

# 1977 Annual Report



**Civil  
Engineering  
A People-  
Serving  
Profession**





1977 Annual Report  
of the Board of Direction  
for the year ended  
September 30, 1977

*This Annual Report for the Society's 125th year is intended to serve as a graphic reminder that civil engineering is a people-serving profession. Every Civil Engineer is urged to think and communicate to others how his work directly and indirectly relates to the service of people.*

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## PRESIDENT'S MESSAGE

I am pleased to transmit this Annual Report on behalf of the Board of Direction for the year ending September 30, 1977, our Society's 125th anniversary

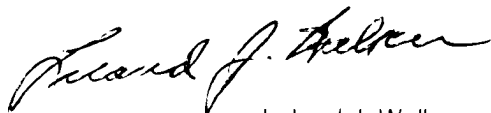
These pages record our accomplishments as a people-serving profession. They outline how our 75,000 members work together in many ways so essential to the smooth functioning of our professional Society. Many members serve on committees, others are officers of Sections, Branches, technical councils or divisions. Many advance the knowledge and state-of-the-art by preparing, reviewing and discussing technical papers. All of us contribute by doing our jobs in a professional manner.

No grandiose programs were promised at the beginning of my term as your President. Our goals were to improve communications by your officers and the staff, increase committee effectiveness, develop better orientation procedures for new officers at all levels of the Society, and introduce new office operations and personnel procedures at Headquarters. I feel improvements have been made in all these areas.

We have undertaken a more active role in the engineering profession as we work with, and through, other engineering groups and Societies, both in this country and throughout the world. Our efforts in the past several years to become more involved in public affairs and legislative activities and in telling the story of civil engineering are bearing fruit. We are now being sought for advice and assistance by legislatures and agencies of government at all levels.

I thank you for the friendliness and hospitality extended to my wife and me in our numerous visits throughout the country. The dedication to the profession and to ASCE was so real that we could not help but feel a special pride after each visit. You have given us memories which we will cherish forever. My special thanks to Executive Director Zwoyer, the Board and Headquarters staff for their patience and capable help whenever there were special needs or requests.

With the kind of leadership I have seen throughout the Society, you are in good hands. ASCE has had a distinguished 125 years but as Shakespeare said, "The past is prologue." In other words, "You ain't seen nothin' yet!"



Leland J. Walker  
President, 1977



## EXECUTIVE DIRECTOR'S MESSAGE

The Society celebrated its 125th anniversary in 1977, proud of its achievements, its heritage, and the profession it represents.

Membership grew about 4% during the year. Attendance at the National Conventions and Expositions and the Specialty Conferences continued to be strong. Participation by students in the Convention programs was particularly noteworthy.

The Society continued to take an active role in inter-Society activities. The Presidents and Executive Directors of the five Founder Societies (ASCE, ASME, AIME, AIChE, and IEEE) met twice to discuss matters of mutual interest. The same five Societies formed a new not-for-profit corporation, the Engineering Societies Commission on Energy (ESCOE), which negotiated a \$3,000,000 contract with the Energy Research and Development Administration (ERDA) to provide engineering expertise in the field of fossil fuel energy research. The Societies will provide engineers who will take leaves of absence from their employment to spend two-year residencies with ESCOE before returning to their permanent employers.

Several members of the Society participated in a Goodwill People-to-People mission to South and Central America in October, participating in the Convention of the Pan American Federation of Engineering Organizations in Rio de Janeiro. In June, President Walker and I represented ASCE at the World Federation of Engineering Organizations General Assembly in Warsaw.

In July the Society held a reception at Headquarters in honor of Admiral Donald G. Iselin, the new Commander of the Naval Facilities Engineering Command, and Mr. Keith Higginson, the new Commissioner of the Bureau of Reclamation.

The Society played a lead role in urging the National Science Foundation to establish a Directorate for Engineering Research that would be more responsive to the research needs of the engineering profession. This recommendation has received support from the engineering community and is receiving serious consideration from NSF.

The Society added to the list of important standards activities now underway by preparing to issue "Criteria for the Design and Construction of Composite Steel Deck Slabs."

The City of New York repealed the real estate tax assessment on the United Engineering Center. ASCE's testimony concerning its educational activities at the Tax Commission Hearing was instrumental in the city's decision to keep the Center tax exempt.

In an opinion filed August 4, a United States District Court found ASCE in civil contempt of the anti-trust consent decree entered into with the United States Department of Justice on June 1, 1972, under which the Society agreed to eliminate from its Code of Ethics the prohibition against competitive bidding. As of the date of this writing, a stay of the Court's order dated August 29, 1977 has been granted to October 20,

1977. The Board of Direction will consider at its October meeting what further legal action, if any, should be taken on behalf of the Society. The membership of the Society will be fully informed elsewhere of the details of these legal proceedings.

New key personnel who joined the staff during the year are Donald A. Buzzell, Managing Director of Education and Professional Affairs, and Peter J. Tavino, Jr., Manager of Student Services and Membership Development. William D. French, Director of Support Services, and Alvin Newman, Manager of Student Services, resigned to accept employment elsewhere.

I would like to take this opportunity to express my personal appreciation to all committee personnel, all Section and Branch officers, all members of the Board of Direction, President Walker who has given so freely of his time to lead the Society through a busy year, and to all members of the staff. These are the people who have contributed so much to the successful activities of the Society during the past year. They constitute the resource that makes ASCE outstanding!



Eugene Zwoyer  
Executive Director

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## Technical Activities

The Society's 125th year was marked by continued progress in the technical activities area. Dedicated to the development and improvement of engineering techniques, the technical activities program seeks the stimulation and sharing of ideas for the progressive well-being of people.

Overseeing the technical activities of the Society is the Technical Activities Committee (TAC), which, together with 5 Management Groups and 21 Division and Council Executive Committees, shares the responsibility of administering the volunteer efforts of more than 3,000 members serving on over 400 committees. There is an awesome responsibility in maintaining the level of excellence that the membership expects from ASCE's technical activities as indicated by the 1976 Survey of the Profession.

With the modifications to the TAC organization that took effect last year, efforts shifted from the administrative to the "enhancement, broadening and quickening of technical activities and response to technical problems" outlined in President Walker's charges to TAC committees. Responsiveness to needs in specific technical areas is exemplified in the creation of a Task Committee on Cold Regions that will deal with the problems involved in the design and construction of engineering projects in arctic regions.

Efforts are underway in the preparation of New Manuals and Reports on Engineering Practice and some existing Manuals are being revised. Divisions and Councils became more involved with the formulation of Society policy statements and resolutions.

A major undertaking this year was re-enrolling members in Divisions and Councils to reflect their specific technical interest.

Other achievements by TAC this year included: Expansion of the ASCE Standards program; establishing procedure for contract research; an on-going study of the role of ASCE in technology assessment; the establishment of Management By Objectives (MBO); and the adoption of "Principles of Operation for All TAC Committees."

Divisions and Councils continued their efforts in the development and conduct of Specialty Conferences, which continue to grow in number and prestige. The Waterway, Port, Coastal and Ocean Division's Ports '77 Specialty Conference accomplished a first by featuring an exhibition on port and harbor-related facilities and construction technology. In addition, guidelines for the operation and management of Specialty Conferences were updated.

Other accomplishments in the past year included the following:

- Publication of a revised edition of Manual 36 "Wastewater Treatment Plant Design"
- Committee Reports:
  - "Curved I-Girder Bridge Design Recommendations"
  - "Tentative Recommendations for Cable-Stayed Bridge Structures"
  - "Suggested Revisions to Shear Provisions of ACI Code 318-71"
  - "Impacts of Energy Development on Groundwater Resources"
  - "Composite or Mixed Steel-Concrete Construction for Buildings"
  - "Short Haul Air Transportation Systems — Future Perspectives"
  - "Reinforced Concrete Cooling Tower Shells"
  - "Bibliography on Wood Pole and Pile Design"
  - "Review of Construction Noise Legislation"
  - "Latticed Structures — State-of-the-Art"
  - "A Standard for Computer Program Distribution"
- Publication of Liquefaction Problems in Geotechnical Engineering
- Proposal for the Establishment of a National Institute for Computers in Engineering
- Conference Proceedings
  - "Ports '77," WW Division Specialty Conference, March 9-11, 1977 Long Beach, California
  - "Advances in Civil Engineering Through Engineering Mechanics," Second Annual Engineering Mechanics Specialty Conference, May 23-25, 1977, Raleigh, North Carolina

"Geotechnical Practice for Disposal of Solid Waste Materials,"  
GT Division Specialty Conference,  
June 13-15, 1977, Ann Arbor,  
Michigan

"Water Management for Irrigation and Drainage," IR Division  
Specialty Conference, July 20-22,  
1977, Reno, Nevada

In addition, the following activities were initiated:

Revision of Manual 49 "Urban Planning Guide;" Manual 44 "Report on Highway and Bridge Surveys;" Glossary — Water and Wastewater Control Engineering; Manual 45 Supplements on the Professional Practice of Structural Engineering, Geotechnical Engineering, and Surveying and Mapping; and Manual 27 "Pile Foundations and Pile Structures." New manuals on offshore positioning, deep-braced excavations, earthquake protection of power and communications lifelines, right-of-way practices and engineering surveys were published.

Finally, recognition must be given to those day-to-day activities that are vital to the operation of divisions and councils. These include the review of papers and development of sessions for National Conventions and Specialty Conferences.

**Research**

The Technical Council on Research (TCOR) has been given the responsibility for monitoring, reviewing, and managing the Society's research activities including those of all ASCE Research Councils. These Research Councils develop and administer (either directly or by encouragement) funded research projects. Many of the councils have been successful in securing funds for studies for which ASCE offers special qualifications and for which the sponsoring agencies require. It is expected that in the future ASCE will maintain a viable research operation which will have slow but steady growth.

Once research projects are established, they are self sustaining, and no ASCE dollars are necessary. Funds are, however, required for project development and program coordination by the research councils. Additionally,

some research council activities are not project-related, and therefore ASCE support is required. The major ASCE research emphasis is to act as a catalyst to have needed research conducted. Only in those cases where the Society can perform a unique service will consideration be given to having a research council undertake a project.

Three major activities were undertaken by TCOR during 1977. First, under direction of TAC a task committee was formed to develop procedures for contract research. This committee has completed its assignment and has prepared recommendations on when and how an ASCE research council can carry out a research endeavor. Important matters are covered in this document relating to the Society's qualifications for

participating in research, conflict of interest, fiscal responsibility, and effective monitoring of projects to assure that final reports address the issues initially stated. TCOR also established a task committee to determine its own objectives and improve its mode of operations.

