in New York, and in New Jersey. Dr. Metzger has previously served on the faculty of ASCE Continuing Education.



JAMES W. FAGAN is a principal engineer with Hazen and Sawyer in New York where he has been responsible for direction and administration of several major environmental engineering projects, and now specializes in directing the institutional, financial, and other implementation aspects of projects. His experience also includes work in municipal finance with a New York investment banking firm.

Mr. Fagan received his doctorate in law from Fordham University, and holds a bachelor's and master's degree in environmental engineering from Manhattan College. He is a licensed professional engineer in New York.

Improving Employee Performance

Faculty: DR. BURTON A. GROSSMAN, Executive Personnel Counsel, Elliott, Pfisterer, Chinetti Associates, Inc., Chicago, Illinois.

This workshop is intended for people who are currently in supervisory or managerial positions. The focus of the session is on developing skills and insights that can be used to improve employee performance on the job. Participants will be introduced to a problem solving process which enables them to move in a step by step manner from an initial statement of the problem to the identification of alternative solutions.

Examining the different causes for unsatisfactory performance will help managers broaden their understanding of the relationship between employee needs, manager style and organizational objectives. During the workshop the participants will 'role play' typical manager-subordinate situations in order to develop their coaching and counseling skills. In addition to learning specific 'improvement' techniques, recommended approaches for minimizing future problems will be discussed. The assumption is made the manager wants to improve performance beyond its current level, regardless of what that level may be.

Course Outline

1. **Problem Solving Approach to Performance Improvement**
 - A. Desired behavior versus actual behavior
 - B. Identifying the causes of unsatisfactory behavior
 - C. Developing alternative solutions
 - D. Establishing improvement objectives
2. **Causes of Unsatisfactory Performance**
 - A. Lack of skills or knowledge
 - B. Personal problems
 - C. Work-related problems
 - D. Organizational causes
 - E. The manager-subordinate relationship
3. **Issues Impacting on Improvement**
 - A. How people change
 - B. Psychological factors
 - C. Organizational resources
4. **Motivation and Performance**
 - A. Integrating work goals and personal goals
 - B. Leadership style
5. **Approaches to Improving Performance**
 - A. Coaching and counseling
 - B. Work clarification; goal setting
 - C. Learning based techniques
 - D. Disciplining
 - E. Performance appraisals
 - F. Other approaches

Fee: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.

(Biographical data for DR. GROSSMAN appears on page 27.)

Inspection of Pile Installation and Concreting Operations

Faculty: DR. M.T. DAVISSON, Professor of Civil Engineering, University of Illinois, Urbana-Champaign, Illinois; ERNEST T. MOSLEY, Principal, Raamot Associates, Syracuse, New York.

This one-day course will describe the information that must be accumulated during the inspection of pile driving operations. It is assumed that the soil investigation phase is completed, that plans and specifications are finalized, and a contract written. The inspection techniques described are concerned primarily with technical items, but methods of incorporating information on pay items and other administrative details are also described. The course begins by explaining pre-construction organization, then the pile driving operations and finally the data that the inspector must record.

Course Outline

I. Administration Details of Pile Inspection

- A. Documents
- B. Sequence of construction
- C. Driving equipment
- D. Data forms
- E. Pay items
- F. Material specifications

II. Technical Details of Pile Inspection

- A. Driving criteria
- B. Indicator piles
- C. Load test piles
- D. Load tests
- E. Marking of piles
- F. Rejecting piles

III. Placing Concrete in Cast-In-Place Piles

- A. Introduction — what can happen if concrete is not placed properly; discussion of the kinds of defects which can occur
- B. Common ways of placing concrete in pile
- C. How contract specifications commonly treat concrete placement and how inspection is commonly carried out
- D. Factors which influence concrete quality in cast-in-place piles
- E. Ways to control quality in piles
 1. By specifications
 2. By inspection

Fee: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.



DR. M.T. DAVISSON is a consulting foundation engineer and a professor of civil engineering at the University of Illinois at Urbana-Champaign. He has extensive foreign and domestic experience in all phases of geotechnical engineering. His research specialty is deep foundations. In recent years Dr. Davison has been a leader in utilization of the wave equation analysis of pile driving as a practical tool for design, construction and inspection purposes.

