

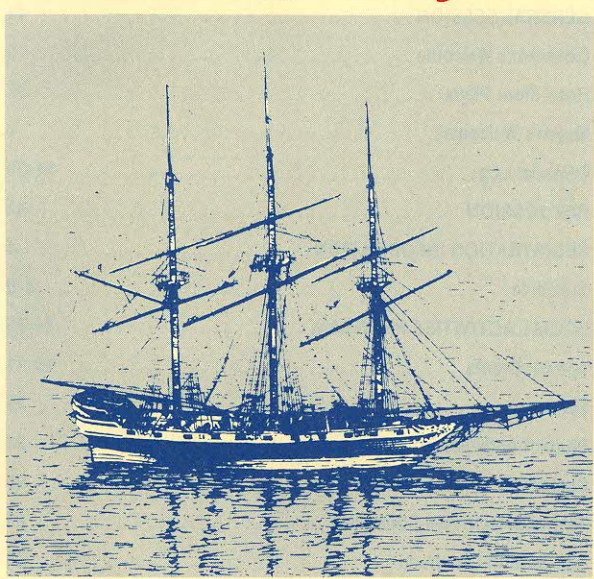
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1986
ACI FALL
CONVENTION

November 9-14

Convention Theme:
Concrete and the
Infrastructure

Baltimore, Maryland



U.S. Frigate Constellation

aci AMERICAN CONCRETE INSTITUTE

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REGISTRATION

The ACI staff is eager to answer any questions you may have pertaining to the convention.

The registration desk is open to serve you during the following hours:

Sunday	November 9	1:00 PM- 5:00 PM
Monday	November 10	7:30 AM- 5:00 PM
Tuesday	November 11	8:00 AM- 5:00 PM
Wednesday	November 12	8:00 AM- 5:00 PM
Thursday	November 13	8:00 AM- 5:00 PM
Friday	November 14	8:00 AM-10:30 AM

Fees:

Member	\$105.00 (full week)
Nonmember	\$120.00 (full week)
One-day Member	\$ 45.00 (per day)
One-day Nonmember	\$ 50.00 (per day)
Student	\$ 5.00 (excludes social functions)

Registration fees cover attendance at all ACI technical and educational committee meetings, General Session, Forums, and Rap Session. Also, the Concrete Mixer ticket is included in the full week registration fee.

Badges:

Wear your badge on the right side at all times. (In shaking hands, the eyes normally fall at shoulder level on the right side of the individual being greeted.) The convention badges are color coded for identification.

Member	White
Nonmember	Peach
Fellow	White
Student	Blue
Spouse	Beige



TELEPHONE: (313) 532-2600
TELEX: (810) 221-1454

american concrete institute

BOX 19150
22400 WEST SEVEN MILE ROAD
DETROIT, MICHIGAN 48219

November 1986

Dear ACI Convention Delegates:

Those of you who were able to join us in San Francisco earlier this year will recall a week of beautiful weather, a most pleasant moonlight bay cruise, a week-long series of thought-provoking sessions and meetings — all memories of that charming area on the nation's West Coast.

This time, our Institute will be meeting in the city by the Chesapeake Bay — Baltimore, Maryland, the center of an area steeped in American history and culture.

But Baltimore is more than just a few historical gems such as Fort McHenry and the *U.S.F. Constellation*; it is a city that has achieved international acclaim for its progressive, innovative urban redevelopment program.

We can't promise you the same beautiful weather that we had in San Francisco but we can guarantee an array of exciting places to see and things to do; a week of event-filled sessions and meetings, our traditional social gatherings, special tours for the spouses, and similar activities will blend into another memorable ACI convention. It will be a great event similar to the one we had earlier this year at the other end of the continent.

Frances and I look forward to greeting you in Baltimore. We hope that you, like us, will relax a little, enjoy some of the great seafood for which Baltimore is noted and collect memories of another good time with old ACI friends.