TCOR also sponsored a research workshop to which representatives of technical division and council research committees were invited. This workshop, which took place at Purdue on April 12-13, addressed itself to such matters as ASCE policy on research, the administration of the Society's research activities, reports on what research councils and research committees are currently doing, and ways of improving the Society's research effectiveness.

**TECHNICAL ACTIVITY PARTICIPATION**

<i>Division or Council</i>	<i>Enrollment</i>	<i>Committees</i>	<i>Members Serving on Committees</i>	<i>Section Technical Groups</i>	<i>Sessions Sponsored at National Conventions</i>	<i>Papers Reviewed for Journal Publication</i>
Aerospace	—	17	35	—	1	3
Air Transport	1,816	8	77	3	2	9
Construction	20,216	20	181	17	4	78
Engineering Mechanics	5,547	20	206	—	6	156
Environmental Engineering	12,392	26	211	24	7	133
Geotechnical Engineering	14,473	22	265	31	4	165
Highway	11,369	10	103	1	6	32
Hydraulics	11,234	31	172	11	5	190
Irrigation and Drainage	4,792	20	150	2	5	55
Pipeline	1,790	11	139	1	1	8
Power	3,543	12	85	4	2	31
Structural	23,443	81	737	32	22	264
Surveying and Mapping	4,012	14	82	2	4	14
Urban Planning and Development	8,821	14	183	12	6	11
Urban Transportation	2,065	15	116	18	6	41
Water Resources Planning and Management	3,124	13	118	7	7	81
Waterway, Port, Coastal & Ocean	4,741	26	134	5	4	74
Technical Council on Computer Practices	—	8	89	2	4	8
Technical Council on Lifeline Earthquake Engineering	—	10	55	—	1	3
Technical Council on Codes & Standards	—	15	86	—	—	—
Technical Council on Research	—	22	271	—	—	2
	<b>133,378</b>	<b>415</b>	<b>3,118</b>	<b>172</b>	<b>97</b>	<b>1,358</b>

**SPECIALTY CONFERENCES HELD 1976-77**

<i>Division or Council</i>	<i>Number of Sessions</i>	<i>Papers Presented</i>	<i>Attendance</i>
<b>STRUCTURAL DIVISION</b> Joint Committee on Tall Buildings "Moscow Regional Conference" Moscow, U.S.S.R. — October 6-8, 1976	6	39	150
<b>WATERWAY, PORT, COASTAL AND OCEAN DIVISION</b> "Ports '77" Long Beach, California — March 9-11, 1977	20	66#	358
<b>AIR TRANSPORT DIVISION</b> "1977 Air Transportation Specialty Conference" Washington, D.C. — April 3-6, 1977	5	20#	140
<b>WATER RESOURCES PLANNING AND MANAGEMENT DIVISION</b> "Water Resources Operations Management Workshop" Denver, Colorado — April 13-15, 1977	9	9*	45
<b>ENGINEERING MECHANICS DIVISION</b> "Second Annual Engineering Mechanics Specialty Conference" Raleigh, North Carolina — May 23-25, 1977	40	150**#	229
<b>GEOTECHNICAL ENGINEERING DIVISION</b> "Geotechnical Practice for Disposal of Solid Waste Materials" Ann Arbor, Michigan — June 13-15, 1977	5	5*#	340
<b>WATER RESOURCES PLANNING AND MANAGEMENT DIVISION</b> "Energy, Environment and Wild Rivers in Water Resources Planning and Management" Moscow, Idaho — July 6-8, 1977	9	33	125
<b>ENVIRONMENTAL ENGINEERING DIVISION</b> "National Conference on Environmental Engineering Research, Development and Design" Nashville, Tennessee — July 13-15, 1977	15	55	178
<b>IRRIGATION AND DRAINAGE DIVISION</b> "Water Management for Irrigation and Drainage" Reno, Nevada — July 20-22, 1977	13	55#	225
<b>URBAN PLANNING AND DEVELOPMENT DIVISION</b> "Dynamic Planning for Environmental Quality in the 1980's" Anaheim, California — July 25-27, 1977	6	11***#	119
<b>HYDRAULICS DIVISION</b> "Hydraulics in the Coastal Zone" College Station, Texas — August 10-12, 1977	16	53	135
<b>STRUCTURAL DIVISION</b> "Specialty Seminar on Probabilistic and Extreme Load Design of Nuclear Plant Facilities" San Francisco, California — August 22-24, 1977	9	9*#	150
<b>TECHNICAL COUNCIL ON LIFELINE EARTHQUAKE ENGINEERING</b> "The Current State of Knowledge of Lifeline Earthquake Engineering" Los Angeles, California — August 30-31, 1977	8	33#	307

\*Indicates Panel Sessions  
#Proceedings Published

\*\*Includes 1 Panel Session

\*\*\*Includes 5 Panel Sessions

**SPECIALTY CONFERENCES TO BE HELD: 1977-78**

**URBAN TRANSPORTATION DIVISION**  
"Second International Waterborne Transportation Conference"  
New York, N.Y.  
October 5-6, 1977

**WATERWAY, PORT, COASTAL AND OCEAN DIVISION**  
"Coastal Sediments '77"  
Charleston, South Carolina  
November 2-4, 1977

**WATERWAY, PORT, COASTAL AND OCEAN DIVISION**  
"Coastal Zone '78"  
San Francisco, California  
March 14-16, 1978

**TASK COMMITTEE ON COLD REGIONS**  
"Applied Techniques for Cold Environments"  
Anchorage, Alaska  
May 17-19, 1978

**URBAN TRANSPORTATION DIVISION**  
"Transportation Energy Conservation"  
Washington, D.C.  
May 22-24, 1978

**GEOTECHNICAL ENGINEERING DIVISION**  
"Earthquake Engineering and Soil Dynamics"  
Pasadena, California  
June 19-21, 1978

**TECHNICAL COUNCIL ON COMPUTER PRACTICES**  
"Electronics Computing in Civil Engineering"  
Atlanta, Georgia  
June 27-29, 1978

**WATER RESOURCES PLANNING AND MANAGEMENT AND IRRIGATION AND DRAINAGE DIVISIONS**  
"Legal, Institutional and Social Aspects of Irrigation and Drainage and Water Resources Planning and Management"  
Blacksburg, Virginia  
July 26-28, 1978

**HYDRAULICS DIVISION**  
"1978 Hydraulics Division Specialty Conference"  
College Park, Maryland  
August 9-11, 1978

**COASTAL ENGINEERING RESEARCH COUNCIL**  
"16th International Conference on Coastal Engineering"  
Hamburg, West Germany  
August 28 - September 1, 1978

Presently, ASCE has eight active research projects:

A U.S./Japanese Engineer Exchange Program directed at underwater structures; the development of a structural plastics handbook; an engineering performance information center feasibility study; a handbook on the investigation of structural failures; an international urban hydrology capabilities project; a project directed at designing an urban runoff control master plan; a conference on Home Construction on Shrinking and Swelling Soils; and a study of Utilization of Urban Water Runoff Techniques.

Serving as catalyst, the Construction Research Council was instrumental in initiating a project on construction delays in building nuclear power plants. This activity is being conducted by several universities with the research council monitoring the overall project and acting as coordinating agent.

Other research councils are also giving consideration to initiating projects. One of these is the Power Research Council, which is sponsored by the Power Division. It hopes to develop an ASCE manual on fuel and solid waste management for fossil-fueled power plants.

#### **Codes and Standards**

ASCE's activities in the development of standard's are continuing to grow. The Society's Technical Council on Codes and Standards (TCCS) submitted procedures on ASCE's development of standards to the American National Standards Institute (ANSI) for the purpose of making the Society an accredited organization under ANSI. Such action will facilitate the Society's role in the processing of standards for approval to make them American national standards. TCCS has six standards-writing committees.

For the past two years work has been under way in updating ANSI Standard (A56) on foundations and excavations, last written in 1952. This effort is being conducted in cooperation with the

National Bureau of Standards under a grant from the Department of Housing and Urban Development. Pertinent technical divisions of the Society have been contacted for their input and some have representatives serving on the Committee on Foundation and Excavation Standards. The completion of this effort will lead to an important standard which was developed originally under ASCE auspices.

The Committee on Nuclear Standards presently has three subcommittees: N725 (Design and Analysis of Nuclear Safety Class Earth Structures); N173 (Waterborne Structural Load Design Criteria); and N175 (Foundation Design Criteria). This Committee is also considering the establishment of additional subcommittees covering this important area.

The Committee on Standards for Design Loadings for Buildings is preparing funding proposals for establishing standards for handrail and guardrail design as well as a standard for loadings on partitions. This Committee's main objective is to interface with ANSI's A58 Standard on Design Loadings to assure appropriate ASCE coordination in this activity.

The Committee on Environmental Standards has three subcommittees relating to oxygen transfer, air pollution filters, and landfill materials. Substantial headway has been made by the Subcommittee on Oxygen Transfer. Its objective is to develop means for determining oxygen transfer efficiency and capacity of aeration and oxygenation equipment. Mixing capacity temperature effects and wastewater effects will be included.

The Committee on Steel Box Girder Bridges is cooperating with the federal government to develop specifications for steel box girder bridges for railway and highway operation. A contract between the government and a consulting engineer has been signed and this Committee will periodically review the results and assist with the development of a synthesis and the eventual design rules.

The Committee on Fire Safety Standards has as its main objective the study and review of recently developed analytical fire protection methods developed for structural fire protection. Specifically these analytical systems being developed are to supersede the need for repetitive full scale tests on structural assemblies.

The administrative committees under the TCCS include the Joint AIA-ASCE-ACEC-NSPE Committee on Codes and Standards which serves the design profession for effective interaction with governmental agencies. The Committee on Metrication is studying ways to help civil engineers in the transition of measurement to the S.I. System, and to coordinate metrication activities with the technical divisions of the Society, providing guidance to them in the conversion process to S.I.

ASCE's Standards activities are expected to grow. The reason is twofold. First, to serve the purpose of developing needed standards relating to the civil engineering profession; and, further, to provide an important outlet for civil engineers to participate in the development of standards with which they are involved in the practice of their profession.





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## Publications



The goal established in April 1976 by the Board of Direction that the ASCE publications that are sold be self-supporting, except for overhead, was met the past two fiscal years. In 1976 the publications program was "in the black" by some \$30,000. In 1977 this grew to \$95,000. This increase was the result of greatly improved sales of Manuals and Miscellaneous Publications, and improved sales of Journals and Translated Journals despite price increases. It should be noted that these increases took place at a time when the nation's economy had a severe negative impact on advertising revenue.

