

—To provide a comradeship in finding the best ways to do concrete work of all kinds and in spreading that knowledge.

## 46th Annual Convention



Chicago, Illinois  
Edgewater Beach Hotel  
February 20, 21, 22, 1950

### Program Time Table

#### Saturday, February 18

Meeting of Executive Committee of Board of Direction

#### Sunday, February 19

Meetings of Technical Activities Committee and Board of Direction

#### Monday, February 20

9:00 a.m.—Registration begins

Technical committee meetings (See p. 9)

12:00 noon—Reception by officers and luncheon for scheduled program participants (by prior invitation)

2:00 p.m.—First general convention session—Ballroom

7:00 p.m.—Technical committee meetings (See p. 9)

#### Tuesday, February 21

(Concurrent sessions will be held morning and afternoon in the Ballroom and East Lounge.)

9:00 a.m.—Convention session—Ballroom

9:00 a.m.—Convention session—East Lounge

12:30 p.m.—General Luncheon—Marine Dining Room (by tickets previously purchased)

2:30 p.m.—Convention session—Ballroom

2:30 p.m.—Convention session—East Lounge

7:00 p.m.—Technical Committee meetings (See p. 9)

#### Wednesday, February 22

9:00 a.m.—Open meeting of ACI Committee 115, Research—Ballroom

2:00 p.m.—Final convention session—Ballroom

## BOARD OF DIRECTION

President—HERBERT J. GILKEY

Vice-Presidents

FRANK H. JACKSON and HARRY F. THOMSON

Secretary-Treasurer—HARVEY WHIPPLE†

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RODERICK B. YOUNG

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HARRISON F. GONNERMAN, STANTON WALKER,  
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## TECHNICAL ACTIVITIES COMMITTEE

(In charge of convention program and of technical publications)

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President HERBERT J. GILKEY (Ex Officio)

FRANK H. JACKSON, FRANK KEREKES, DOUGLAS  
McHENRY, N. M. NEWMARK, R. W. SPENCER, I. L. TYLER,  
HARVEY WHIPPLE, Secretary

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## CHICAGO CONVENTION COMMITTEE

(In charge of local arrangements)

HARRY DELZELL, Chairman

FRANK W. EDWARDS, HARRISON F. GONNERMAN,  
WILLIAM T. F. HOOPER, Jr., JOHN F. SEIFRIED, C. P.  
SIESS, H. F. THOMSON, W. W. WALLACE

†Address

AMERICAN CONCRETE INSTITUTE  
18263 W. McNichols Road, Detroit 19, Michigan

## CONVENTION REGISTRATION

Registration fee—\$1.00

(All registered nonmember visitors are welcome at general sessions)

9 a.m.—5 p.m., DAILY

MONDAY, TUESDAY and WEDNESDAY

FEBRUARY 20, 21, 22, 1950

in charge of

ETHEL B. WILSON, Assistant Treasurer

Buy your tickets for the Tuesday noon LUNCHEON at time of registration.

A limited tour of the new PCA laboratories at Skokie and the Northwestern University laboratories at Evanston has been arranged for ACI MEMBERS ONLY who can stay until Thursday, February 23. Departure 9:00 a.m., return to Edgewater Beach 4:00 p.m. Details at registration desk. Group limited to 125 so make your reservations early.

See bulletin board for special notices.

12 noon sharp, Monday—Luncheon for all scheduled program participants in the general convention sessions. (By invitation)

## TECHNICAL COMMITTEE MEETINGS

See p. 9 and bulletin board at registration desk for time and location.

## NOTES FOR PROGRAM PARTICIPANTS

● Participants in the program should not fail to leave with the chairman of a session or with the stenotype reporter, manuscripts from which papers or discussions are presented. The ACI Secretary will later provide opportunity for manuscript and proof revision before JOURNAL publication.

● The items on the program which have already been published in the JOURNAL (and in each such instance the fact is noted in the program) are available at the ACI Registration desk for purposes of convention discussion.

● Upon recognition by the Chairman a discussor will please state his name and convention registration number distinctly and go to a microphone so he may be heard by all. If presented from manuscript, it should be left with the stenotype reporter.