Best regards,

Walter E. Kunze
President
American Concrete Institute

progress through knowledge



HARRY HUGHES

STATE OF MARYLAND
EXECUTIVE DEPARTMENT
ANNAPOLIS, MARYLAND 21404

November 9, 1986

MESSAGE FROM GOVERNOR HARRY HUGHES

On behalf of the citizens of Maryland, I am pleased to welcome all those attending the American Concrete Institute's International Convention being held in Baltimore.

We are all aware that concrete is an important ingredient contributing much to the development of our communities. As such, the design, construction and maintenance of concrete structures is vitally important to the safety and well-being of our citizens.

Through the years you have taken a significant role in addressing many of the important problems affecting the public welfare by encouraging imaginative applications of concrete and increased knowledge of its usage. I am sure that this convention will provide further opportunities to exchange information and ideas relating to this versatile substance.

Please accept my best wishes for an enjoyable and successful conference and my hope that you will find time to enjoy our Maryland hospitality during your visit.

Sincerely,

Harry Hughes

Governor

William Donald Schaefer, Mayor



Office of the Mayor • City of Baltimore
250 City Hall, Baltimore, Maryland 21202
(301) 396-3100

In reply refer to: MO
Direct dial (301) 396-

Dear Friends of the American Concrete Institute:

I am delighted to warmly welcome you to the American Concrete Institute's convention being held here in Baltimore, November 9-14, 1986.

Baltimore is proud of its reputation as one of the premier cities of the world. We are renowned for our urban development programs, including the Inner Harbor. We invite you to share with us our rich ethnic neighborhoods, our fine dining and hotel facilities, our downtown parks, plazas, Fort McHenry, the National Aquarium, and a host of other spectacular attractions. Take a peek at how we use concrete!

The people of Baltimore take great pride in our City and look forward to doing everything possible to make your visit here a complete success.

Have a wonderful convention and be assured that you are always welcome in Baltimore.

Sincerely,

Mayor

SCHEDULE

ACI FALL CONVENTION November 9-14, 1986

SUNDAY, November 9, 1986

1:00 PM- 5:00 PM	Registration	Liberty
5:30 PM- 7:00 PM	OPENING RECEPTION (SPONSORED BY ACI MARYLAND CHAPTER)	Internat'l

MONDAY, November 10, 1986

7:30 AM- 5:00 PM	Registration	Liberty
10:00 AM- 6:30 PM	Student Activities Program	Carroll
8:30 AM- 9:00 PM	Technical Committee Meetings	

TUESDAY, November 11, 1986

8:00 AM- 5:00 PM	Registration	South Tower Foyer
8:30 AM- 9:00 PM	Technical Committee Meetings	
10:00 AM- 3:00 PM	Tunnel Films	International C
9:00 AM-10:30 AM	TECHNICAL SESSION:	

- Chapter Forum: How to Establish and Operate a Successful Local ACI Chapter Awards Program
- Poe

9:00 AM-12:00 NOON	TECHNICAL SESSIONS:	
	● Infrastructure (Part I) ..	International B
	● Responsibilities in Construction	International D

12:30 PM- 2:00 PM	TORT REFORM LUNCHEON	Liberty
	Fee: \$10.00 (with registration); \$20.00 (luncheon only)	

2:00 PM- 5:00 PM	TECHNICAL SESSIONS:	
	● Concrete Construction Forum	International D
	● Infrastructure (Part II)	Internat'l B
	● Open Paper Session	Poe
	● Polymer Portland Cement Concrete	International A

4:30 PM- 6:30 PM	4:30 Rehabilitation (Cash Bar)	South Tower Foyer
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7:30 PM-10:00 PM	TECHNICAL SESSION:	
	● Panel Discussion on Basics and Usefulness of Computer Spread Sheets in the Concrete Industry ..	Internat'l A