### Journals

This year our reserve of unpublished material was reduced to a manageable level. The median time from submission to publication of a paper remains at about nine months — which includes the time for the very careful reviews conducted by hundreds of volunteers among our membership. Despite the modest increases that were made in the subscription prices to the Journals, there were only a small number of cancellations.

### Indexes and Abstracts

The 1976 Combined Index was published in February. This book, along with the 1975 Combined Index and the 1970-1974 Cumulative Index, provides a complete "key" to the ASCE publications of the 1970's. The ASCE literature from the 1870's to the present can be re-searched by reference to the numerous indexes that the Society has published. These innovations in using single inputs of bibliographic data for multiple outputs has led to considerable economies that have been translated into expanded services to the profession.

### Civil Engineering

The editorial themes of the 12 monthly issues of CIVIL ENGINEERING were concerned with the needs and interests of the profession and the people it serves; some of the topics were land-use planning, transportation, energy and power, offshore engineering, structures, and environmental engineering. The December 1976 issue had transportation

as its theme and the feature article was "Desperate Need to Slash Construction Costs of New Subways." This article generated the most reader response in recent history. The reactions ranged from charges of "yellow journalism" to "best thing CIVIL ENGINEERING has done." Because of the interest, the April 1977 issue carried articles and letters about the December story in which the broad panorama of ideas was displayed for the reader to reach his own conclusions. The article was also discussed at an April meeting of the Underground Construction Research Council at which the Editor was the luncheon speaker; it has also sparked the Metropolitan Section to plan a conference on subway costs.

The downward trend in the number of advertising pages that began in June 1976 did not end until December — and certainly parallels the nation's economy in general and that of the construction industry in particular. Encouraging signs, such as the return of some long-time advertisers who had either cut or eliminated their advertising over the past few years, are appearing. Also an even larger drop off in advertising pages and income was offset by picking up 111 pages of new business and 45 pages in renewal increases. A large percentage of this new business was from the area of filter cloth/erosion control products that has gained wide reader interest. The series of articles on this subject has been a major factor in developing this reader interest. A mid-year rate increase helped to offset, in part, the impact of these fewer-than-expected pages.

### Product Postcard Service

A "loose deck" format was adopted this past May after two years of producing CIVIL ENGINEERING PRODUCT POSTCARD SERVICE in a book form. This change was made in response to information indicating that readers respond more quickly to this form rather than to the booklet format. Whether due to the change in format or to a rebound in the economy, the number of advertisements increased from 26 in November 1976 to 33 in May 1977.

### ASCE News

January 1977 marked the beginning of the second year of publication for ASCE NEWS, the Society's monthly newspaper, which combines news of Technical Divisions and Councils and other ASCE activities with national news of interest to all civil engineers. The April and May issues included special inserts that carried the programs of several Division Specialty Conferences; the issues with the inserts went only to those members enrolled in the Divisions whose programs were printed. To gauge reaction to this innovation and to get some member feedback about this new publication, a survey form was printed in the June issue. Responses were encouraging: 27% said the overall quality of the News was "excellent"; 60% rated it as "good". Three-quarters of those responding said they preferred to read news of the Technical Divisions and Councils in one publication. Highest readership was in the categories of national engineering news, professional news and in the technical activities section.

The Technical Activities Committee instituted an Outstanding Division/Council News Correspondent Award this year. Frank E. Stratton of the Environmental Engineering Division was selected. John Christian, Geotechnical Engineering Division; Jerry R. Rogers, Water Resources Planning and Management; and Dennis Ostrom, Technical Council on Lifeline Earthquake Engineering received letters of commendation for their contributions to the NEWS.

### Manuals and Special Publications

More than \$500,000 worth of Manuals and Special Publications were sold this year — an all-time high. The initial edition, published in September 1975, of "Sedimentation Engineering" (Manual 54) was exhausted by the end of 1976 and a reprinting was needed to meet the continuing demand. In the Special Publications category we produced books with titles such as "Dredging and Its Environmental Effects", "Responsibility and Liability of Public

and Private Interests in Dams", "Planning, Design, and Implementation of Bicycle and Pedestrian Facilities", "Urban Transportation Efficiency", "Land Application of Residual Materials", and "The Civil Engineers' Role in Productivity in the Construction Industry."

The continued inclusion of Subject and Author Indexes in these publications by computer-assisted methods made it easier to locate specific papers.

This year also saw the implementation of the sales agreement between ASCE and the Institution of Civil Engineers. This agreement makes it possible for the members of each society to purchase books from the other society at the prices charged to members and permits the members to make their payments in either U.S. or U.K. currency. The first advertisements appeared in CIVIL ENGINEERING and THE NEW CIVIL ENGINEER in March.

### Transactions

The 1976 edition of Transactions, Volume 141, was published in November 1976. We are now able to produce this book on the basis of the information that is stored in the computer when the articles are originally published in the Journals or in CIVIL ENGINEERING. In addition, we now identify prize-winning papers and we synopsise the contents of Manuals and Special Publications.

### Directory

The 1976 issue of the Directory was available at the September 1976 Annual Convention. For this book we use computer-assisted composition that is based on the information stored in each member's master record.

In the past year we have worked directly with several Sections to assist them in the preparation of Section Directories. These are byproducts of our computer data bank. We are also able to add telephone numbers and wives' names when the Section provides the information and is willing to reimburse us for the extra costs involved.

### Translated Journal

The Society continued its 10-year old program of translating the Russian journal *Hydrotechnical Construction*. First produced with the support of the National Science Foundation, this translated journal has been fully paid for by interested subscribers since 1973. When first translated in 1967 the subscription price was \$80 per year. When the NSF support ended in 1972, the price went to \$150 and was raised to \$260 in 1976. There are now about 250 subscribers to this very special service. Additional efforts continue to be made to promote this publication to scientific and technical libraries, for whom the price is \$215 per year.



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## Education and Professional Affairs



Consolidation of the many areas relating to Education and Professional Affairs was accomplished in 1977. To implement objectives identified by a comprehensive management study of Society operations, a Managing Director for Education and Professional Affairs was appointed.

The major charge to the newly-consolidated department includes improving the effectiveness of staff and committees through the implementation of Management by Objectives. This implies development of programs and actions that will give real meaning to the concept of Civil Engineering -- A People-Serving Profession. Active concern for professional development, continuing education opportunities related to maintaining competence, improving engineering management abilities, equitable employment conditions, and full-term career guidance round out the technical activities already well-established as a service of the Society. Objectives including more effective Civil Engineering participation in the national policy and decision-making process have been served by such actions as ASCE testimony opposing legislation that would have the effect of imposing federal minimum wage determination on the profession, participation in the 1977 Engineers' Joint Public Affairs Forum, response to trends affecting professional registration (Sunset Laws, public interest board members, continuing professional development requirements, specialty certification), and other concerns involving the professional responsibilities of the membership.

### EDUCATION SERVICES

#### Accreditation

ASCE's role in the accreditation of civil engineering and engineering technology programs continues to be strengthened by the Education Division, in close liaison with ASCE's representatives on the Board of the Engineers' Council for Professional Development (ECPD) and accreditation committees and visiting teams:

- During 1976-77, ASCE members served on 73 ECPD campus visits evaluating 47 engineering programs and 21 technology programs related to civil engineering.
- Continuing the trend in recent years, equal numbers of educators and practitioners served as civil engineering accreditation visitors.
- With ASCE participation, ECPD now accredits 175 bachelor programs and 31 masters level civil engineering programs, plus 25 four-year and 65 two-year programs in civil, construction, environmental and surveying technology.
- The Committee on Curricula and Accreditation continued the procedure, successfully initiated last year, of recommending individual ASCE visitors for each accreditation visit, and also reviewed visitors' reports submitted after each campus visit.
- The Committee is expanding the training program whereby new appointees serve as working observers during campus accreditation visits prior to participating as official evaluators.
- Engineering accreditation forums held at each ASCE Convention enabled accreditation visitors, civil engineering faculty and other members to learn about accreditation procedures and the duties of evaluators during campus visits.
- New guidelines for interchange between education and practice increased the involvement of practicing engineers in engineering education at the local level. The guide and the challenge to become involved were issued to Sections and Branches by the Committee on Integration of Education and Practice (CIEP) last December.

**Ethics and Education**

ASCE, through the Education Division, intensified its attention to ethics and professional responsibilities as an integral part of civil engineering programs:

- The ASCE Board recommended "that attention to ethical/professional responsibilities be specifically included in ECPD criteria for accrediting engineering programs designed to prepare for the practice of engineering at a professional level."
- Beginning in 1977, evaluation reports by civil engineering accreditation visitors will include attention paid to student development and to ethical/professional responsibilities in civil engineering programs. On ASCE recommendation, these matters have been added to the ECPD questionnaire completed by engineering schools prior to accreditation visits.
- The Engineering Education Breakfast at the 1977 ASCE Convention in Dallas featured examples of ongoing courses related to ethics and professionalism.
- Guidelines for courses on ethics and professionalism were distributed to civil engineering departments.

**Student Activities**

Students attended regional conferences and the conventions this year in record numbers.

Presentations by students at the convention Business Sessions included programs such as a report analyzing results of the nationwide ASCE member survey, and Northeastern University's description of their latest chapter project.

A "Coordination and Sensitivity Development Area for Blind Children" was completely conceived, planned, designed and constructed by the Northeastern Chapter with the volunteer financial assistance also "engineered" by the students. This "people-serving" project helped them win the Robert Ridgway Award as the most outstanding Student Chapter of the year.

Some other highlights:

- Twenty-five chapters received certificates of commendation for their 1976 activities and 26 chapters received letters of honorable mention.

- The 16 concrete canoe races featured more women's and faculty teams this year.
- A contest was held among New York area chapters who used erector sets to build imaginative structural models.
- Student chapter members designed and built bikeways, wheelchair ramps and other people-serving projects.
- Portland State University's club changed its status to a Student Chapter, making a total of 188 chapters.
- Nine new clubs were formed, making a total of 24.  
The new clubs are: University of Evansville; Guilford Technical Institute; Florida International University; University of Hartford; University of New Orleans; University of Missouri at Kansas City; Florida A & M University; Milwaukee School of Engineering; Gateway Technical Institute.

The number of applications received from new graduates for Society membership continued to be high. A free Society member pin and informative literature were sent to student applicants.

