

54TH

ANNUAL

C
O
N
V
E
N
T
I
O
N

FEB. 24-27



1958

MORRISON HOTEL
CHICAGO

BOARD OF DIRECTION

President

WALTER H. PRICE

Vice-Presidents

DOUGLAS MCHENRY and PHIL M. FERGUSON

Secretary-Treasurer

WILLIAM A. MAPLES*

Technical Director

PAUL F. RICE*

Directors

WILLIAM H. ARMSTRONG
ROBERT F. BLANKS
CLAYTON L. DAVIS
HARRY C. DELZELL
BRUCE E. FOSTER
ROBERT E. JOHNSON
JOSEPH W. KELLY
THOMAS B. KENNEDY
WALTER J. MCCOY
RAYMOND C. REESE
LEWIS H. TUTHILL
C. D. WAILES, JR.

Past Presidents

C. H. SCHOLER

CHARLES S. WHITNEY

FRANK KEREKES

TECHNICAL ACTIVITIES COMMITTEE

(In charge of convention program and of technical publications)

W. J. MCCOY, *Chairman*
WALTER H. PRICE, *Ex Officio*
PHIL M. FERGUSON
CLYDE E. KESLER
BRYANT MATHER
MICHAEL V. PREGNOFF
LEWIS H. TUTHILL
WILLIAM A. MAPLES, *Secretary**

*Address

AMERICAN CONCRETE INSTITUTE

P.O. Box 4754, Redford Station
Detroit 19, Michigan

PROGRAM TIME TABLE

ACI Convention Headquarters Parlor "E"

Sunday, February 23

9:00 a.m.—12:00 noon—TAC Meeting—Suite 440
12:15 p.m.—Board-TAC Luncheon—Rooms 427, 429, 432
2:00 p.m.—5:00 p.m.—Board Meeting—Suite 440

Monday, February 24

9:00 a.m.—Registration Begins
First Floor Foyer
9:00 a.m.—Technical Committee Meetings
2:00 p.m.—Technical Committee Meetings
7:00 p.m.—Technical Committee Meetings
See pages 6 and 7

Tuesday, February 25

8:00 a.m.—Institute Officer's Reception and Breakfast
for scheduled program participants (Prior
Invitation) Parlor "C"
9:00 a.m.—Registration Continues
9:30 a.m.—12:00 noon—First General Session
Grand Ballroom
2:00 p.m.—5:00 p.m.—General Session
Grand Ballroom
7:00 p.m.—Technical Committee Meetings

Wednesday, February 26

9:00 a.m.—12:00 noon—Concurrent Sessions
(1) Fatigue of Concrete, Constitution Room
(2) Construction, Grand Ballroom
12:15 p.m.—Awards Luncheon
Cotillion and Embassy Rooms
2:30 p.m.—5:00 p.m.—Concurrent Sessions
(1) Joint Design Session with Structural
Division, ASCE, Grand Ballroom
(2) Design of Highway Pavements
Constitution Room
6:30 p.m.—Cocktail Hour—Sherman Hotel
7:30 p.m.—BANQUET—Combined with the American
Society of Civil Engineers—Sherman Hotel

Thursday, February 27

9:00 a.m.—12:00 noon—Research Session
Grand Ballroom
2:00 p.m.—Tour of PCA Laboratories—(See Page 19)

CHICAGO CONVENTION COMMITTEE

General Committee on Arrangements

A. ALLAN BATES, *Chairman*
JACK R. JANNEY, *Secretary*
GEORGE F. LONG, *Treasurer*

Subcommittee Chairmen

Entertainment
H. C. DELZELL

Hostess
MRS. A. ALLAN BATES

Publicity
W. W. WALLACE

Inspection and Tours
EARL J. BEARD

Advisory Committee

CRAIG J. CAIN	W. P. MARKERT
R. H. CLORE	DOUGLAS McHENRY
E. M. FUGIK	H. F. PECKWORTH
O. W. IRWIN	C. E. WUERPEL

Ladies' Committee

MRS. A. ALLAN BATES, <i>Chairman</i>	
MRS. WILLIAM AVERY	MRS. P. H. KAAR
MRS. C. C. CARLSON	MRS. PAUL KLIETGER
MRS. MILES D. CATTON	MRS. ALAN MATTOCK
MRS. L. D. CHILDS	MRS. DOUGLAS McHENRY
MRS. R. E. COPELAND	MRS. G. E. MONFORE
MRS. A. M. DAVIS	MRS. C. C. OLESON
MRS. R. C. ELSTNER	MRS. GEORGE PARIS
MRS. E. J. FELT	MRS. T. C. POWERS
MRS. J. R. GASTON	MRS. PAUL ROGERS
MRS. N. W. HANSON	MRS. J. J. SHIDELER
MRS. EIVIND HOGNESTAD	MRS. I. L. TYLER
MRS. JACK R. JANNEY	MRS. HUBERT WOODS
MRS. C. E. WUERPEL	