Technical research deep foundations (piles, drilled piers, etc.) settlement of foundations, soil dynamics, foundation vibrations and dynamics of pile driving. He is consultant to a wide variety of clients — engineers, contractors and government agencies. His responsibilities as a consultant vary from design to trouble-shooting on field problems to projects involving litigation.

Dr. Davisson is a native of Ohio, with a BCE from the University of Akron; he has a MS and a PhD from the University of Illinois, where he teaches seniors and graduate students.

Dr. Davisson is a member of ASCE, ACI, AREA, ASTM, TRB, and NSPE. He is a member of every national organization concerned with deep foundations. He is a professional engineer and is also a registered structural engineer in Illinois. He has more than 35 publications in the field of soils and deep foundations.



ERNEST MOSLEY is a principal with Raamot Associates, a geotechnical engineering firm whose head office is in New York City. He was formerly the Chief Foundations Engineer with Raymond International, Inc. His experience includes foundation investigations, analysis, design and construction supervision concerning a wide variety of types of foundation piling. He has made a number of lectures on foundation piling design and construction at seminars and for technical societies.

Mr. Mosely received his BS in civil engineering at the University of Texas and his MS in civil engineering at the University of Illinois. He is currently a member of the ASTM Subcommittee on Deep Foundations and is a Fellow of ASCE.

Course No. 10 — October 17, 1978

Personal Estate Planning

Faculty: WILLIAM M. THROOP, JR., Esq. and CAROLYN S. WOLLEN, Esq., Attorneys from the firm that serves as the American Society of Civil Engineers' legal counsel, New York, New York.

Engineers and their spouses who are interested in gaining a better understanding of tax and financial opportunities in managing their personal assets are invited to attend this program. The discussions will focus on specific examples of techniques designed to reduce the impact of gift, estate and income taxes on the accumulation and ultimate disposition of personal assets. Topics will be discussed generally and in the context of representative case studies, with emphasis on recent significant legislation such as the Tax Reform Act of 1976 and subsequent corrective legislation.

Course Outline

Overview of Gift and Estate Taxation

- How the 1976 Tax Reform Act unified gift and estate taxation
- Carryover basis
- Gifts; still a basic tool in your estate plan
- Estate tax avoidance and pitfalls

Trusts and What They Can Do For You

- The Flexible Trust
- When to use revocable trusts
- Tax advantages and problems of the generation-skipping trust
- Tax traps for the unwary

- Marital Deduction: The basic tax fact for marital gifts and bequests
- Lifetime gifts to your spouse
- Holding marital property: Community property, joint names or separate title?

Gifts to Others

- Uniform Gifts to Minors Act and trusts for your children (or grandchildren)
- Clifford trust: An income-tax saving device
- Assignment of insurance

Saving Income Tax Dollars

- Control and timing of income receipts
- Capital gains and losses
- Maximizing your deductions and credits

Tax Aspects of Various Kinds of Investments

- Income securities and growth stocks
- Obligations of Federal, state and local instrumentalities
- Real estate and collectibles
- Other tax sheltered investments

Planning for Retirement

- Maximizing Social Security benefits
- Qualified pension and profit-sharing plans
- Nonqualified deferred compensation arrangements
- Keogh plans and I.R.A.'s

Anticipating Problems in the Administration of Your Estate

- Providing for liquidity
- Some solutions to problems of closely held businesses
- Qualifying for extension of time for payment of estate taxes

A 10-minute question and answer period is provided after each Topic and a final 30-minute question and answer period at the end of the day should provide ample time to respond to all questions.

- Fee:** \$125 ASCE Member
- \$160 ASCE Member and Spouse
- \$150 Non-Member
- \$185 Non-Member and Spouse

Certificate of completion: 0.7 CEUs.



WILLIAM M. THROOP, JR., Esq., is a graduate of Princeton University and Yale Law School, and a member of the New York State Bar.



CAROLYN S. WOLLEN, Esq., is a graduate of the University of Missouri and the University of Virginia Law School, and a member of the New York State Bar.

Both Mr. Throop and Mrs. Wollen have previously served on the faculty of ASCE Continuing Education.

Course No. 11 — October 19, 1978

Managing and Resolving Conflict

Faculty: DR. BURTON A. GROSSMAN, Executive Personnel Counsel, Elliott, Pfisterer, Chinetti Associates, Inc., Chicago, Illinois.