**Continuing Education Services**

Continuing Education Services has had a "people-serving" year. Over 700 individuals participated in 28 short courses covering the following topics:

- Business and Personal Financial Planning
- Computer Overview for Engineering Executives
- Construction Cost Estimating, Bidding and Optimization
- Construction Cost Control
- Construction Claims: Analysis, Presentation/Defense
- Operating a Consulting Firm
- Effective Marketing of Professional Services
- Professional Liability and Loss Prevention
- The Engineer as an Expert Witness
- Wastewater Facility Planning
- Modern Engineering Surveying
- A New Dimension in Communications Site Planning
- The Design and Construction of Reinforced Masonry Structures

Field Instrumentation for Soil and Rock Mechanics  
Management of Time

Courses were held at the national conventions and cities throughout the country.

New short courses scheduled to be offered next year include:

- Moving into Management: From Technician to Tactician
- Improving Your Management Skills Through Self-Directed Change
- Management of Project Paperwork
- Partially Prestressed Concrete: Principles and Practices
- Modern Hydrology for Engineers
- Personal Estate Planning
- Offshore Structures: Design and Analysis

A new correspondence course entitled "Achieving Results Through Financial Management" has enrolled over 200 members since it was announced last February. In the past eight years, over 8,000 members have taken ASCE correspondence courses.

A yearly calendar of courses is now available.

## PROFESSIONAL ACTIVITIES

Professional activities of ASCE fit either into a continuum normally expected to affect the civil engineering profession or as a response to episodes which often arise without warning.

Several actions concluded during this past year illustrate very clearly Society needs to plan far in advance and to work for years towards an objective in order to achieve results. The ASCE Code of Ethics dated January 1, 1977 followed from committee activities undertaken in 1971 and carried through diligently for more than six years. The Society recognizes that there may be need to make further changes in the Code and that it should be treated as a living document. At the same time, this present Code in positive language appears to fit conditions of the day, is designed to meet changing legal concepts, and gives ASCE the latitude to respond to serve of the needs of the public and the profession. Reception of this new Code of Ethics has been excellent and reflects the effort to involve individual Society members in any changes. ASCE will continue to work with other professional societies toward achieving a common Code with compatible Guidelines.

The Specialty Conference on "Ethics, Professionalism and Maintaining Competence" at Ohio State University followed the adoption of the new Code of Ethics. In the future, papers and possibly a text should follow from this Conference as an educational document for those already a part of the profession and for those preparing to join.

ASCE Manual No. 45, "Consulting Engineering - A Guide for the Engagement of Engineering Services", as last published, has a main body of text which shows little need for change at this time. This Manual represents an enlightened approach to the problem of providing an educational document much needed by the public, the client and the engineer. Since 1968, bound copies of Manual No. 45 have included supplements applying to specialty practice in Surveying & Mapping, Structural Engineering for Buildings, and Geotechnical Engineering. These

specialty documents cannot be changed without support from technical divisions of the Society equivalent to that given the basic text.

### **Professional Session Programs**

Convention programs on professional subjects have been used as an educational tool to alert the membership to developments of major importance and to obtain feedback for future Society activity. As an illustration, professional liability matters affecting civil engineers have been presented during most recent conventions. These programs covered expanded risks in the coverage provided by insurance carriers (and much to the surprise of some engineers, the fact that policies did not provide for certain of these risks), changing liability risks for government-employed engineers, and a program on what the profession might do to gain better control of its professional liability risks.

### **Registration**

ASCE has been active in registration matters and has had more than the usual need to be aware of changes occurring within the last few years. These have included the appointment of non-professionals to many state registration boards, the desire of some Societies with a relatively small number of registered members to obtain certification for their members as engineers, and a number of so-called "Sunset Laws" which will terminate registration boards unless the legislature or some other official body permits their continuance. Florida is the first State affected by provisions of a "Sunset Law." The Committee on Registration of Engineers (CRE) has formulated a general statement to support the continuance of State Registration Boards. Proposals for additional mandatory professional development requirements have been enacted into law in Minnesota and Iowa. Fortunately, the Minnesota Board is able to establish requirements for continuing professional development and to set the time when the new requirements take effect. ASCE maintains liaison with the National Council of Engineering Examiners (NCEE) through national

meetings and Zone Meetings. These both provide an opportunity for members of CRE to advise about problem areas and to bring ASCE information about areas where the civil engineering profession should be concerned.

Although not specifically a registration matter, the so-called Florida "Sunshine" or Public Disclosure Law, is having adverse effects on some engineers who would otherwise be willing to serve on public boards. This is especially important where their expert opinions and knowledge are needed by the public and by the Board, but where conditions have become so onerous as to cause the best qualified candidates to decline appointment. Requirements for financial disclosure and for reporting all conversations related to the work of the organization or to business which may affect the State or governmental body involved are in this category.

### **Professional Conduct**

In addition to filling its primary role as investigator of violations of the ASCE Code of Ethics, the Committee on Professional Conduct (CPC) expanded its involvement in education activities with the objective of preventing such violations in the future. The most significant of these activities was the staging of a mock professional conduct hearing at the ASCE Specialty Conference on "Ethics, Professionalism and Maintaining Competence" mentioned earlier in this report. This mock hearing was an authentic reproduction of an actual case heard before the Board of Direction. Judging by the questions during the discussion segment of the session and comments received later, the program was extremely successful.

The Committee also spent considerable effort evaluating the feasibility of establishing an ombudsman function within the Society. Proposals to have ASCE provide such a service have come from both members and committees.

Turning to CPC's regular activities, 50 cases were considered in the course of three meetings held during the current fiscal year; 21 were new and 29 were continued from previous years. There

were three cases (involving six members) presented at hearings before the Board of Direction, which resulted in 4 suspensions and two letters of admonition. Four members under investigation were dropped for non-payment of dues (any application for their reinstatement would require special action of the Board which may consider evidence in the possession of CPC.). Two letters of censure and one cautionary letter were sent directly by CPC. Eighteen cases were dropped for lack of evidence and 19 were continued.

#### **Employment Conditions**

Work was completed on a number of projects during the year by the Committee on Employment Conditions (COEC). One of the more significant was the Section Handbook for Implementation of Manual 55. The Sections play a major role in the Society's program to improve salaries, benefits and employment conditions for civil engineers. This Handbook offers guidance through suggestions and examples, many of them provided by the approximately 25 Sections currently involved in this effort to varying degrees. There are now approximately 15,000 copies of Manual 55 in circulation, making it one of the Society's most popular publications. The Committee plans to periodically update the guidelines, and is currently considering a number of provisions which were presented to the members for their review in the July issue of CIVIL ENGINEERING. Other publications completed include: (1) a reference on collective bargaining which was developed for a limited segment of the members who find themselves in need of basic information not easily accessible and yet necessary for making sound decisions; (2) a small brochure outlining ASCE's involvement in employment conditions.

#### **Survey of the Profession**

Over 20,000 replies to the ASCE Survey of the Profession-1976 were analyzed during the year. This is the most comprehensive survey of its kind that the Society has conducted for 20 years. Questionnaires went to the approx-

imately 72,000 members in good standing as of July 1, 1976. As you can see from the size of the response, a significant number considered it important enough to take the time to answer a 6-page questionnaire with 72 questions, many of them requiring multiple responses. Comparing certain answers to the information in the Society's basic membership records indicates that the respondees were a representative group. A wealth of information was obtained on a broad range of topics covering employment; management responsibilities; salaries; benefits; breakdowns by employer categories; factors comprising successful practice; registration and maintaining continued competence, including evaluation of same; professional ethics and enforcement; and finally the general topic of ASCE service to the membership, with the latter having implications for future priorities of the Society.

#### **Salary Survey**

ASCE also conducted the 14th in its biennial series of salary surveys. This data is being reviewed and prepared for computer analysis. In addition to the regular salary data, this year's report will give an indication of employer use of Manual 55. The Society will also be able to provide Sections with data from those geographical areas where responses are of sufficient magnitude to be meaningful.

#### **Pensions**

ASCE continues to have a major interest in pension activities resulting from the enactment of the Employees Retirement Security Act of 1974 (ERISA). This year saw the expansion of the Joint Committee on Pensions with the Engineers Joint Council (EJC) accepting secretariat responsibilities.

#### **Management**

This year the Committee on Engineering Management, formerly a constituent committee of the Professional Practice Division of PAC, became the Executive Committee of the new Engineering Management Division. In addition, to carrying out its on-going assignments

and programs, the committee spent a major portion of its time planning for the expansion of the Society's management activities, through newly formed constituent committees of the division. Four new committees are called for in the organization plan; two in the current year and two more in the following year. Personnel for the first two committees, which will deal primarily with engineering management at the project and organization levels, respectively, were selected from a list of 45 highly qualified individuals; a pleasant situation but difficult task. Initial objectives and plans for activities were developed, contact members assigned, budgets planned, and meetings scheduled.

## FIELD SERVICES

All local organizational units of the Society entered 1977 with a momentum generated by 5 years of growth and improvement in service programs and achievements. We are extremely proud of this steady growth. This proved to be a record year, with important advances and "people serving" developments in many areas.

A new District 8 Regional Council was established to better serve the Illinois, Central Illinois and Tri-City Sections.

New Branches and Technical Groups continued to develop and organize to serve the expanding needs of the local membership and public communities. The Southeastern Branch of the Wisconsin Section, the Gulf Coast Branch of the Mississippi Section and the Transportation Technical Group of the Central Pennsylvania Section were "chartered" this year, with another dozen or so new units being planned for 1978.

Local ASCE units were involved with over 100 other local professional and service organizations in joint program development and community projects.

The participation of younger members in Councils, Sections, Branches, Younger Member Forums, Technical Groups and related sub units continued to improve substantially. Over 3,000 younger members are directly involved in the management of local organizational units, and the number is expected to grow in 1978. Local units are basically "people" operations, which rely heavily on the expertise and commitment of members.

Innovations in many areas of our local operations improved markedly our services to the membership and community. Annual Rosters/Directories of Section/Branch members, new improved Newsletters, use of mailing label services of national headquarters, periodic meetings in different cities and locations, new meeting formats and similar upgrading of many local opportunities for service were noted.

Joining ASCE's 125th Anniversary celebration this year were the Georgia

Section, celebrating 65 years of continuous service; Duluth and Nebraska Sections' 60th Anniversaries; Dayton, Lehigh Valley, Toledo and Virginia Sections commemorating 55 service years; and South Florida Section with 50 years of community service.

In important ways, Section and Branch commitment has served over the years to improve the "quality of life" in many communities and is today a commitment to the improvement of the future.

Along with the steady improvement in Section and Branch operations and service activities, we inaugurated an expanded program of contacts and involvement with the legislative public community in 1977. The program "kickoff" took place during the 2nd annual Council of Section and Branch Presidents at the 1976 ASCE National Convention in Philadelphia, and was the subject of review and discussion by over 200 delegates at the 1977 Zonal ASCE Section Management Conferences.