CONVENTION REGISTRATION

Monday - Thursday

February 24-27, 1958

9:00 a.m. - 5:00 p.m. Daily

Registration Fee - \$3.00

All ladies and **registered** nonmember visitors are welcome at technical sessions, Awards Luncheon, and Dinner.

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

Tickets for Wednesday evening **Cocktails** and **Dinner** must be purchased by **2:00 p.m. Wednesday**. (A book of tickets for the special banquet and all of the events scheduled for the ladies for the week will be sold at the registration desk.)

See bulletin board for special notices

TECHNICAL COMMITTEE MEETINGS

See pages 6 and 7 and bulletin board at registration desk for time and location.

NOTES FOR PROGRAM PARTICIPANTS

8:00 a.m. Tuesday—Breakfast for all scheduled program participants in general convention sessions. (By Invitation) - Parlor "C"

Participants in the program should not fail to leave with the stenotype reporter manuscripts from which papers or discussions are presented. The ACI Secretary will later provide opportunity for manuscript revision before consideration for **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.

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

TECHNICAL COMMITTEE MEETINGS

Saturday, February 22

Committee	Meeting Room
326 (Joint ACI-ASCE) Shear and Diagonal Tension (closed meeting)	Walnut Rm

Sunday, February 23

8:00 p.m.

622 Subcommittee 1, Pressure on Formwork	528
--	-----

Monday, February 24

8:00 a.m.

208 Bond Stress	429
-----------------	-----

8:30 a.m.

333 (Joint ACI-ASCE) Design and Construction of Composite Structures	530
--	-----

9:00 a.m.

116 Nomenclature	524
207 Properties of Mass Concrete	427
212 Admixtures	Burgundy Rm.
213 Subcommittee 2, Lightweight Concrete Masonry	536
322 Design of Structural Plain Concrete	432
332 Recommended Practice for Residential Concrete Work	528
401 Specifications for Structural Concrete	534
612 Recommended Practice for Curing Concrete	526
613 Subcommittee on Proportioning Lightweight Aggregate Concrete	Hollywood Rm.
614 Recommended Practice for Measuring, Mixing, and Placing Concrete	Embassy Rm.
621 Aggregates	532
711 Precast Concrete Floor Systems	434

11:00 a.m.

613 Subcommittee on No-Slump Concrete	Parlor "B"
---------------------------------------	------------

Monday, February 24

2:00 p.m.

201 Durability of Concrete in Service	429
213 Subcommittee 1, Lightweight Structural Concrete	536

Monday, February 24

2:00 p.m. continued

Committee	Meeting Room
215 Fatigue of Concrete	432
314 Rigid Frames for Buildings and Bridges	534
315 Detailing Reinforced Concrete Structures	Embassy Rm.
318 Subcommittee 15, Ultimate Strength Design	Burgundy Rm.
318 Subcommittee 12, Footings	530
324 Precast Reinforced Concrete Thin Sections	526
325 Structural Design of Concrete Pavements for Highways and Airports	434
331 Structures of Concrete Masonry Units	528
605 Hot Weather Concreting	Hollywood Rm.
616 Coatings for Concrete	532
622 Formwork for Concrete	524
714 Concrete Bins and Silos	ACI Suite
716 High-Pressure Steam Curing	Parlor "B"

3:00 p.m.

334 Concrete Shell Structures	427
-------------------------------	-----

7:00 p.m.

115 Research (Executive Group)	ACI Suite
213 Subcommittee 3, Insulating Concrete	530
318 Subcommittee 11, Columns	526
332 Residential Concrete	532
609 Compaction of Concrete by Mechanical Means	528
611 Inspection of Concrete	Hollywood Rm.
Building Committee (Board of Direction Committee)	524

Tuesday, February 25

2:00 p.m.

318 Subcommittee 8, Shear, Diagonal Tension, and Bond	528
---	-----

7:00 p.m.