This workshop is intended for people who want to gain a better understanding of the nature of conflict and who want to learn how they

can deal with conflict situations. Because of the inherent nature of people, conflict is an inevitable occurrence in any organizational setting. Rather than viewing it as a negative, undesirable event, we must recognize it is both a natural and useful process for an organization.

In this session people will develop an understanding of the nature of conflict and the various causes that can create it, including individual and organizational sources. Drawing on their own experience, participants will discuss the typical outcomes of conflict situations identifying both useful and dysfunctional consequences. In the course of developing their own conflict management skills each person will do a self-diagnosis of their own style of dealing with conflict, as well as engage in group problem-solving exercises. Finally, a variety of conflict resolution strategies will be examined, including the skills needed for effective conflict management.

Course Outline

- 1. The Nature of Conflict**
 - A. Characteristics of conflict situations
 - B. Participant's experiences with conflict
- 2. Sources of Conflict**
 - A. Values; work roles; status; goals; politics
- 3. How You Respond to Conflict**
 - A. Diagnosing your conflict style
 - B. The role of our emotions
- 4. Outcomes**
 - A. Win-lose; lose-lose; win-win
 - B. Organizational consequences
- 5. Conflict Resolution Strategies**
 - A. Avoidance/denial
 - B. Defusion
 - C. Confrontation (power; negotiation)
- 6. Effective Conflict Management**
 - A. Attitudinal issues
 - B. Improving communication skills
 - C. Problem solving orientation
 - D. A structural approach to conflict resolution
- 7. Other Issues**
 - A. Resolving conflicts between groups
 - B. Compromise/arbitrator role
 - C. Behavioral science techniques

- Fee:** \$125 ASCE Member
- \$150 Non-Member

Certificate of completion: 0.7 CEUs.

(Biographical data for Dr. Grossman appears on page 27.)

Course No. 12 — October 19, 1978

Professional Liability and Loss Prevention

Faculty: GERALD W. FARQUHAR, Partner, Law Firm of Ford, Farquhar, Kornblut & O'Neill, Washington, D.C.

This one-day course is directed to civil engineers to make them more aware of the types of professional liability problems they may encounter. There will be an in-depth discussion of federal regulations and their impact on professional liability cases in which civil engineers may become involved.

Growth and Development of Professional Liability Claims — Statistical Analysis ... Frequency and Severity of Claims ... Types of Claims.

Legal Influences on Professional Practice — Architects and Engineers Status as Professionals ... Attitude of the Courts Toward Professionals ... The Standard of Care ... Strict Liability ... Workers' Compensation Laws.

Guidelines for Responding to a Claim — Early Reporting and Investigation ... Preparing for a United Defense ... The Role of Expert Witnesses ... Damages ... Mitigation and Avoidable Consequences ... Reduction Through Technical Negotiation.

The Relationship of Contract Documents and Technical Services to Professional Liability — The Owner/Engineer Agreement ... The Contract Documents ... Construction Phase Services.

Federal Laws and Technical Services — OSHA ... Consumer Product Safety Act ... Fire Prevention and Control Act.

Environmental Protection Agency — Appendix C-1 ... General Conditions ... The Owner/Engineer Agreement ... New Technology.

Fee: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.



GERALD W. FARQUHAR is a member of the District of Columbia Bar Association and admitted to practice before the United States District Court and the United States Court of Appeals for the District of Columbia. A graduate of the Georgetown University Law School, he has been actively engaged in the defense of professional liability claims asserted against architects, engineers, doctors, lawyers, and accountants.

Since August of 1972, Mr. Farquhar has devoted himself fulltime to the analysis and prevention of claims involving design professionals and has conducted numerous seminars directed to the improvement of professional practice. He has previously served on the faculty of ASCE Continuing Education.

Course No. 13 — October 19-20, 1978

Construction Claims: Analysis, Presentation/Defense

Faculty: ALFRED C. MAEVIS, Assistant Postmaster General, Real Estate and Buildings Department, U.S. Postal Service, Washington, D.C.; SAMMIE D. GUY, Supervisory Civil Engineer, U.S. Bureau of Reclamation, Denver, Colorado; ROBERT A. RUBIN, Partner, Max E. Greenberg, Trayman, Cantor, Reiss & Blasky, New York, New York.