Many Sections developed, organized and conducted programs and special activities concerning land use planning, energy conservation/increased potential and production, reregistration and maintaining competence, local and regional water resources management and related "people serving" areas of responsibility. This timely program, aimed at a broader perception of our potential and progress to date, is being continued in 1978.

President Walker presented 1977 Presidential Citations to the Alaska, Los Angeles, Mississippi, New Hampshire and Pittsburgh Sections in recognition of outstanding programs/activities in Public Affairs. In addition, Presidential Citations were presented to nine Sections/Branches for extraordinary program development and service activities in a variety of subject areas.

Equally encouraging has been the increasing involvement of Sections and Branches in Student Activities. Student Paper Contests were conducted by 25 Sections. 56 Sections presented Outstanding Student Achievement

Award programs, and 17 Sections provided Scholarship programs. Our 2nd Annual ASCE Summer Institute for 49 minority high school students provided a unique opportunity for community service and involvement for 13 Sections, with 20 Sections following through with a variety of assistance for the 46 minority youngsters who attended the 1976 Summer Institute. Seventeen Sections are also providing a Speakers Bureau Service program for local minority grade and junior high school students.

Regional Councils have this year improved the communications network between the "grass roots" and national officers by rescheduling many of their meetings just before national Board of Direction spring and fall meetings. Plans for 1978 are to intensify this effort to provide a more timely and effective exchange of information and member service needs between local and national leadership.



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## Public Affairs



On November 2, 1976 the Executive Committee of the Board adopted a resolution pointing out that the environmental problems facing the nation are primarily engineering in nature and urging Congress to create the post of Deputy Administrator (Engineering) in the Environmental Protection Agency. Following up on this resolution, ASCE President Walker on November 10, 1976 advanced the EPA Deputy Administrator proposal in a letter to President-elect Carter.

The following are highlights of some actions taken by ASCE members and officers at the national and local levels, by representatives from the profession and from the construction industry with members of Congress and the Administration to further the EPA Deputy Administrator concept. This provides an example of our efforts in the legislative area.



On December 15, 1976 the Executive Committee of the Engineers Joint Council endorsed the ASCE resolution, "underscoring the importance of qualified engineering leadership in the post of EPA Deputy Administrator (Engineering) and similar engineering competence in the engineering management team of this office and subordinate offices." On January 10, 1977 the National Construction Industry Council (NCIC) adopted the following motion: "NCIC supports the proposal for an EPA Deputy Administrator (Engineering) to manage the various programs under the Federal Water Pollution Control Act Amendments of 1972 and endorses the resolution of ASCE . . . as a means to this end." On March 4, 1976 Frederick J. Clarke, Chairman of the ASCE National Water Policy Committee, testified before the Water Resources Subcommittee, House Committee on Public Works, in support of H.R. 3199 and the EPA Deputy Administrator proposal.



On March 29, 1977 the first result of the proposal appeared in the report of the House Committee on Public Works and Transportation as follows: "During the committee's consideration of H.R. 3199, concern was expressed for the need for

strengthening engineering capability at the top level of the EPA. This need has been reflected in the Agency's failure to properly coordinate its missions in the programs for air and water pollution control, solid waste management, toxic substance control, and safe drinking water. Other professional disciplines have been represented disproportionately at the decision-making levels of the Agency. The Committee urges that this deficiency be remedied by the appointment of a technically experienced person to coordinate the various technical missions of the agency. It is expected that the agency will encourage professional growth and career opportunities. If we are to meet our national environmental objectives, full attention must be given by the new Administration to this problem."

Current plans include continuing the efforts to urge Congress and the Administration to add engineering expertise to EPA at the policy level. Grass roots support by the membership with your representatives in Congress is essential to the success of this effort. The ASCE Task Committee to Study the Structure of EPA is reviewing this matter.

### Tax Reform Act

ASCE has been in the vanguard in expressing its concern over the adverse effect on individuals and the negative impact on the U.S. economy of certain provisions in the Tax Reform Act of 1976. In January 1977, the Executive Committee initiated a resolution which was used by Members of Congress in enacting legislation which defers the effective date of the changes in the foreign-earned income provision, and which is being used in seeking to secure passage of legislation that will not damage our competitive position abroad. President Walker has been pursuing this matter.

### Other Legislative Concerns

President-elect Gibbs testified on June 15, 1977 before the House Labor Committee in opposition to amendments





proposed to the Federal Service Contract Act which would establish minimum salaries and fringe benefits for engineers employed by private firms performing work under federal government contracts. President Walker has also communicated to the Senate Committee on Human Resources ASCE's opposition to such amendments, and, as a basic policy matter, to determination by the Federal Government of minimum salaries and fringe benefits for professional employees. ASCE, of course, does not support any such practice as the term "salary busting" (used by proponents of the amending legislation) connotes. The Society has worked and is working with the Office of Federal Procurement Policy to seek elimination of any such practice. We are urging the Government Operations Committees of the House and Senate to do likewise.

A new Committee on Status of Civil Engineers in Government has been formed. President Walker is much interested in this subject. In a meeting with Assistant Secretary of Interior (Land and Water Resources) Guy Martin, the Society was invited to submit ideas on a Professional Development Program for possible use in the Department of Interior. Such recommendations have been developed and they have been forwarded to Mr. Martin.

The Society has been active on several fronts concerning water resources:

Chairman Clarke of the National Water Policy Committee has appeared before both the House Committee on Public Works and Transportation and the Senate Committee on Environment and Public Works to testify on the Water Pollution Control Act Amendments of 1977. A number of ASCE Section representatives have also appeared or submitted statements for the record at field hearings on the Amendments.

The National Water Policy Committee is developing a position on water resources policy and particularly upon "option papers" proposed by the U.S. Water Resources Council (WRC). Sections were urged to participate in the field hearings by the WRC in eight major

cities in the U.S. for the purpose of reviewing existing water resource policy and to recommend reforms to the President within six months. The Irrigation and Drainage Division and the Water Resources Planning, and Management Division also participated.

ASCE has developed several proposals to the National Science Foundation to conduct regional workshops on water policy issues, and independently of, and prior to, the White House mandated effort described above, had proposed to identify, through two pilot regional workshops, water policy issues that are of concern to a wide spectrum of regional, state and local officials.

President Walker and Executive Director Zwoyer met on several occasions with the National Science Foundation Board and committees to seek greater representation on that board. To this end the Society has submitted a slate of nominees to the Chairman of the Board.

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## Society Honors

In 1977 nine engineers were added to the distinguished roster of Honorary Members of ASCE: John A. Blume, John Budd, Joseph F. Friedkin, Douglas B. Fugate, Roy E. Oltman, Robert F. Seedlock, Robert A. Skinner, Gregory P. Tschobotarioff, and Cornelius Wandmacher; they (posthumously to Mr. Oltman) will receive their certificates and

pins at the Annual Convention in October 1977 in San Francisco.

Still another new ASCE award was established this year: The John I. Parcel-Leif J. Sverdrup Civil Engineering Management Award. The first recipient of this award is John W. Morris, Chief of the U.S. Army Corps of Engineers.

Other prizes and awards are as follows:

### NORMAN MEDAL

H. Bolton Seed  
Kenneth L. Lee  
Izzat M. Idriss  
Faiz I. Makdisi

### CROES MEDAL

John A. Replogle

### WELLINGTON PRIZE

Eugene L. Marquis  
Graeme D. Weaver

### STATE-OF-THE-ART AWARD

John H. Schmettmann

### CONSTRUCTION MANAGEMENT AWARD

John W. Fondahl

### GREENSFELDER PRIZE

Harold G. Arthur

### ROWLAND PRIZE

Thor L. Anderson  
Melvin C. Williams

### NEWMARK MEDAL

Melvin L. Baron

### VON KARMAN MEDAL

George F. Carrier

### GREELEY AWARD

David L. Eisenhauer  
Ronald B. Sieger  
Denny S. Parker

### HERING MEDAL

William F. Garber  
George T. Ohara  
Sagar K. Raksit

### HORNER AWARD

Naresh K. Rohatgi  
Kenneth Y. Chen

### KAPP AWARD

Robert E. White

### MIDDLEBROOKS AWARD

George F. Sowers

### TERZAGHI AWARD

Stanley D. Wilson

### HILGARD PRIZE

Poothrikka P. Paily  
Enzo O. Macagno

### STEVENS AWARD

C. Samuel Martin  
David C. Wiggert

### TIPTON AWARD

Arthur F. Pillsbury

### BECHTEL AWARD

Robert V. Phillips

### LIN AWARD

Zdenek P. Bazant  
Domingo J. Carreira  
Adolf Waiser

### MOISSEIFF AWARD

C. Allin Cornell  
Hans A. Merz

### REESE PRIZE

Ingvar H.E. Nilsson  
Anders Losberg

### SURVEYING AND MAPPING AWARD

Morris M. Thompson

### BARTHOLOMEW AWARD

Harold E. Nelson

### MASTERS AWARD

Edward S. Olcott

### HINDS AWARD

Eugene W. Weber

### CAN-AM CIVIL ENGINEERING AMITY AWARD

Alan G. Davenport

### HISTORY & HERITAGE AWARD

Joseph J. Rady

### HOWARD AWARD

Fazlur R. Khan

### HUBER PRIZE

Ted B. Belytschko  
G. Wayne Clough  
David H. Marks  
James P. Tullis  
Harry G. Wenzel

### LAURIE PRIZE

Milton Pikarsky

### CIVIL GOVERNMENT AWARD

Martin Lang

### FRIEDMAN AWARD

Herbert A. Goetsch

### COLLINGWOOD PRIZE

Ronald S. Steiner

### FRIEDMAN YOUNG ENGINEER AWARD

Damodar S. Airan  
Joseph P. Klein, III

### STUDENT CHAPTER SCHOLARSHIPS

Jeffrey Picard  
Dona A. Kinchen  
Ramona E. Day  
William J. Whitcomb

### FREEMAN FELLOWSHIP

Nani G. Bhowmik

### MEAD PRIZE FOR ASSOCIATE MEMBERS

Victor A. Perry, III

### MEAD PRIZE FOR STUDENTS

Keith Strickland

### PRESIDENTS' AWARD

Ben Moreell

### JOINT SOCIETY AWARDS

#### NOBLE PRIZE

(with WSE, AIME, ASME, &  
IEEE)  
John E. Killough

#### WASHINGTON AWARD

(with WSE, AIME, ASME,  
IEEE & NSPE)  
Michael Tenenbaum

#### Fritz Medal

(with AIME, ASME, AICHe, &  
IEEE)  
Robert G. Heitz

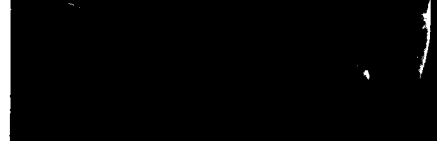
#### HOOVER MEDAL

(with ASME, AIME, & IEEE)  
Peter Goldmark



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## National Conventions and Exhibitions



The people-serving aspect of civil engineering is vividly illustrated through ASCE's Convention/Exhibitions and Specialty Conferences as thousands of engineers representing every technical specialty gather to share their expertise with others.