WEDNESDAY, November 12, 1986

8:00 AM- 5:00 PM	Registration	South Tower Foyer
8:30 AM- 9:00 PM	Technical Committee Meetings	
8:30 AM- 9:45 AM	RAP SESSION AND CONTINENTAL BREAKFAST	Liberty
10:00 AM-12:00 NOON	GENERAL SESSION	International

2:00 PM- 5:00 PM

TECHNICAL SESSIONS:

- Infrastructure Rehabilitation
..... International A
- Introduction and Discussion of the ACI
Lab Technician Certification Program
..... International B
- Load and Resistance Factor Design
for Bridges International C
- Research in Progress ... International D
- Use of Ferrocement in Retrofitting
and Repairing Structures Liberty

6:30 PM- 8:00 PM

**CONCRETE MIXER (SPONSORED BY
ACI MARYLAND CHAPTER) Internat'l**

THURSDAY, November 13, 1986

8:00 AM- 5:00 PM

Registration South Tower Foyer

8:30 AM- 9:00 PM

Technical Committee Meetings

9:00 AM- 6:00 PM

Board of Direction Meeting Carroll

9:00 AM-12:00 NOON

TECHNICAL SESSIONS:

- Cracking in Prestressed Concrete
Structures (Part I) International A
- Fiber Reinforced Concrete in the
Infrastructure (Part I) .. International B
- Method of Proportioning Concrete with
Fly Ash and Slag (Part I) ... Internat'l C
- Parking Structures (Part I)
..... International D

2:00 PM- 5:00 PM

TECHNICAL SESSIONS:

- Cracking in Prestressed Concrete
Structures (Part II) International A
- Fiber Reinforced Concrete in the
Infrastructure (Part II) Internat'l B
- Parking Structures (Part II)
..... International D
- Physical Models in Engineering
Education and Practice Liberty
- Recent Outstanding Examples of
Concrete Shells International C

7:30 PM-10:00 PM

FORUM:

Incentives in Specifications and
Contracts Liberty

FRIDAY, November 14, 1986

8:00 AM-10:30 AM

Registration South Tower Foyer

8:30 AM- 1:00 PM

Technical Committee Meetings

9:00 AM-12:00 NOON

TECHNICAL SESSIONS:

- Analysis and Design of Shells for
Construction Loads International A
- Curing Methodologies for Special or
Unusual Concretes International D
- Fiber Reinforced Concrete in the
Infrastructure (Part III) Internat'l B
- Method of Proportioning Concrete with
Fly Ash and Slag (Part II) ... Internat'l C

9:30 AM- 3:00 PM

TOUR: BRESKO Plant and Slag Grinding
Facility (Fee: \$18.00)

SPECIAL EVENTS

COFFEE BAR

Monday through Friday
8:00 AM-10:00 AM

ACI Registration Area

Join your colleagues every morning for coffee and tea (complimentary) in the ACI Registration Area.

MEET WITH ACI STAFF ENGINEERS

An ACI staff engineer will be available by appointment to discuss your committee operations and to answer your questions. Please visit the ACI Registration Desk to set up your appointment.

GET TOGETHER WITH CONCRETE INTERNATIONAL EDITORS

An ACI editor will be available to discuss your projects and to learn how **Concrete International** can become more useful to you. An editor will be present between the hours of 1:00 PM and 2:00 PM, Monday, November 10, Wednesday, November 12, and Thursday, November 13 in the ACI Registration Area.

CONTRACTOR'S DAY

Tuesday, November 11, 1986

International D

9:00 AM-12:00 NOON

Responsibilities in Construction

2:00 PM- 5:00 PM

Concrete Construction Forum

On Tuesday, contractors will find a full day of programs designed to fit their needs. In the morning will be the Responsibilities in Construction Forum where influential and knowledgeable speakers from all viewpoints within the construction industry will define the limits of legal and ethical responsibility. Then, in the afternoon, will be the Concrete Construction Forum presenting problems and solutions to the most vexing problems faced by a concrete constructor today. At this informal session you will be able to ask questions and get answers. In addition, there will be a special display of ACI publications and an expert on hand to guide you to the information you need to compete in today's concrete world.