This two-day course is addressed to the practicing construction industry, especially owners, consulting engineers, and contractors with some experience in contract administration. The course will present both the engineering and the legal concepts necessary to properly analyze construction claims. Emphasis will be given to actual problem solving, with specific claim examples, distributed for solution and discussion by the registrants.

become increasingly more claims conscious, some owners and their representatives still give scant attention to construction claims. This attitude often leads to disastrous results when claims are taken to litigation. The purpose of this course is to dispel the mysteries and separate the realities from the myths still surrounding construction claims and to present sound engineering and legal bases for dealing with them. The premise of the course is that contractors are entitled to be compensated for and, correspondingly, owners are obligated to pay only legitimate and adequately documented claims.

Course Outline

I. Recognizing Potential Claims

II. Construction Contracts

- A. Types of Contractual Relationships
- B. Distinction Between Public and Private Contracts
- C. Contract Risks
- D. Terms of Payment
- E. Time of Performance
- F. Changes — Extra Work
- G. Engineer's Status
- H. Claims Notice and Documentation Requirements
- I. Subcontracts
- J. Arbitration versus Litigation

III. Changes

- A. Extra Work
- B. Constructive Changes
- C. Changed Conditions
- D. Record Keeping
- E. Evaluating Costs
- F. Impact of Changes

IV. Delays

- A. Sources of Information — Records
- B. Concepts
- C. Types of Delays
- D. Acceleration
- E. Use of Progress Charts
- F. Documenting and Proving Delays
- G. Calculating Damages

V. Presenting/Defending and Negotiating Claims

Fee: \$250 ASCE Member
\$300 Non-Member

Certificate of completion: 1.4 CEUs.



ALFRED C. MAEVIS received his B.S., C.E. at the Polytechnic Institute of Brooklyn. He is the Assistant Postmaster General for Real Estate & Buildings of the United States Postal Service. His Department is the largest constructor within the Federal Government outside of the Military. He carries the responsibility of the planning, design, and construction of all postal facilities in the United States and its territories. He is also responsible for the management, purchase and sale of all real estate owned or leased by the Postal Service. Mr. Maevis has a background of 28 years in heavy construction with the Arthur A. Johnson Corporation and Peter Kiewit Sons Company prior to his joining Government in 1966. At that time he joined the New York City Transit Authority as Chief Engineer, followed by an ap-

Public Works
The City of New York by Mayor John Lindsay. He joined the Postal Service in January 1975.

Mr. Maevis is a Fellow of the American Society of Civil Engineers and served as Vice President of the Metropolitan Section, Secretary to the Executive Committee of the Construction Division, and ASCE's member on the Executive Committee of the Rapid Excavation Tunneling Conference. He is a former Director of the Queens County Chapter of the New York State Society of Professional Engineers and is a Registered Professional engineer in six eastern states. He has previously served on the faculty of ASCE Continuing Education.



SAMMIE D. GUY received his B.S. and M.S. in Civil Engineering at the University of Kentucky. He is a supervisory Civil Engineer for the U.S. Bureau of Reclamation, E&R Center, Division of Construction, Contract Administration Branch. The Bureau of Reclamation as a water resource agency in the Western U.S., contracts for the construction of facilities such as large earth and concrete dams, pumping and power plants, canals, pipelines, etc. Mr. Guy has been with the Federal Government for 15 years and involved in the administration of construction contracts for the past nine years, including two years as a contracting officer.

Mr. Guy is a member of the American Society of Civil Engineers Construction Division's Committee on Contract Administration and has served ASCE in various offices of the Colorado Section, including President of the Section and Chairman of the Soil Mechanics and Foundation Technical Group. He is a member of the National Contract Management Association and is a registered Professional Engineer in Kentucky. He has previously served on the faculty of ASCE Continuing Education.

(Biographical data for Mr. Rubin appears on page 28.)

Course No. 14 — October 19-20, 1978

The Design and Construction of Reinforced Masonry Structures

Faculty: JAMES E. AMRHEIN, Director of Engineering, Masonry Institute of America, Los Angeles, California.