The Annual Convention in Philadelphia, with an attendance of 2,775, featured a number of outstanding Star Sessions, and a professional session on Liability and the Civil Engineer drew large crowds. Close to 2000 participants (with an impressive student attendance) came to the Dallas Spring Convention.

The Committee on Convention Policy and Practice, in its continued review of ASCE National Conventions and their services to members, has revised the format of Convention programs. No longer will the two national conventions have a major subject theme. Both will cover general civil engineering subjects. Incorporated in the changes is the removal of restrictions on the number of sessions that can be organized by Divisions and Councils, with the only restraints being quality and facilities. The Committee will continue to evaluate the Society's convention programs and exhibitions in response to member needs and participation.

The Society's exhibit program achieved continued growth in the past year. Many of the exhibits are now related to the papers discussed at the Convention sessions, providing hands-on demonstration of new services and equipment for the civil engineering profession. There were 102 exhibits for the Philadelphia Annual Convention and 51 for the Dallas Spring Convention.

ASCE has also developed its own traveling exhibit which will make appearances at ASCE Conventions and those of other organizations. The combination ASCE and CIVIL ENGINEERING magazine exhibit is designed to display the full range of services the Society provides the membership; technical and professional publications, career guidance material and information retrieval services.

The Convention Department is now providing business management

support to several of the Specialty Conferences and will continue to do so in the interest of improving the Society's services to members. An exhibit program was held in conjunction with the Specialty Conference on Ports '77 held in Long Beach, California.

### **National Conventions to be Held**

October 17-21, 1977  
San Francisco, Calif.  
Annual Convention & Exhibition

April 24-28, 1978  
Pittsburgh, Pa.  
Spring Convention & Exhibition

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## Public Information Services



The Society's 125th year saw the development of a major public relations campaign designed to project a stronger image of civil engineers to the public. This campaign, which uses the phrase "Civil Engineering — A People-Serving Profession," utilizes every conceivable communications tool to bring public attention to the many ways in which our profession is essential to their well being. It is hoped that continued use of this theme will enhance the image of the Society and its members.

A number of new audio-visual materials were developed this year reflecting the people-serving theme. Public service announcements for use by television stations will use an animation technique to project our message. The award-winning Bicentennial public service messages continue to be seen; total audience is estimated to be well over 100,000,000 viewers. A new slide presentation, entitled "The Mark of a Professional," will be premiered at the San Francisco Annual Convention. Aimed at students, the presentation briefly describes the characteristics of a professional.

A wall poster using the theme carried out in this Annual Report and a bumper sticker with the slogan "We Like Civil Engineers" are also being used by members to promote the profession.

Traditional public relations activities are continuing unabated. Numerous press releases to the print media were distributed with excellent results. The newspaper feature series "Building a Better World" was released periodically and focused on newly designated National Historic Civil Engineering Landmarks.

Two more engineering societies in addition to ASME have joined with ASCE to honor landmarks. They are: the Institute of Electrical and Electronic Engineers (The Vulcan Street Plant) and the American Concrete Institute (Ward House). Other ASCE Landmarks designated this year are: Minot's Ledge Lighthouse, Great Falls Raceway and Power System and the First New York City Subway.

Many Sections are now naming historic landmarks and local civil engineering achievements within their areas with the encouragement of Headquarters. These programs have resulted in much publicity for the Sections and the profession.

The Midwest Energy Terminal in Superior, Wisconsin, was awarded the Outstanding Civil Engineering Achievement award for 1977. Seattle Freeway Park was given an Award of Merit and the Bay Area Rapid Transit System in San Francisco received a Special Pioneering Design and Construction Award. In all, 15 projects were entered into the competition and all received publicity. Nationwide media coverage was given to the winning projects.

In terms of publicity placement, the Dallas National Convention was one of the greatest in ASCE history. Favorable publicity came from all local media and the national wire services ran stories on papers given at the convention as well as Board actions.

A revised edition of the Public Relations Handbook for use by Sections is now available. This handbook is designed to stimulate ideas among Section people on effective public relations.

The ASCE float in the 1977 Tournament of Roses Parade received the Grand Marshall's Trophy for non-commercial entries. The 1978 float incorporates the people-serving theme in its design.



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## Insurance Program



The coverages available to ASCE members under the Society's approved Group Insurance Program have been frequently expanded and improved during the 28 years the Program has been in effect. The Group Insurance Program now includes protection against loss of life, accidental death, loss of income and hospital/medical expenses. In addition, there is an experimental program of automobile, homeowners and personal excess liability coverage available to members residing in Connecticut, New Jersey, and New York.

including a 20% benefit increase for members under age 61 (maximum member coverage now \$72,000), reduced premiums for those under 45, maximum spouse coverage up to \$35,000 and provision for continuation of coverage for spouse and children after insured member's death. Members who were insured under the Plan during the past year received another substantial dividend credit, equal to 50% of their premium contributions for that year.



The *Group Life Insurance Plan*, available to members since 1960, has always been the most popular Plan in the Program. Its 17th policy year concluded on February 28, 1977 with continued growth in participation. On the basis of favorable experience, a number of substantial improvements were made as of 3/1/77 —

All notices of claims and other correspondence pertaining to the Program should be directed to the Administrator, ASCE Insurance Program, Suite 700, 1707 L Street, N.W., Washington, D.C. 20036. Telephone Number: (202) 296-8030.

The following table shows the change in participation in the various Plans as of July 1, 1977:

	Certificates in Force		
	1976	1977	Change
Life Insurance	14,342	14,672	330
Accident and Sickness Plans	12,215	12,302	87
Auto, Homeowners and Personal Excess Liability Insurance	126	126	0
<b>Total — All Plans</b>	<b>26,683</b>	<b>27,100</b>	<b>417</b>

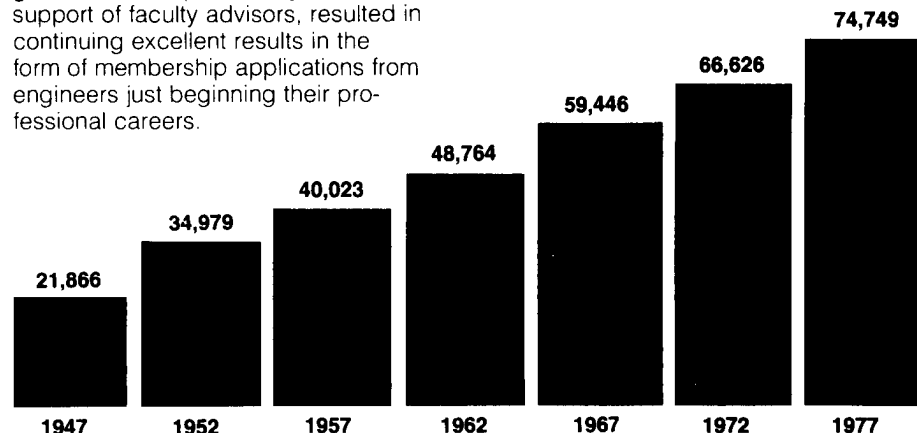
\*Revised Figure

## Membership



Promotional mailings, publicity for ASCE activities, voluntary member contacts with prospective members, and efforts by Sections and Branches produced good results in terms of membership applications. Contacts with recent graduates, and particularly the active support of faculty advisors, resulted in continuing excellent results in the form of membership applications from engineers just beginning their professional careers.

A system of coding application forms was instituted to determine the source of applications and to permit follow-up analysis of what motivates applicants for ASCE membership.



**Balance Sheet**

	Sept 30, <b>1977</b>	Sept 30, <b>1976</b>
<b>ASSETS</b>		
<b>SOCIETY FUNDS:</b>		
General Fund—		
Current Assets:		
Cash in Banks and on Hand .....	\$ 165,000	\$ 308,575
Cash Deposits (Security Funds) .....	8,525	6,525
Accounts Receivable:		
Members .....	224,750	198,538
Non-Members .....	114,964	99,969
Total Accounts Receivable .....	\$ 339,743	\$ 298,507
Less — Reserve for Doubtful Accounts .....	50,000	50,000
Net Accounts Receivable .....	289,743	248,507
Investments (Marketable Securities at Cost) (Market Value \$1,886,669) .....	\$2,056,108	\$2,002,487
Interest Receivable .....	17,190	17,223
Inventory (Publications, jewelry, etc) .....	200,356	242,468
Total Current Assets .....	<u>\$2,827,521</u>	<u>\$2,825,785</u>
Fixed Assets:		
Furniture, Fixtures and Equipment — at Cost .....	\$ 405,233	\$ 363,873
Less: Reserve for Depreciation .....	209,384	175,469
	<u>\$ 195,849</u>	<u>\$ 188,404</u>
Cash Fund for Replacements and New Acquisitions of Furniture, Fixtures or Equipment .....	78,161	89,476
Leasehold Improvements .....	118,012	156,837
Equity in United Engineering Trustees, Inc .....	265,000	265,000
Library (Nominal Value) .....	1	1
Total Fixed Assets .....	<u>\$ 661,023</u>	<u>\$ 699,718</u>
Prepaid Expenses .....	<u>\$ 106,597</u>	<u>\$ 87,270</u>
Total Assets — General Fund .....	<u><u>\$3,595,241</u></u>	<u><u>\$3,612,773</u></u>
<b>SPECIAL FUNDS:</b>		
Voluntary Fund:		
Cash on Deposit .....	\$ 36,045	\$ 37,799
Investments (Marketable Securities at cost) (Market Value \$49,099) .....	52,580	52,580
Civil Engineering Management Fund .....	620	620
Research Projects — Cash on Deposit .....	126,690	79,848
Accounts Receivable .....	98,805	102,055
Special Conferences .....	35,868	21,947
Total Special Funds Assets .....	<u>\$ 350,808</u>	<u>\$ 294,849</u>
<b>PRIZES, AWARDS AND TRUST FUNDS:</b>		
Cash on Deposit .....	\$ 157,260	\$ 138,282
Interest Receivable .....	4,738	4,738
Investments (Marketable Securities at cost) (Market Value \$555,402) .....	540,675	540,675
Total Assets for Prizes, Awards and Trust Funds .....	<u>\$ 702,673</u>	<u>\$ 683,695</u>
<b>RECAPITULATION OF ASSETS</b>		
General Fund .....	\$3,595,241	\$3,612,773
Special Funds .....	350,808	294,849
Prizes, Awards and Trust Funds .....	702,673	683,695
Total Assets .....	<u><u>\$4,648,722</u></u>	<u><u>\$4,591,317</u></u>