TORT REFORM LUNCHEON

Tuesday, November 11, 1986

Liberty

12:30 PM-2:00 PM

Fee: \$10.00 (with registration)
\$20.00 (luncheon only)

ACI will present a luncheon talk by the American Tort Reform Association president, James K. Coyne. Mr. Coyne will describe ATRA's efforts to change tort laws and what effect these changes would have on you. Tickets are available at the ACI Registration Desk.

4:30 REHABILITATION (Cash Bar)

Tuesday, November 11, 1986

South Tower Foyer

4:30 PM-6:30 PM

Rest, relax and restore... the day's meetings are now behind you and the evening is young. Join your colleagues in the ACI Registration Area where a cash bar has been set up for your pleasure.

RAP SESSION AND CONTINENTAL BREAKFAST

Wednesday, November 12, 1986

Liberty

8:30 AM-9:45 AM

A complimentary continental breakfast will be served on Wednesday from 8:30 AM to 9:00 AM with the Rap Session starting at 9:00 AM. This is your opportunity to ask ACI President Walter E. Kunze and ACI Executive Vice President George F. Leyh any questions. Complete the question card in your convention packet or present your question personally at the microphone.

GENERAL SESSION

Wednesday, November 12, 1986
10:00 AM-12:00 NOON

International

During the General Session, our Raymond E. Davis Lecturer, Charles J. Pankow, President, Charles J. Pankow, Inc., San Francisco, California, will speak on the topic "The Builder's Function in Advancing the Techniques and Uses of Reinforced Concrete."

Our Keynote Address will be presented by Major General Mark J. Sisinyak, Director of Engineering and Construction, Office of the Chief of Engineers, U.S. Army Corps of Engineers, Washington, D.C. He will speak on "Concrete and the Infrastructure."

CONCRETE MIXER

Wednesday, November 12, 1986
6:30 PM-8:00 PM

International

All delegates and guests are cordially invited to attend our traditional convention social. (All full-week registrants have received a complimentary mixer ticket upon registration. Others may purchase tickets at the ACI Registration Desk.)

LOCAL TOUR: BRESKO PLANT AND SLAG GRINDING FACILITY

Friday, November 14, 1986
9:30 AM-3:00 PM

Cost: \$18.00 per person
(includes box lunch)

Baltimore BRESKO, Refuse to Energy Facility provides dependable, environmentally safe disposal of up to 2,250 tons per day of municipal solid waste. The energy derived from the burning of the refuse is used to drive a turbine/generator to produce electricity for the Baltimore Gas and Electric Company.

Slag Grinding Facility, Atlantic Cement Company at Bethlehem Steel Sparrows Point Plant. This facility is the only slag grinding plant in the United States.

Trip from the BRESKO plant to the Slag Grinding Facility will be by bus through the new Fort McHenry Tunnel beneath the Baltimore Harbor.

Buses will depart the Omni International Hotel from the Liberty Street side. Please gather to board buses at 9:15 AM.

BREAKFAST MEETINGS (by invitation only)

Monday, November 10, 1986	7:00 AM-8:30 AM	
— TAC/EAC Breakfast		Carroll
Tuesday, November 11, 1986	7:00 AM-8:30 AM	
— 318 Steering Committee Breakfast		Poe
— Chairmen Training Breakfast		Liberty
Wednesday, November 12, 1986	7:00 AM-8:30 AM	
— Seminar Planning Breakfast		Carroll
Thursday, November 13, 1986	7:00 AM-8:30 AM	
— Convention Training Session for Mexico City Seminar Chairmen and Speakers		Liberty A
— Coordination Meeting for ACI Specification-Writing Committees		Liberty B

SOCIAL ACTIVITIES PROGRAM

An excellent program has been planned by the Local ACI Maryland Chapter. All delegates and guests are invited to participate. Check the program in the back of this booklet. There is something of interest for everyone!