● Convention papers, reports and discussions are available for distribution only upon publication in the ACI JOURNAL. They are then available also in separate prints at 25c each.

● A "Convention Review" will be published in the News Letter section of the April ACI JOURNAL.

2 p.m., MONDAY, FEBRUARY 20

Ballroom

President HERBERT J. GILKEY, Presiding

Opening remarks

Appointment of tellers to canvass annual election ballots

## INSPECTION

J. W. KELLY, Session Leader

### "The Inspector"

MILES N. CLAIR

Thompson and Lichtner Co., Inc., Boston, Mass.

The qualifications and functions of the inspector will be discussed.  
(Tentatively scheduled for May Journal)

### "Inspection and Testing of Materials"

NICOLAAS T. F. STADTFELD

Board of Water Supply, New York City

See ACI Journal, December 1949, wherein Mr. Stadtfeld describes the care taken in the inspection of 7 million barrels of cement and shows above all the necessity for manufacturing control of the cement clinker.

### "Inspection of Building Construction"

LEONARD E. DUNLAP

Carr and Wright, Inc., Chicago

The author will describe, from the viewpoint of an architect, the number of factors involved in the inspection of architectural and structural concrete. (Tentatively scheduled for April Journal)

### "Inspection and Control of Concrete for Highway and Bridge Construction"

H. W. RUSSELL

Illinois Division of Highways, Springfield, Ill.

See ACI Journal, February 1950, in which the author describes the inspection procedures and personnel assignments used by the Illinois Division of Highways.

### "Inspection of Mass and Related Concrete Construction"

LEWIS H. TUTHILL

U. S. Bureau of Reclamation, Denver, Colo.

See ACI Journal, January 1950. This paper points out that inspection of any kind can be no more effective than that permitted by the specifications and, particularly, by the established job standard of inspection. No distinction is made between the usual inspection activities and those associated with concrete control since both have the same objective.



**"The Contractor's Viewpoint on Inspection"**

**NOMER GRAY**

Walter Kilde Contractors, Inc., New York City

and **DONALD C. ANDREWS**

Turner Construction Co., New York City

The interests of owner and contractor will be compared and recommendations made on specifications, personal qualifications of the inspector, and methods of minimizing friction with the contractor. (Tentatively scheduled for the Mar. Journal)

**"Inspection of Ready-Mixed Concrete"**

**E. L. HOWARD**

Pacific Coast Aggregates, Inc., San Francisco, Calif.

The author will list inspection problems involving the control of aggregate grading and rapid changes in mix design in the production of ready-mixed concrete to meet many different specifications. (Tentatively scheduled for June Journal)

**"Summary of Inspection Practice"**

**R. B. YOUNG and WILFRID SCHNARR**

Hydro-Electric Power Commission of Ontario, Toronto, Ont., Canada

The authors will summarize the salient points brought out during the session. (Tentatively scheduled for June Journal)

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**9 a.m. TUESDAY, FEBRUARY 21**

**Ballroom**

Concurrent sessions will be held morning and afternoon in the Ballroom and East Lounge.

Vice-President **HARRY F. THOMSON**, Chairman

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**ACI BUILDING CODE STUDIES**

**CHESTER L. POST**, Session Leader

**"Deformed Reinforcing Bars"**

**RAYMOND C. REESE**

Consulting Engineer, Toledo, Ohio

The author will trace the development of reinforcing bars from the original plain round or square forms to the present improved deformed patterns and emphasize the need for a revision of the ACI Code. (Tentatively scheduled for May Journal)

**"Proposed Design Specifications for Two-Way Floor Slabs"**

**C. P. SIESS and N. M. NEWMARK**

University of Illinois, Urbana, Ill.

A new design specification for two-way concrete floor slabs will be suggested by the authors. (Tentatively scheduled for June Journal)

continued on p. 6

**PROBLEMS COMMON TO COMMITTEES 208, Bond Stress, 318, Standard Building Code, 323, Prestressed Reinforced Concrete, 324, Precast Reinforced Concrete Structures and 711, Precast Floor Systems for Houses**

F. N. MENELEE, Session Leader

**"Spacing of Moment Bars in Precast Joists"**

F. N. MENELEE

University of Michigan, Ann Arbor, Mich.

and H. L. KINNIER

University of Virginia, Charlottesville, Va.