This two-day course will present the theory and application of reinforced masonry in accordance with current code requirements. A major objective of this course is to bring you up-to-date on materials, testing, research and design methods. Included will be design for both brick and concrete block. Design for lateral forces of wind and earthquake will be addressed with practical design examples. The design of a commercial industrial building and a seven-story building will be presented. Several methods of masonry design will be presented including various techniques of construction.

You will receive the following texts plus many other pertinent materials:

- Reinforced Masonry Engineering Handbook*, Third Edition, by J.E. Amrhein
- Masonry Codes and Specifications* Masonry Industry Advancement Committee

Welcome; introduction; organization of seminar

History and Background; development of reinforced masonry; terminology

Mortar; types, tests, requirements, special mortars and materials

Clay Brick Manufacture; types, solid and hollow; ASTM requirements

Concrete Block Manufacture; types, special units, slumped, split; ASTM requirements; high strength; light weight

Masonry Construction; low lift and high lift grouted construction; brick and block construction methods; admixtures

Prisms; determination of f'_m ; testing of masonry

Steel Reinforcing; minimum requirements; joint reinforcing

Goofs

Earthquake Performance

Structural Design of Masonry; wind loads; allowable stresses; inspection

Reinforced Masonry Engineering Handbook review; design principles; K M/F; np; application examples; interaction design

Building Design; diaphragms, rigid and flexible, shear walls; effect of flanges

Design of Industrial Building; h/t of walls; connections; shear distribution

Design of High Rise Building; fixed and cantilever methods; earthquake forces; connections; details; special considerations

Special Design by Stud Method; prefabrication; deep beam design

San Fernando Earthquake Structural Performance Research of Masonry

Fee: \$195 ASCE Member
\$234 Non-Member

Certificate of completion: 1.4 CEUs.



JAMES E. AMRHEIN is a graduate of Manhattan College and Columbia University in New York City and has more than 25 years experience in construction, engineering, technical promotion, teaching, structural design and earthquake engineering. He is a registered civil and structural engineer in the State of California and a licensed professional engineer in the State of New York. He is also a professor at California State University, Long Beach, where he teaches in the School of Engineering. He is considered one of the United States' foremost authorities in the field of reinforced masonry construction. He is currently teaching professors from Canada and Hawaii the state-of-the-art in this subject. He is a Fellow in the American Society of Civil Engineers and the American Concrete Institute and is an active member in numerous other professional organizations. He is the author of the *Reinforced Masonry Engineering Handbook* and co-authored and edited the *Masonry Design Manual*. He has been active in investigating earthquakes around the world and has prepared many reports on the performance of structures in earthquakes. This year Mr. Amrhein was part of a delegation to the Soviet Union on seismic design of masonry buildings. He has previously served on the faculty of ASCE Continuing Education.

Engineering Economics

Faculty: DR. PAUL A. RANDLE and DR. PHILIP R. SWENSEN, Professors of Business Administration, Utah State University, Logan, Utah.

The purpose of this two-day course is to equip participants with the tools necessary to make economic evaluation of engineering projects. While it may be true that such evaluations have always been important, the ability to show a project's economic viability is essential in today's environment. Both governments and firms in the private sector increasingly expect to see proposals supported by economic justification.

The course will deal with capital expenditure and replacement decisions; analysis and selection of alternatives; selection of an appropriate discount rate; construction and measurement of cash flows; and the effects of taxation on cash flows. It has been the instructors' experience that engineers easily grasp the mathematics of financial decision making, but sometimes lack exposure to accounting and finance. Accordingly emphasis will be on the practical problems encountered in evaluating capital expenditures.

The instructional method will stress use of calculators and computers to solve problems, rather than reliance on time consuming worksheets, interest tables, and manual computation. Each participant should bring a calculator capable of exponentiation — an HP 80, 67, 65, or 22 would be optimal since they are (or can be) programmed to handle specific financial functions. All other instructional materials will be furnished.