318 Standard Building Code	Hollywood Rm.
----------------------------	---------------

Wednesday, February 26

9:00 a.m.

318 Subcommittee 6, Design-General Conditions; Flexural Computations	528
--	-----

Tuesday, February 25

9:30 a.m. - 12:00 noon

FIRST GENERAL SESSION

GRAND BALLROOM

President W. H. PRICE, Presiding

Opening Remarks

Appointment of tellers to canvass annual election ballots

Proposed Revisions of Institute Bylaws

Proposed Test Procedure to Determine Relative Bond Value of Reinforcing Bars

Committee 208

CHESTER P. SISS, *Chairman*

Presented by H. J. GILKEY

Proposed Recommended Practice for Design of Concrete Pavements

Committee 325

E. A. FINNEY, *Chairman*

Proposed Revision of Specifications for Concrete Pavements and Concrete Bases

Committee 617

H. F. CLEMMER, *Chairman*

Proposed Revision of Minimum Standard Requirements for Precast Concrete Floor and Roof Units

Committee 711

LEO M. LEGATSKI, *Chairman*

New ACI Headquarters Building

MINORU YAMASAKI

Yamasaki, Leinweber and Associates

Precast Roof of ACI Building

Motion Picture

Tuesday, February 25

2:00 p.m. - 5:00 p.m.

GRAND BALLROOM

ST. LAWRENCE SEAWAY SESSION

Sponsored by Committee 207

I. L. TYLER, *Chairman*

"Features of the St. Lawrence International Power Project"

J. NEIL MUSTARD

Hydro-Electric Power Commission of Ontario

"Concrete Technology on the St. Lawrence International Power Project"

HARRY H. MCLEAN

New York Department of Public Works

"Features of the St. Lawrence International Seaway Project"

GORDON KIDD

St. Lawrence Seaway Authority

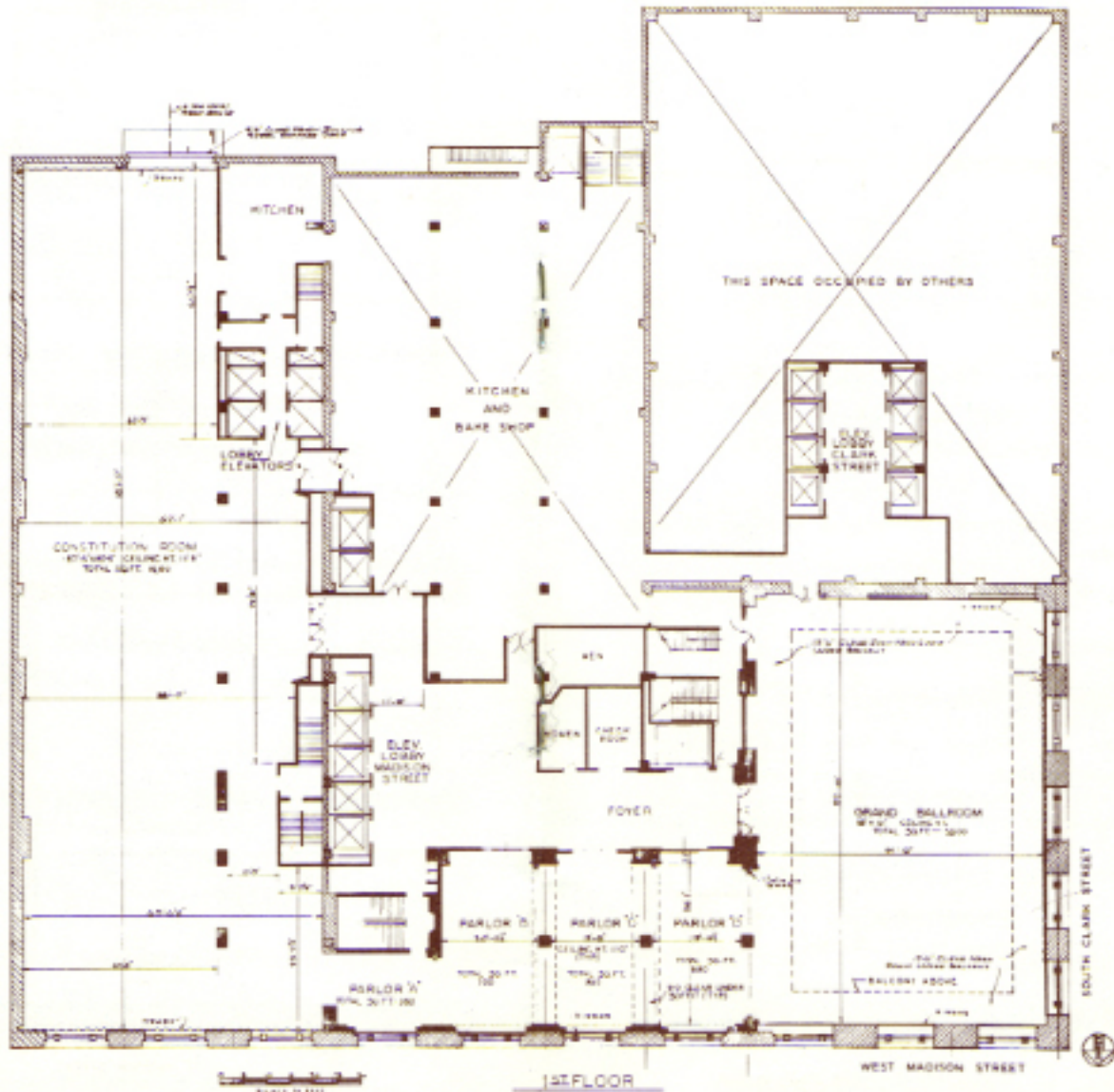
"Concrete Technology on the St. Lawrence International Seaway Project"