BALTIMORE CONVENTION COMMITTEE

General Co-Chairmen

Michael G. Callas
Callas Contractors, Inc.

I. Leon Glassgold
Masonry Resurfacing and
Construction Co., Inc.

Technical Program

Richard Wm. Magnani
Whitney, Bailey, Cox and Magnani

Social Program

I. Sharon Fischer
Priceless Industries, Inc.

Publicity

Donald T. Ward
Baltimore Gas and Electric Company

Finance

Stuart H. Dobson
The Whiting-Turner Contracting Company

Student Activities

Rodney A. Meyers
Arundel Corporation

Finance Committee

Richard O. Beall Century Engineering Company	Richard Bowden Arundel Corporation
Russell Cook Lehigh Portland Cement Company	Robert M. Shaft The Whiting-Turner Contracting Company
Frederick K. Teeter Genstar Stone Products Company	

Social Committee

Judy Carroll	Mary Pat Cook
Pat Diamondidis	Gail Dobson
Barbara Fox	Jackie Glassgold
Joan Magnani	Joann Petillo
Julie Ward	

ACI MARYLAND CHAPTER

President

Richard Wm. Magnani
Whitney, Bailey, Cox and Magnani
Timonium, Maryland

Past President

Allan W. Thompson
Penniman and Browne, Inc.
Baltimore, Maryland

Vice President

I. Sharon Fischer
Priceless Industries, Inc.
Baltimore, Maryland

Secretary-Treasurer

Judith A. Carroll
Carroll Engineering, Inc.
Timonium, Maryland

Directors

Michael G. Callas
Callas Contractors, Inc.
Hagerstown, Maryland

Stuart H. Dobson
The Whiting-Turner Contracting
Company
Baltimore, Maryland

Russell A. Cook
Lehigh Portland Cement
Company
Annandale, Virginia

Karl J. Rickert
Rickert Engineering, Inc.
Baltimore, Maryland

Alfred B. Spamer
CEC Systems, Inc.
Forest Hill, Maryland

George R. Weisgerber
Thomas, Bennett & Hunter, Inc.
Westminster, Maryland

The officers, staff, and members of ACI would like to thank the Local Convention Committee, the Hostesses, and the Maryland Area Chapter for their contribution to a successful 1986 Fall Convention.

THANK YOU

PROGRAM COMMITTEE MEETINGS

Be sure to check the bulletin board
for last minute changes or added meetings.

SATURDAY/SUNDAY/MONDAY

DAY/TIME	FUNCTION	ROOM
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SATURDAY, November 8, 1986

8:00 AM-6:00 PM

TAC Full	Technical Activities Committee (CLOSED)	Schaefer
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SUNDAY, November 9, 1986

8:00 AM-6:00 PM

TAC Sub	Technical Activities Committee	
	Review Group 1	Calhoun
	Review Group 2	Preston
	Review Group 3	McKeldin
	Review Group 4	Schaefer

9:00 AM-6:00 PM

EAC Full	Educational Activities Committee	Hopkins
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2:00 PM-5:00 PM

	Planning Committee (3 hrs)	Peale
E902	Certification (3 hrs)	Douglass

5:30 PM-7:00 PM

	Opening Reception	International
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MONDAY, November 10, 1986

8:30 AM-1:00 PM

TAC Full	Technical Activities Committee (4-1/2 hrs)	Schaefer
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8:30 AM-10:00 AM