Tests of precast joists whose bar spacing is less than that provided for in the ACI Code will be described. Theoretical considerations and results of actual tests will be given for joists with  $\frac{5}{8}$ -in. spacing between moment bars. (Tentatively scheduled for Apr. Journal)

C. D. WILLIAMS and F. BROMILOW, University of Florida, will present a prepared discussion on the subject, based on bond tests made on precast joists.

**"Proposed Specifications for Minimum Bar Spacing and Protective Cover in Precast Concrete Framing Members"**

A. AMIRIKIAN

Navy Dept., Bureau of Yards and Docks, Washington, D. C.

The author will recommend a new basis for specifying bar spacing and cover in the form of proposed specifications applicable to precast concrete work, and will discuss some of the considerations justifying the suggested specifications. (Tentatively scheduled for Apr. Journal)

**"Extent and Acceptability of Cracking in Precast Concrete Framing Members"**

A. AMIRIKIAN

One of the important questions arising in concrete prefabrication concerns the acceptability of cracked framing members. The author will propose an acceptability class which would give practical definitions of cracks and specify limitations for acceptability. (Tentatively scheduled for May Journal)

**"The Patent Status of Prestressed Concrete and the Relationship of Prestressed Concrete to Building Codes"**

CLURZON DOBELL

Prelod Corp., New York City

The author will give a brief account of the more important groups of prestressed concrete patents and their uses and will present a synopsis of codes in preparation in various countries. He will cite the problems to be overcome in drafting a prestressed code for domestic use. (Tentatively scheduled for Apr. Journal)

9 a.m. TUESDAY, FEBRUARY 21

East Lounge

Concurrent sessions will be held morning and afternoon in the Ballroom and East Lounge.

Vice-President F. H. JACKSON, Chairman

## STRUCTURAL DESIGN OF CONCRETE PAVEMENTS

L. W. TELLER, Session Leader

**"Influence of Subgrades and Bases on Design of Rigid Pavements"**

KENNETH B. WOODS

Purdue University, Lafayette, Ind.

See ACI Journal, January 1950. This paper includes a lengthy bibliography on the subject of subgrades and bases. Indications are that the structural capacity of rigid pavements can be improved by the use of location procedures which utilize the best in topographic position and subgrade soil textures.

**"The Problem of Slab Dimensions"**

A. T. GOLDBECK

National Crushed Stone Ass., Washington, D. C.

The dimensions of concrete pavement slabs depend on and are influenced by many factors. The author will tabulate and discuss the factors. (Tentatively scheduled for Apr. Journal)

**"Design and Construction of Joints in Concrete Pavements"**

WILLIAM VAN BREEMEN

New Jersey State Highway Dept., Trenton, N. J.

and E. A. FINNEY

Michigan State Highway Dept., Lansing, Mich.

The authors will discuss the fundamental conditions involved in the design and construction of joints. Construction recommendations will be given. (Tentatively scheduled for May Journal)

**"What Can Steel in Concrete Pavements Do?"**

BENGT F. FRIBERG

Granite City Steel Co., Granite City, Ill.