M. R. SMITH

Corps of Engineers

ACI CONVENTION AREA

Morrison Hotel



Wednesday, February 26

9:00 a.m. - 12:00 noon

CONSTITUTION ROOM

CONCURRENT

(1) FATIGUE OF CONCRETE

Sponsored by Committee 215

GENE M. NORDBY, *Chairman*

"Fatigue of Concrete—A Review of Past Research"

GENE M. NORDBY
National Science Foundation

"Effect of Range of Stress on Fatigue Strength of Plain Concrete Beams"

J. W. MURDOCK and CLYDE KESLER
University of Illinois

"Fatigue Properties of Concrete Beams"

THOMAS E. STELSON and JOHN N. CERNICA
Carnegie Institute of Technology and Youngstown
University, respectively

"Probability of Fatigue Failure of Plain Concrete"

JOHN T. MCCALL
Michigan State University

"Static and Fatigue Strength of Beams with Tensile Reinforcement"

TIEN S. CHANG and CLYDE KESLER
University of Illinois

Wednesday, February 26

9:00 a.m. - 12:00 noon

GRAND BALLROOM

SESSIONS

(2) CONSTRUCTION

DOUGLAS MCHENRY, *Chairman*

"Failures of Concrete Structures"

JACOB FELD
Consulting Engineer

"Control of Concrete Mixes"

E. A. ABDUN-NUR and J. J. WADDELL
Consulting Engineer and Joseph K. Knoerle &
Associates, respectively

"Design and Construction of a 22-Story Office Tower"

O. SAFIR
Consulting Engineer

"Wide-Span Hyperbolic Paraboloidal Shell"

ANTON TEDESKO
Roberts and Schaefer Company

Wednesday, February 26

AWARDS LUNCHEON

12:15 p.m.

COTILLION AND EMBASSY ROOMS

Presentation of Awards

by

President Price on behalf of the Board of Direction

HENRY C. TURNER MEDAL to

HERBERT J. GILKEY

"for notable leadership in advancing the knowledge of properties of plain and reinforced concrete"

ALFRED E. LINDAU AWARD to

ARSHAM AMIRIKIAN

"in recognition of his continued devotion to the improvement of design practice for precast reinforced concrete construction"

LEONARD C. WASON MEDAL for "Noteworthy Research" to

PHIL M. FERGUSON

for the work reported in his paper (*Proceedings V. 53, August 1956 ACI JOURNAL*)

"Some Implications of Recent Diagonal Tension Tests"

LEONARD C. WASON MEDAL for "The Most Meritorious Paper" of ACI Proceedings V. 53 (February 1957 ACI JOURNAL)

R. E. COPELAND

for his paper

"Shrinkage and Temperature Stresses in Masonry"

CONSTRUCTION PRACTICE AWARD to

JAMES S. MINGES

and

DONALD S. WILD

for their paper (*Proceedings V. 53, February 1957 ACI JOURNAL*)

"Six Stories of Prestressed Slabs Erected by Lift-Slab Methods"