Board of Direction  
American Society of Civil Engineers

We have examined the Balance Sheets as of September 30, 1977/September 30, 1976 and the related Statements of Income and Expenses for the periods then ended. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not supervise the taking and the valuation of the inventory nor obtain written confirmations from debtors and/or creditors as to the status of their respective accounts as of September 30, 1977/September 30, 1976. However, except as noted, we are of the opinion that the financial statements present fairly the financial position of the American Society of Civil Engineers as of September 30, 1977/September 30, 1976 and the results of its operations and the changes in its financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Ernest J. Feleppa  
Certified Public Accountant

January 16, 1978

<b>LIABILITIES AND SOCIETY EQUITIES</b>	Sept 30, <b>1977</b>	Sept 30, <b>1976</b>
<b>SOCIETY FUNDS:</b>		
General Fund —		
Current Liabilities:		
Accounts Payable .....	<b>\$ 245,674</b>	\$ 340,476
Accounts Receivable (Credit Balances):		
Members .....	<b>2,350</b>	1,115
Non-Members .....	<b>17,738</b>	16,990
Total Current Liabilities .....	<b>\$ 265,771</b>	\$ 358,581
Reserve Funds:		
Office Furniture and Equipment .....(3)	<b>78,161</b>	89,476
Deferred Income:		
Dues and Publications .....(4)	<b>792,028</b>	793,716
Society Equity:		
Surplus — General Fund .....	<b>2,459,281</b>	2,371,000
Total Liabilities, Reserves and Surplus — General Fund .....	<b><u>\$3,595,241</u></b>	<b><u>\$3,612,773</u></b>
<b>SPECIAL FUNDS:</b>		
Voluntary Fund Reserve — Equity .....	<b>\$ 85,625</b>	\$ 90,379
Civil Engineering Management Reserve Fund — Equity .....	<b>620</b>	620
Research Projects Reserve Funds — Equity .....	<b>226,695</b>	181,903
Special Conferences Reserve Funds .....	<b>35,868</b>	21,947
Total Special Funds Equity and Reserves .....	<b><u>\$ 350,808</u></b>	<b><u>\$ 294,849</u></b>
<b>PRIZES, AWARDS AND TRUST FUNDS:</b>		
Principal Funds .....	<b>\$ 586,013</b>	\$ 581,923
Income and Expense Accounts .....	<b>116,660</b>	101,772
Total Prizes, Awards and Trust Funds Equity .....	<b><u>\$ 702,673</u></b>	<b><u>\$ 683,695</u></b>
<b>RECAPITULATION OF EQUITIES, RESERVES AND SURPLUS</b>		
General Fund .....	<b>\$3,595,241</b>	\$3,612,773
Special Funds .....	<b>350,808</b>	294,849
Prizes, Awards and Trust Funds .....	<b>702,673</b>	683,695
Total Equities, Reserves and Surplus .....	<b><u>\$4,648,722</u></b>	<b><u>\$4,591,317</u></b>

**FOOTNOTES**

- NO. 1 — Cash Fund for replacement and/or acquisition of furniture, fixtures and/or equipment is a fund created for those purposes and for that reason the amount is shown among the Fixed Assets of the Society. However, the Executive Director, with the approval of the Board of Direction, may use part or all of these funds for such emergency needs that might occur during any fiscal year.
- NO. 2 — Leasehold improvement amortization in the amount of \$38,825 was written off for the current fiscal year ended September 30, 1977.
- NO. 3 — Utilized part of the Cash Reserve Fund to acquire additional office equipment in the amount of \$11,315.
- NO. 4 — Deferred Income applies to the portion of dues and subscriptions included in the Society's charges for October, November and December, 1977.

# Statement of Income and Expenses

FOR THE FISCAL YEARS ENDED SEPTEMBER 30, 1977 AND 1976

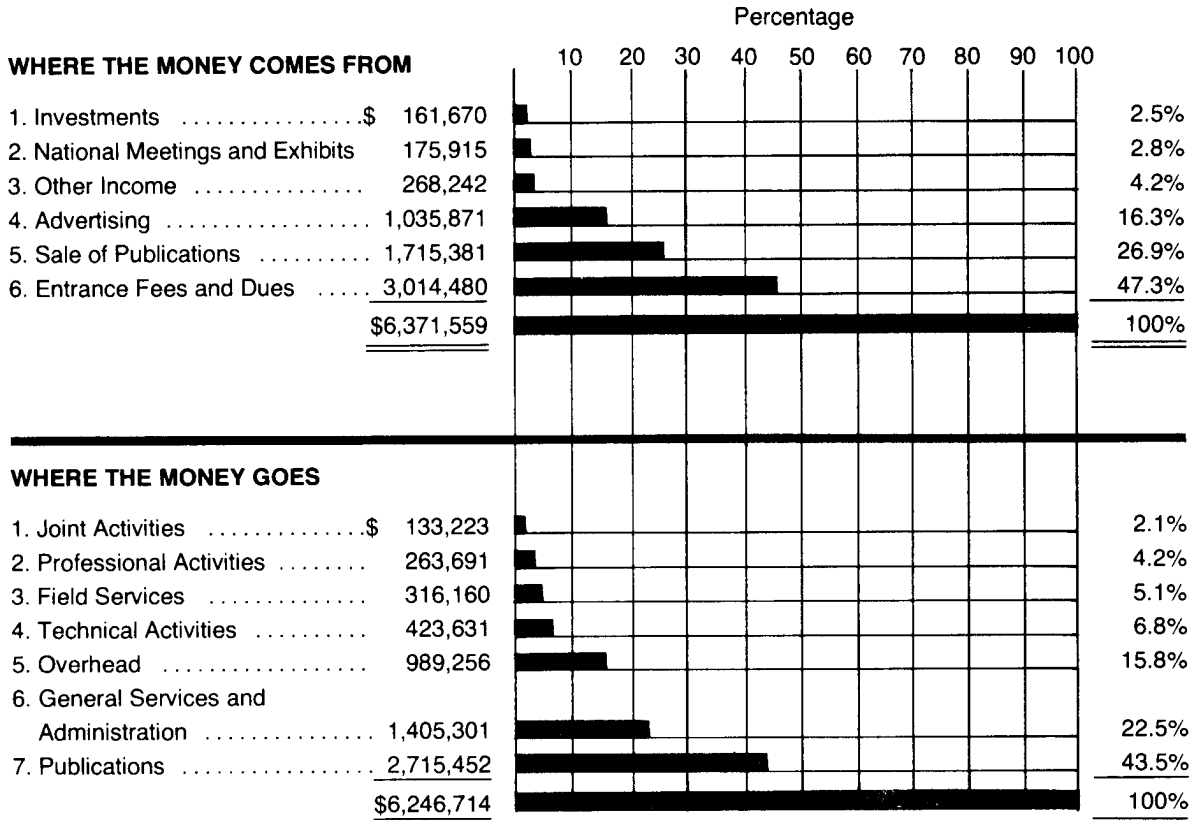
<b>INCOME</b>	<b>1977</b>	<b>1976</b>
Operating Income:		
Entrance Fees .....	\$ 53,114	\$ 45,425
Dues .....	2,961,366	2,910,016
Sales of Publications .....	1,715,381	1,477,270
Advertising .....	1,035,871	993,481
National Meetings and Exhibits .....	175,915	182,144
Other Income .....	190,634	221,372
Sub-Total .....	<u>\$6,132,281</u>	<u>\$5,829,708</u>
Investment Income .....	148,569	139,017
Total Operating Income .....	<u>\$6,280,850</u>	<u>\$5,968,725</u>
 <b>EXPENSES</b>		
Operating Expenses:		
Administration .....	\$ 662,530	\$ 599,961
General Membership Services .....	1,068,931	1,043,659
Professional Activities .....	263,691	269,652
Technical Activities .....	423,631	380,084
Publications .....	2,715,452	2,570,025
Inter-Society Activities .....	133,223	127,163
Overhead .....	989,256	884,135
Total Operating Expenses .....	<u>\$6,246,714</u>	<u>\$5,874,679</u>
Net Operating Income .....	<u>\$ 34,136</u>	<u>\$ 94,046</u>
Non-Budgeted Operations:		
Gain (or Loss) on Sale of Securities .....	\$ 13,101	\$ (40,466)
Gain (or Loss) on Sale of Capital Assets .....	80	(958)
Income from Special Conferences .....	77,528	85,119
Total of Non-Budgeted Income .....	<u>\$ 90,709</u>	<u>\$ 43,695</u>
Net Income for the Indicated Period .....	<u>\$ 124,845</u>	<u>\$ 137,741</u>

## FOOTNOTE

NO. 1 — Income from Special Conferences is currently treated as a "Budgeted" source of income. However, the amount earned during the current fiscal year is shown here to compare it with the amount earned in the fiscal year ended September 30, 1976 when it was considered as a "Non-Budgeted" source of income.