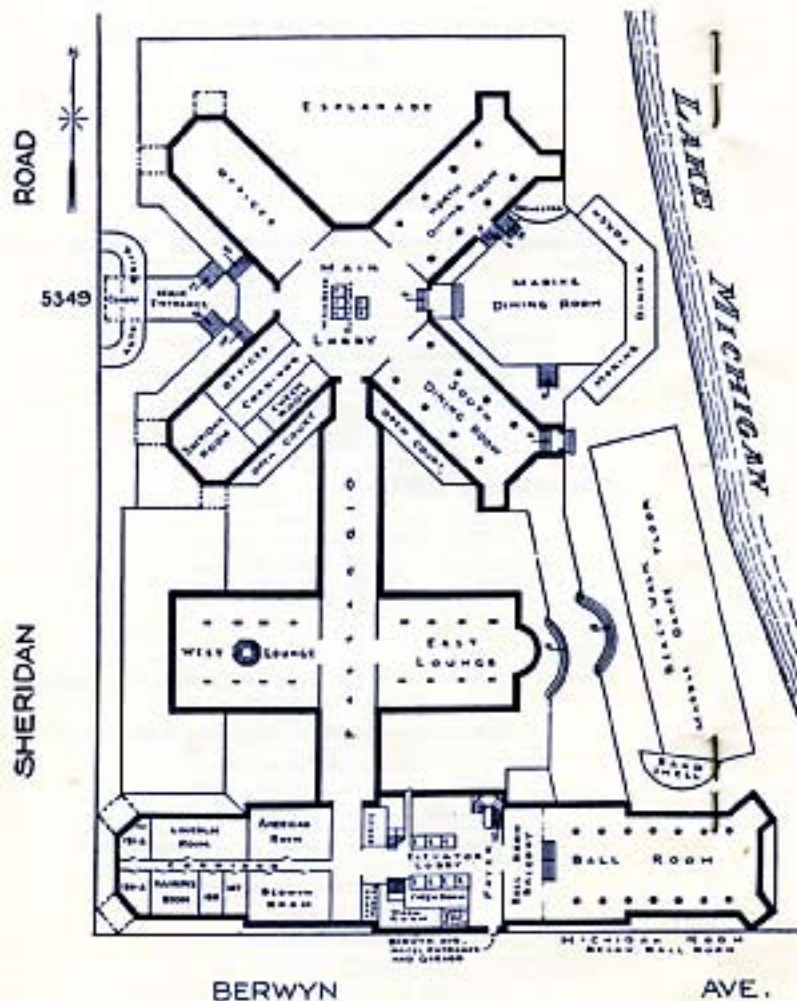
The early progress in the use of reinforcement in pavements will be summarized and recent developments described. (Tentatively scheduled for June Journal)



# ACI CONVENTION AREA

Edgewater Beach Hotel—Chicago

COMMITTEE MEETINGS—Monday and Tuesday  
(Consult bulletin board at registration desk for locations and later time changes)



Com- mittee	Chairman	Hour	Day	Room
115*	S. J. Chamberlin	9 a.m.	Mon.	194
208	H. J. Gilkey	9 a.m.	Mon.	190
210	W. H. Price	7 p.m.	Tues.	187
214	H. C. Ross	7 p.m.	Mon.	190
314	D. H. Pletta	7 p.m.	Tues.	191
315	R. C. Reese	7 p.m.	Mon.	188
318	(Sub. Con.) C. L. Post	9 a.m.	Mon.	191
318	C. L. Post	7 p.m.	Mon.	American Room
318	C. L. Post	7 p.m.	Tues.	American Room
321	N. M. Newmark	9 a.m.	Mon.	188
323	A. E. Cummings	7 p.m.	Mon.	Berwyn Room
324	A. Amirikian	7 p.m.	Tues.	188
611	J. W. Kelly	5 p.m.	Mon.	See Bull. Bd.
612	M. Morris	7 p.m.	Mon.	187
613	W. H. Price	9 a.m.	Mon.	187
621	I. L. Tyler	7 p.m.	Tues.	190
711	F. N. Manafee	11 a.m.	Mon.	American Room

\*Executive Group



12:30 p.m. TUESDAY, FEBRUARY 21

## GENERAL LUNCHEON

Marine Dining Room

For ACI Members and friends who buy their tickets at registration  
(\$2.75 including service)

PRESIDENT GILKEY will make formal presentation of the  
tokens of awards made by the Board of Direction as  
follows:

ALFRED E. LINDAU Award for outstanding contributions to  
reinforced concrete design practice to

FRANK E. RICHART

"for his years of labor toward the improvement of  
reinforced concrete design practice"

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LEONARD C. WASON Medal for the "Most Meritorious  
Paper" of ACI Proceedings Vol. 45 (December 1948 Journal)  
to

C. P. SIESS and N. M. NEWMARK

for their paper

"Rational Analysis and Design of Two-Way Concrete Slabs"

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LEONARD C. WASON Medal for "Noteworthy Research" to

T. M. KELLY, L. SCHUMAN and F. B. HORNIBROOK

for the work reported in their paper (Proceedings Vol. 45,  
September 1948 Journal)