Announcement of Election to Honorary Membership

D. E. PARSONS

STANTON WALKER

EUGENE FREYSSINET

Presentation of Plaque to Retiring President

Report of Tellers and Introduction of New Officers

Retiring President's Address

WALTER H. PRICE

United States Bureau of Reclamation

Denver, Colorado

Wednesday, February 26

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

GRAND BALLROOM

Wednesday, February 26

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

CONSTITUTION ROOM

CONCURRENT SESSIONS

(1) STRUCTURAL DESIGN

Joint Session with Structural Division of
American Society of Civil Engineers

PHIL M. FERGUSON, *Chairman*

"Influence of Design and Details on Concrete Deterioration"

P. D. MIESENHELDER

Association of American Railways

"Effect of Axial Compression on Shear Strength of Reinforced Concrete Frame Members"

JAMES W. BALDWIN, JR. and IVAN M. VIEST

University of Illinois and AASHO Road Test, respectively

"Ultimate Shear Strength of Reinforced Concrete Members without Shear Reinforcement"

CHARLES S. WHITNEY

Consulting Engineer

"Development of Precast Concrete Girders Reinforced with High-Strength Deformed Bars"

J. R. GASTON and EIVIND HOGNESTAD

Portland Cement Association

(2) DESIGN OF HIGHWAY PAVEMENTS

Sponsored by Committee 325

E. A. FINNEY, *Chairman*

"New Factors in Pavement Design"

E. A. FINNEY

Michigan State Highway Department

ACI Committee 325 Subcommittee Reports

Prestressed Concrete Pavements

Subcommittee 6

J. A. BISHOP, *Chairman*

Continuously Reinforced Concrete Pavements (Review of the use of continuous reinforcement in highway pavements)

Subcommittee 7

J. D. LINDSAY, *Chairman*

Design of Concrete Overlay for Concrete Pavements

Subcommittee 8

L. M. ARMS, *Chairman*

Cocktails—6:30

BANQUET—7:30

SHERMAN HOTEL — Joint banquet with the
American Society of Civil Engineers

Thursday, February 27

9:00 a.m. - 12:00 noon

GRAND BALLROOM

RESEARCH SESSION

GEORGE W. WASHA, *Chairman*

S. J. CHAMBERLIN, *Secretary*

This Annual Open Meeting of ACI Committee 115 differs from general sessions in that the information is not released for publication. Request is made that proceedings be regarded as CONFIDENTIAL. Attendance at the session is the only sure way of being informed of the many future developments in concrete. A group of short papers will be presented on research techniques and preliminary results of investigations now in progress.

"Pumpability and Physical Characteristics of Sand-Cement Grout"

"Qualification Tests for Retarders"

"Ionic-Barrier Moisture Meter for Measurement of Moisture Content and Moisture Distribution in Concrete"

"Deleterious Constituents of Gravels and Their Effect on Concrete Durability"

"Triaxial Compressive Stress Tests of Fly Ash Concrete"

"An Accelerated Shrinkage Test for Concrete Masonry Units"

"Tensile Fatigue Characteristics of Concrete Mortar Bars"

"Fatigue Strength of Prestressed Concrete Beams in Flexure"

"Plastic Flow in Reinforced Concrete Beams Under Repeated Loading"

"Repeated Load Tests on Prestressed Concrete Railroad Bridges"

"Shear Strength of Prestressed Concrete I-Beams with Web Reinforcement"

Thursday, February 27

2:00 p.m.

Tour of Portland Cement Association Laboratories

LADIES' PROGRAM

Monday, February 24

8:00 a.m. — Don McNeill Breakfast Club Show

9:00 a.m. — Coffee Hour

3:00 p.m. — Tea and Entertainment

Tuesday, February 25

8:00 a.m. — Don McNeill Breakfast Club Show

9:00 a.m. — Coffee Hour

12:00 Noon — Luncheon at Kungsholm Restaurant followed by puppet opera in the afternoon

Wednesday, February 26

8:00 a.m. — Don McNeill Breakfast Club Show

9:00 a.m. — Marshall Field Luncheon and Fashion Show

6:30 p.m. — Cocktail Hour

7:30 p.m. — Banquet and Entertainment

Thursday, February 27

8:00 a.m. — Don McNeill Breakfast Club Show

9:00 a.m. — Farewell Coffee Hour

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.

It is self-supported by membership dues and the sale of its publications. Since 1905 its 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

P.O. Box 4754, Redford Station

Detroit 19, Michigan