Course Outline

1. **Compound interest and the time value of money**
2. **Measuring investment worth**
 - A. Net present value
 - B. Internal rate of return
 - C. Benefit-cost analysis
 - D. Payback — and its relationship to net present value
3. **Formulation of an appropriate discount rate**
 - A. In the public sector
 1. State and local governments
 2. The federal government
 - B. In the private sector
 1. Alternative sources of project financing — debt vs. equity
 2. The effect taxation on capital costs
4. **Taxes, depreciation, and computation of net cash flows**
 - A. Cash flows and their construction
 1. The relevance of incremental cash flows
 2. Opportunity cost
 3. Sunk costs
 - B. Cash vs. non-cash expenses
 - C. Depreciation methods and their effect on investment worth
 - D. Current income vs. capital gains — timing of cash flows
 - E. Reversions and their effect on project value.
5. **Classification of investments**
 - A. Economic dependence
 - B. Statistical dependence.

Fee: \$195 ASCE Member
\$234 Non-Member

Certificate of completion: 1.4 CEUs.



received his doctorate in finance from the University of Illinois in 1970 and is now an Associate Professor of Business Administration at Utah State University.

Active in personal financial consulting for professionals for the last five years, he has conducted scores of financial planning seminars for dental, medical, engineering, legal, and accounting societies across the country. Recently he presented a series of five programs on National Educational Television discussing investing, insurance, and estate planning. His articles on various aspects of personal finance have appeared frequently in a variety of professional journals.



PHILIP R. SWENSEN received his doctorate in Finance from Indiana University in 1972. He is currently an Associate Professor of Business Administration at Utah State University. He

has prepared numerous personal consulting reports dealing with insurance, retirement plans, and investment problems of dentists and physicians. He specializes in financial analysis, particularly the evaluation of high-risk investments such as tax shelters and speculative real estate ventures. He has had extensive experience consulting with corporate, engineering, municipal, and medical professionals in all areas of financial analysis and planning.

Course No. 16 — October 19-20, 1978

Site Planning

Faculty: AMERIGO SCARPA, President, Gates-Scarpa and Associates, Inc., Elmwood, Connecticut.

This two-day course is intended to acquaint practicing engineers and architects with the specialized field of site planning for various types of construction including commercial, institutional, and residential projects. It will include a basic review of engineering as it relates to site planning as well as some of the "do's" and "don'ts" based upon practical experience and sound engineering fundamentals.

Costs as they relate to alternate site design approaches will also be reviewed in order to provide a complete spectrum of the field of site planning.

Course Outline

1. **Information Gathering**
 - a. Zoning Regulations
 - b. Subdivision Regulations
 - c. Environmental Protection Regulations
 - d. Other Governing Regulations
 - e. Boundary & Topographic Data
 - f. Soils Information
 - g. Utility Information
 - h. Source Material
2. **Types of Construction**
 - a. Residential
 - b. Commercial
 - c. Institutional
 - d. Industrial
 - e. Recreational

3. **Site Engineering:**
- Preliminary Investigation
 - Grading
 - Earthwork and Soils
 - Retaining Walls
 - Utilities
 - Planting and Landscape Treatment
 - Costs
 - Approvals
 - Feasibility Studies
4. **Case Histories**

Fee: \$195 ASCE Member
\$234 Non-Member

Certificate of completion: 1.4 CEUs.



AMERIGO SCARPA is a graduate of the University of Connecticut. He is a registered professional engineer in the states of Connecticut, New York, Massachusetts and Vermont. He is a registered landscape architect.

Mr. Scarpa's areas of specialization include site planning and landscape architecture, cost estimating, design of roads and sewers, feasibility studies for land development, engineering assistance in eminent domain proceedings.

He is a lecturer at Hartford State Technical College and Rensselaer Polytechnic Institute. Mr. Scarpa is a Fellow of the American Society of Civil Engineers, a member of the National Society of Professional Engineers and a member of the American Arbitration Association. He has previously served on the faculty of ASCE Continuing Education.

Course No. 17 — October 19-20, 1978
Wastewater Facility Planning

Faculty: DR. IVAN METZGER, Consultant, Water and Wastewater Management, Belmar, New Jersey.

This two-day course is designed specifically for engineers and scientists who develop or review "201" facility plans. It is also useful for engineers and scientists involved in the facility aspects of "208" areawide waste management plans. Maximum benefit will be de-

consulting firms, governmental agencies, or educational institutions.

This results-oriented course is aimed at the facility planning report itself. Course sessions cover concepts and techniques leading to key aspects of the final product; each aspect is illustrated by case studies drawn from recent projects.