"A Study of Alkali-Aggregate Reactivity by Means of  
Mortar Bar Expansions"

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American Concrete Institute CONSTRUCTION PRACTICE  
AWARD for a "paper of outstanding merit" on concrete  
construction practice to

S. O. ASPLUND

for his paper in the ACI Journal (January 1949) entitled

"Strengthening Bridge Slabs with Grouted Reinforcement"

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Report of Tellers and Introduction of New Officers

Retiring President's Address by HERBERT J. GILKEY, Iowa State  
College, Ames, Iowa

2:30 p.m. TUESDAY, FEBRUARY 21

Ballroom

Concurrent sessions will be held in the Ballroom and East Lounge.

President H. J. GILKEY, Chairman

## PRESTRESSED, PRECAST and REINFORCED CONCRETE

### "Corrosion Protection of Thin Precast Concrete Sections"

D. H. PLETTA, E. F. MASSIE and H. S. ROBINS  
Virginia Polytechnic Institute, Blacksburg, Va.

A new electrical resistance technique for measuring the rate of corrosion of steel reinforcing will be described. (Tentatively scheduled for Mar. Journal)

### "Prestressed Concrete Construction Procedures"

THOR GERMLINDSSON  
Portland Cement Ass., Chicago

The basic concepts of prestressed concrete will be reviewed as well as examples of the application of several systems. (Tentatively scheduled for June Journal)

### "A Simple Mathematical Tool for the Solution of Difficult Design Problems"

ALFRED PARME  
Portland Cement Ass., Chicago

This paper will deal with the application of finite differences to the solution of those structural problems in which the physical relationships are expressed as a differential equation. (Tentatively scheduled for May Journal)

### "Precast Concrete Construction in Britain"

P. G. BOWIE and A. R. COLLINS  
Cement and Concrete Ass., London, England

Various precast frames and systems used in construction in Great Britain will be described. (Tentatively scheduled for Mar. Journal)

(In the author's absence, the paper will be presented by Everett E. Ebling)

### "Precast Reinforced Concrete Structures"

C. D. WAILES, JR.  
C. D. Wailes Corp., Los Angeles, Calif.

The author will focus attention on the practical application of precast construction in the United States. (Tentatively scheduled for Apr. Journal)

2:30 p.m. TUESDAY, FEBRUARY 21

East Lounge

Concurrent sessions will be held in the Ballroom and East Lounge.

Past President R. F. BLANKS, Chairman

## ADMIXTURES

W. T. MORAN, Session Leader

### "Use of Admixtures to Increase Resistance to Freezing and Thawing"

F. H. JACKSON

Bureau of Public Roads, Washington, D. C.

The relative merits of admixtures and interground agents will be considered and optimum ranges of air content for different structural uses stated. (Tentatively scheduled for May Journal)

### "Use of Admixtures in Concrete Products"

BRUCE E. FOSTER

National Bureau of Standards, Washington, D. C.

The author will discuss the effects and precautions in the use of additives in connection with concrete products. (Tentatively scheduled for May Journal)

### "Use of Admixtures in Correcting Grading Deficiencies"

T. C. POWERS

Portland Cement Assn., Chicago

The factors affecting bleeding characteristics and workability of fresh concrete will be reviewed. (Tentatively scheduled for May Journal)

### "Use of Admixtures in Counteracting Alkali-Aggregate Reactions"

W. T. MORAN

U. S. Bureau of Reclamation, Denver, Colo.

The author will review the present knowledge of this subject. (Tentatively scheduled for May Journal)

### "Use of Admixtures as Integral Dampproofing Materials"

BRUCE E. FOSTER

The mechanics of the passage of water through concrete and the effect of dampproofing materials on permeability will be discussed. (Tentatively scheduled for May Journal)

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## GENERAL TOPICS

### "Cost of Long-Span Reinforced Concrete Arch Roofs"

CHARLES S. WHITNEY

Amason and Whitney, New York City

The author will describe five long-span shell construction jobs and compare the costs of concrete structures with those of timber and steel. (Tentatively scheduled for June Journal)

### "Effect of High Velocity Water on Bonneville Dam Concrete"

R. R. CLARK

Office of the District Engineer, Dept. of the Army, Portland, Ore.