# FINANCIAL SUMMARY



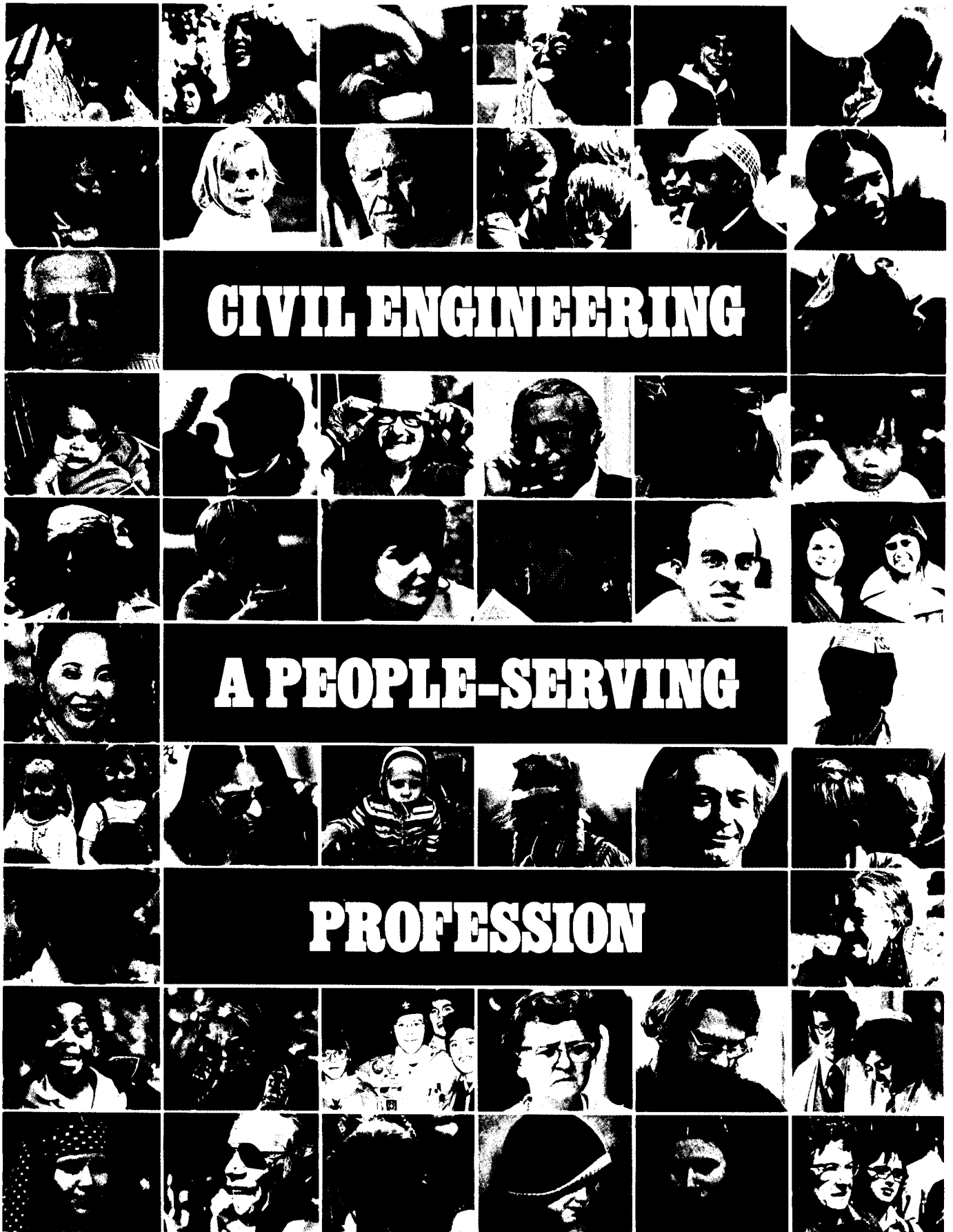
**AMERICAN SOCIETY OF CIVIL ENGINEERS**

Report of the Treasurer for the twelve-month period ended September 30, 1977.

In compliance with the provisions of the Constitution, I have the honor to present the following report:

Cash on hand October 1, 1976	\$ 610,609
<b>RECEIPTS — From all Sources,</b>	
October 1, 1976 to September 30, 1977	6,564,437
<b>Disbursements — Payments of bills by audited vouchers,</b>	
October 1, 1976 to September 30, 1977	\$6,673,391
Cash on hand September 30, 1977	501,655
	<u>\$7,175,046</u> <u>\$7,175,046</u>

Respectfully submitted,  
Michael N. Salgo, Treasurer



**CIVIL ENGINEERING**

**A PEOPLE-SERVING**

**PROFESSION**

# Board of Direction



Bottom: Mssrs. Brown, Moore, Gibbs, Walker, Fox, Ward, Wallace, Zwoyer.  
 Middle: Beedle, Barnes, Novick, Cusack, Wiedeman, Ellis, McMaster, Sokolowski, Meedel, Mendenhall.  
 Top: Connell, Meyers, Albright, Gillespie, Capacete, Austin, Carroll, Glenn, DiGioia, Lawson.

- |  |   |
|--|---|
| Leland J. Walker<br>President<br>Great Falls, MT                 | John J. Cusack<br>Director, District 2<br>Boston, MA              |
| Arthur J. Fox, Jr.<br>Past President<br>New York, NY             | Anthony M. DiGioia, Jr.<br>Director, District 4<br>Pittsburgh, PA |
| William R. Gibbs<br>President-elect<br>Kansas City, MO           | R. Gene Ellis<br>Director, District 6<br>Charlotte, NC            |
| Frederick R. Brown<br>Vice President, Zone II<br>Vicksburg, MS   | George F. Flay, Jr.<br>Director, District 1<br>New York, NY       |
| William W. Moore<br>Vice President, Zone IV<br>San Francisco, CA | James W. Gillespie<br>Director, District 16<br>Tulsa, OK          |
| Ralph H. Wallace<br>Vice President, Zone III<br>Mason City, IA   | James N. Glenn<br>Director, District 5<br>Wilmington, DE          |
| Joseph S. Ward<br>Vice President, Zone I<br>Caldwell, NJ         | Robert T. Lawson<br>Director, District 11<br>San Rafael, CA       |
| Richard O. Albright<br>Director, District 9<br>Indianapolis, IN  | Eugene R. McMaster<br>Director, District 12<br>Seattle, WA        |
| Donald S. Austin<br>Director, District 11<br>Honolulu, HI        | Virgil G. Meedel<br>Director, District 17<br>Ornaha, NB           |
| George D. Barnes<br>Director, District 14<br>Memphis, TN         | Irvan F. Mendenhall<br>Director, District 11<br>Los Angeles, CA   |
| Lynn S. Beedle<br>Int'l Contact Director<br>Bethlehem, PA        | Franklin D. Meyers<br>Director, District 7<br>Center Line, MI     |
| Jose L. Capacete<br>Director, District 1<br>Santurce, PR         | David A. Novick<br>Director, District 8<br>Chicago, IL            |
| William J. Carroll<br>Director, District 11<br>Pasadena, CA      | Edward H. Sokolowski<br>Director, District 15<br>San Antonio, TX  |
| Francis J. Connell<br>Director, District 3<br>Binghamton, NY     | John H. Wiedeman<br>Director, District 10<br>Atlanta, GA          |

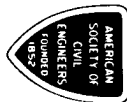
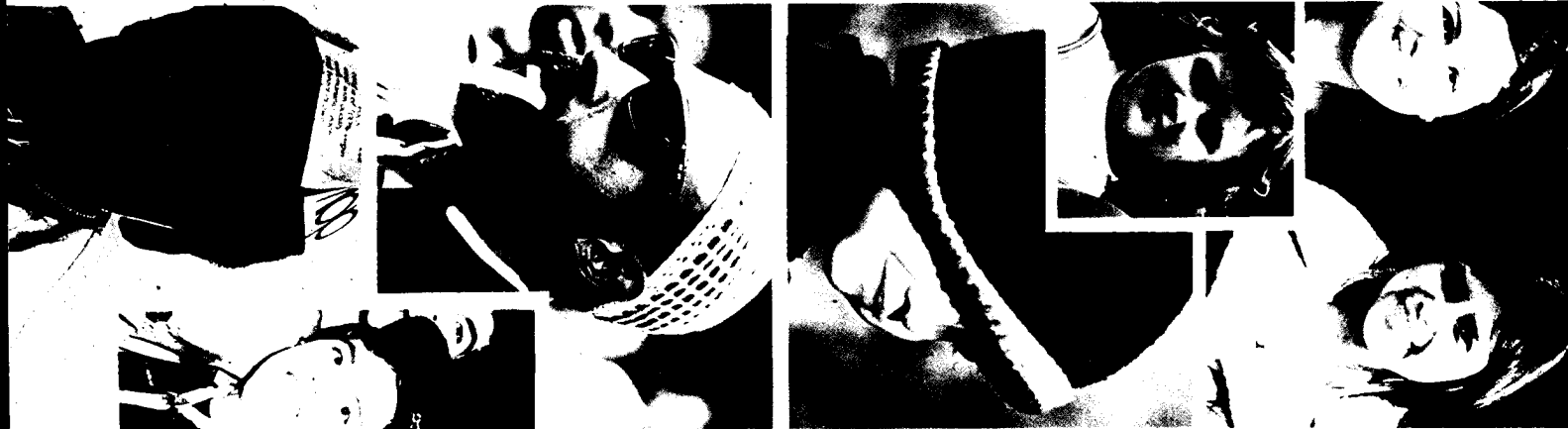
## STAFF PERSONNEL

At the close of 1977, ASCE staff totaled 104, down 9 from 1976. This reduction was made possible by establishing a word processing center and reorganizing the secretarial work flow patterns.

During the year, Alvin Newman, Manager of Student Services, and William D. French, Director of Support Services, left the Society staff to accept employment elsewhere; Edmund H. Lang, Director of Professional Services, retired. Additions to the staff during the year include Donald A. Buzzell, Managing Director for Education and Professional Services, and Peter J. Tavino, Manager of Student Services and Membership Development.

## HEADQUARTERS EXECUTIVE STAFF

Eugene Zwoyer — *Executive Director*  
 Gail Bays — *Assistant to the Executive Director and Manager, Continuing Education Services*  
 Donald A. Buzzell — *Managing Director for Education and Professional Affairs*  
 Joseph McCabe — *Director, Education Services*  
 Peter J. Tavino — *Manager, Student Services and Membership Development*  
 R. Lawrence Whipple — *Director, Engineering Management Services*  
 Carl Nelson — *Director, Field Services*  
 Don P. Reynolds — *Director, Policy, Research and Standards Services*  
 Robert B. Morgan — *Manager, Research and Standards Services*  
 Albert W. Turchick — *Director, Technical Services*  
 Harry N. Tuvel — *Manager, Technical Activities*  
 William F. Ayer — *Manager, Technical Activities*  
 Louis L. Meier, Jr. — *Washington Counsel*  
 Richard A. Jeffers — *Controller*  
 Robert D. Phillips — *Business Manager*  
 Herbert R. Hands — *Manager, Public Information Services*  
 James P. Gallagher — *Assistant Manager, Public Information Services*  
 Alfred J. Favata — *Manager, Conventions and Expositions*  
 Paul A. Parisi — *Director, Publication Services*  
 Robert S. Cypher — *Advertising Sales Manager, CIVIL ENGINEERING*  
 Kneeland A. Godfrey — *Editor, CIVIL ENGINEERING*  
 Richard R. Torrens — *Editor, Technical Publications*  
 Virginia Fairweather — *Editor, ASCE NEWS*  
 Irving Amron — *Editor, Information Services*



American Society of Civil Engineers  
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 New York, N.Y. 10017