This course will provide you with up-to-date concepts and techniques to:

- Organize and manage the preparation of a facility plan for approval under Section 201 of Public Law 92-500.
- Develop and compare alternatives for the selection of a cost-effective facility plan.
- Incorporate environmental analyses and public concerns throughout the development of the facility plan.
- Recognize feedback relationships among plan elements, and opportunities for computer applications to enhance plan development.

Fee: \$195 ASCE Member
\$234 Non-Member

Certificate of completion 1.4 CEUs.

(Biographical data for Dr. Metzger appears on page 30.)

Course No. 18 — October 20, 1978

Seepage Control by Chemical Grouting

Faculty: R.H. KAROL, Director of the Rutgers Center for Continuing Engineering Studies, Rutgers University, The State University of New Jersey, New Brunswick, New Jersey.

This one day course is intended for engineers, contractors and construction personnel who want an introduction to the use of chemical grouts in seepage control.

Two specific differences between chemical grouts and materials such as cement and bentonite are the low viscosity and good gel time

control of the chemical grouts. These properties led to new techniques and field procedures for seepage control.

This course reviews methods of controlling seepage, grouting materials, pumping and other field equipment, then covers the following topics.

Field Procedures:

- Placing grout holes
- Testing grout holes
 - pumping
 - dye testing
- Grouting in Coarse Materials and Large Cracks
- Grouting in Dry Formations
- Field Control of Gel Times
- Use of Short Gel Times
- Grouting in drill holes
 - grout extrusion
 - sequence of testing and grouting
 - effective control of gel time
 - flow through interconnected fissures

Fee: \$125 ASCE Member
\$150 Non-Member

Certificate of completion: 0.7 CEUs.



R.H. KAROL received his B.S. and M.S. in Civil Engineering at Rutgers University, and served on the teaching staff of the College of Engineering for four years. He then spent five years with Esso as a Design Engineer, and served American Cyanamid Company for 11 years as Director of the Engineering Chemicals Research Center, prior to his return to Rutgers. With Cyanamid, he was responsible for the development of grouting materials and field procedures for their use. Mr. Karol is a member of many professional societies and Who's Who International. He is the author of numerous articles and textbooks and holds five U.S. patents and one British patent. Mr. Karol is currently Chairman, Department of Continuing Professional Education. He has previously served on the faculty of ASCE Continuing Education.

PICK CONGRESS HOTEL OFFICIAL REGISTRATION REQUEST
1978 ANNUAL CONVENTION & EXPOSITION
CONTINUING EDUCATION COURSES
OCTOBER 16-20, 1978

Hotel Reservations must be sent directly to:

PICK CONGRESS HOTEL — 520 SOUTH MICHIGAN BLVD. — CHICAGO, ILLINOIS 60605

NAME _____

COMPANY NAME _____

ADDRESS _____ PHONE _____

CITY _____ STATE _____ Zip _____

NAME OF 2ND OCCUPANT _____

RATES: Singles: \$34-\$39-\$44 Twins/Doubles: \$46-\$51-\$56

Reservations received after October 1, 1978 will be accepted on an "if available" basis only.

ROOMS SUBJECT TO 8.1% ILLINOIS AND CITY ROOM TAX

Date of Arrival

Time of Arrival

Date of Departure

Please advise arrival hour. Otherwise rooms held to 6 p.m. only. Request for late arrival will be held until 9 p.m.

MAIL TO:

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(INCLUDES COMPLIMENTARY CONVENTION REGISTRATION)**

CONTINUING EDUCATION SERVICES
American Society of Civil Engineers
345 East 47th Street
New York, New York 10017

Course No. 5 is not included in this offer

(PLEASE PRINT)

NAME _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

SPOUSE'S FIRST NAME (if attending) _____

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Please enroll me in the course(s) checked below. A check (payable to ASCE Continuing Education) is enclosed in the amount of \$_____ to cover the course(s) registration fee, spouse's convention registration fee (if attending) and the Activities Ticket Purchase.