The author will compare the progressive erosion which has taken place in the stilling basin with that anticipated in the design, together with the repairs that have been made and the effect on the results of the action of high-velocity water. (Tentatively scheduled for May Journal)

(In the author's absence, the paper will be presented by W. H. Price.)

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- Participants in the program should not fail to leave with the chairman of a session or with the stenotype reporter, manuscripts from which papers or discussions are presented. The ACI Secretary will later provide opportunity for manuscript and proof revision before JOURNAL publication.
  - Upon recognition by the Chairman a discussor will please state his name and convention registration number distinctly and go to a microphone so he may be heard by all. If presented from manuscript, it should be left with the stenotype reporter.

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## ACI INSPECTION TRIP

While the new laboratories of the Portland Cement Association are said to be incomplete in the matter of some new equipment, arrangements have been made through PCA courtesy to provide ACI MEMBERS only an opportunity to see the new PCA center at Skokie on the morning of February 23—the day following convention adjournment. For this your advance registration February 20 will be important as the group will be limited to about 125.



9 a.m. WEDNESDAY, FEBRUARY 22

Ballroom

The Annual Open Session of ACI Committee 115,  
Research

STEPHEN J. CHAMBERLIN, Chairman

GEORGE W. WASHA, Secretary

This convention feature, inaugurated in 1937, has been increasingly popular. It differs from general sessions in that the information is not released for publication. Request is made that proceedings be regarded as CONFIDENTIAL. The projects to be reported upon are not far enough along for publication; none of them is past the active stage and some are in only the preliminary stage. Some may be published in the near future; some perhaps not for years. Attendance at the session is the only sure way of being in on these previews of the many future developments in concrete. (A stenotype report will be made for use at Institute headquarters and in committee records only. This report is NOT for release.)

Plastic flow of reinforced concrete slabs and beams

Measurement of consistency of concrete by ball penetration

A new technique for determining stresses in steel reinforcement as a result of volume changes

Instruments for measuring internal strain in concrete

Measurement of strain within a concrete mass

Studies of concrete subjected to changes in temperature

Influence of thermal properties of aggregates on durability of concrete

Field experiences with the sonoscope inspecting concrete

Diagonal tension in reinforced concrete beams

Strength of concrete under triaxial loading

Tests of eccentrically loaded columns

2 p.m. WEDNESDAY, FEBRUARY 22

Ballroom

**Panel Discussion Based on Questions submitted by  
ACI Members**

C. H. SCHOLER, Chairman

A. AMIRIKIAN	W. T. MORAN
MILES N. CLAIR	N. M. NEWMARK
RAYMOND E. DAVIS	T. C. POWERS
BRYANT MATHER	W. H. PRICE
DOUGLAS McHENRY	R. W. SPENCER
A. G. TIMMS	

Panel discussion of questions and problems about concrete, concrete construction and related materials. The session promises to be of top interest with every reason to believe that differences of opinion will make it lively and worthwhile

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Information about ACI Membership and publications can be had at Convention Registration Desk or from ACI Headquarters, address: American Concrete Institute, 18263 West McNichols Road, Detroit 19, Michigan.

## The AMERICAN CONCRETE INSTITUTE

is a nonprofit, nonpartisan organization of engineers, architects, scientists, builders, manufacturers and representatives of industries associated in their technical interest with the field of concrete, dedicated to the public service. Its primary objective is to assist its members and the engineering profession generally, by gathering and disseminating information about the properties and applications of concrete and reinforced concrete and their constituent materials.

Since 1905 that primary objective has been achieved by the combined membership effort. Individually and through committees, and with the cooperation of many public and private agencies, members have correlated the results of research, from both field and laboratory, and of practices in design, construction and manufacture.

The work of the Institute has become available to the engineering profession in annual volumes of ACI Proceedings since 1905. Beginning 1929 the Proceedings have first appeared periodically in the Journal of the American Concrete Institute and in many separate publications.

### AMERICAN CONCRETE INSTITUTE

18263 W. McNichols Rd.

Detroit 19, Michigan