Note
Special discounts
on page 27

- Course No. 1**
BUILDING EFFECTIVE WORK/PROJECT TEAMS
Monday, October 16, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 2**
EFFECTIVE MARKETING OF PROFESSIONAL SERVICES
Monday, October 16, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 3**
THE ENGINEER AS AN EXPERT WITNESS
Monday, October 16, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 4**
FIELD INSTRUMENTATION FOR SOIL AND ROCK MECHANICS
Monday, October 16, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 5**
A NEW DIMENSION IN COMMUNICATIONS
Monday, October 16, 1978
 PART I (9 a.m. to 12 p.m.)
Fee: \$20
 PART II (2 p.m. to 5 p.m.)
Fee: \$20
- Course No. 6**
CONSTRUCTION COST ESTIMATING AND BIDDING
Monday-Tuesday, October 16-17, 1978
Fee: \$195 ASCE Member
\$234 Non-Member
- Course No. 7**
ENVIRONMENTAL PROGRAM IMPLEMENTATION
Monday-Tuesday, October 16-17, 1978
Fee: \$195 ASCE Member
\$234 Non-Member
- Course No. 8**
IMPROVING EMPLOYEE PERFORMANCE
Tuesday, October 17, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 9**
INSPECTION OF PILE INSTALLATION AND CONCRETING OPERATIONS
Tuesday, October 17, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 10**
PERSONAL ESTATE PLANNING
Tuesday, October 17, 1978
Fee: \$125 ASCE Member
\$160 ASCE Member and Spouse
\$150 Non-Member
\$185 Non-Member and Spouse
- Course No. 11**
MANAGING AND RESOLVING CONFLICT
Thursday, October 19, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 12**
PROFESSIONAL LIABILITY AND LOSS PREVENTION
Thursday, October 19, 1978
Fee: \$125 ASCE Member
\$150 Non-Member
- Course No. 13**
CONSTRUCTION CLAIMS: ANALYSIS, PRESENTATION/DEFENSE
Thursday-Friday, October 19-20, 1978
Fee: \$250 ASCE Member
\$300 Non-Member
- Course No. 14**
THE DESIGN AND CONSTRUCTION OF REINFORCED MASONRY STRUCTURES
Thursday-Friday, October 19-20, 1978
Fee: \$195 ASCE Member
\$234 Non-Member
- Course No. 15**
ENGINEERING ECONOMICS
Thursday-Friday, October 19-20, 1978
Fee: \$195 ASCE Member
\$234 Non-Member
- Course No. 16**
SITE PLANNING
Thursday-Friday, October 19-20, 1978
Fee: \$195 ASCE Member
\$234 Non-Member
- Course No. 17**
WASTEWATER FACILITY PLANNING
Thursday-Friday, October 19-20, 1978
Fee: \$195 ASCE Member
\$234 Non-Member
- Course No. 18**
SEEPAGE CONTROL BY CHEMICAL GROUTING
Friday, October 20, 1978
Fee: \$125 ASCE Member
\$150 Non-Member

• ASCE SPOUSE CONVENTION REGISTRATION & TICKET ORDER FORM ON REVERSE SIDE •

FUNCTION	PRICE	No. of TICKETS	AMOUNT
Registration Fees			
Continuing Education Course Registrants Complimentary			
SPOUSES — Weekly	\$15.00		\$
Monday, April 16			
Continuing Education Course Part I — A New Dimension in Communications	\$20.00		\$
Continuing Education Course Part II — A New Dimension in Communications	\$20.00		\$
Spouses Museum of Science & Industry Tour	\$ 9.50		\$
Keynote Luncheon	\$10.50		\$
Field Trip — Chicago Aerial Survey	\$ 3.50		\$
Icebreaker Party	NC		NC
Tuesday, April 17			
Engineering Education Breakfast	\$ 4.50		\$
Spouses Long Grove Village Tour	\$14.75		\$
Field Trip — Bethlehem Steel	\$ 4.50		\$
Southwest Sewage Treatment Plant	\$ 4.00		\$
Wednesday, April 18			
Spouses Highlights of Chicago	\$ 8.50		\$
Check one: <input type="checkbox"/> Quaker Oats Kitchens			
<input type="checkbox"/> Water Tower Place			
<input type="checkbox"/> Art Institute			
Honorary Membership Luncheon	\$10.50		\$
Field Trip — Portland Cement Assn.	\$ 4.00		\$
ASCE Annual Banquet	\$25.00		\$
Thursday, April 19			
Spouses Oak Park Tour & Lunch	\$20.75		\$
Field Trip — Argonne National Lab.	\$ 4.50		\$
			Totals: \$

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