CLC	Construction Liaison Committee (3 hrs)	Jefferson
E702	Designing Structures (1-1/2 hrs)	Calhoun
E703	Construction Practices (7-1/2 hrs)	Preston
E902-A	Field Technician I (4-1/2 hrs)	Adams
E902-C	Concrete Inspector—General (9 hrs)	Peale
FAC	Financial Advisory Committee (CLOSED)	Douglass
211-D	High-Strength (1-1/2 hrs)	1901/02
212	Chemical Admixtures (1-1/2 hrs)	Internat'l A
213	Lightweight Aggregates (1-1/2 hrs)	McKeldin
336	Footings (3 hrs)	2107/08
349-3	Embedded Steel (3 hrs)	2001/02
351-2	Fd./Rotat. & Recip. (1-1/2 hrs)	Lincoln
506	Shotcreting (4-1/2 hrs)	Washington
533	Wall Panels (3 hrs)	2101/02
546	Repair (3 hrs)	Hopkins

COMMITTEES

DAY/TIME	FUNCTION	ROOM
10:00 AM-11:30 AM		
*CLC	Construction Liaison Committee	Jefferson
*E703	Construction Practices	Preston
E901	Scholarships (1-1/2 hrs)	Calhoun
*E902-A	Field Technician I	Adams
*E902-C	Concrete Inspector—General	Peale
*FAC	Financial Advisory Committee (CLOSED)	Douglass
211-E	Evaluation (3 hrs)	1901/02
308	Curing (3 hrs)	McKeldin
318	Standard Building Code (3 hrs)	Internat'l A
* 336	Footings	2107/08
* 349-3	Embedded Steel	2001/02
351-3	Fd. of Static Equipment (1-1/2 hrs)	Lincoln
445	Shear & Torsion (3 hrs)	D'Alesandro
* 506	Shotcreting	Washington
* 533	Wall Panels	2101/02
* 546	Repair	Hopkins
10:00 AM-6:30 PM		
	Student Activities Program	Carroll
11:30 AM-1:00 PM		
*E703	Construction Practices	Preston
*E902-A	Field Technician I	Adams
*E902-C	Concrete Inspector—General	Peale
E902-D	Concrete Craftsman (2-1/2 hrs)	Jefferson
*FAC	Financial Advisory Committee (CLOSED)	Douglass
201	Durability (1-1/2 hrs)	Hopkins
* 211-E	Evaluation	1901/02
213-Sub	High-Strength (1-1/2 hrs)	Calhoun
* 308	Curing	McKeldin
318	Standard Building Code	Internat'l A
349-1	General Materials Const. (1-1/2 hrs)	2001/02
349-2	Design (1-1/2 hrs)	Lincoln
349-4	Impulsive & Impactive (1-1/2 hrs)	2101/02
360	Design of Slabs on Grade (1-1/2 hrs)	2107/08
* 445	Shear & Torsion	D'Alesandro
* 506	Shotcreting	Washington
1:00 PM-2:00 PM		
*E902-D	Concrete Craftsman	Jefferson
1:00 PM-2:00 PM		
	Lunch Break	
2:00 PM-3:30 PM		
CRC	Construction Review Committee (1-1/2 hrs)	Jefferson
*E703	Construction Practices	Preston
*E902-C	Concrete Inspector—General	Peale
E902-G	Shotcrete Nozzlemen (1-1/2 hrs)	Adams
E902-Z	Training Courses (3 hrs)	Calhoun
*FAC	Financial Advisory Committee (CLOSED)	Douglass

MONDAY

DAY/TIME	FUNCTION	ROOM
2:00 PM-3:30 PM (continued)		
207	Mass Concrete (4-1/2 hrs)	Internat'l A
211-B	Lightweight (1-1/2 hrs)	1901/02
223	Expansive Cement (3 hrs)	2101/02
230	Soil Cement (3 hrs)	2001/02
315	Detailing of Reinforcement (3 hrs)	Internat'l B
318-A	General Conc. & Const. (4-1/2 hrs)	McKeldin
318-E	Shear & Torsion (4-1/2 hrs)	Schaefer
318-G	Prestressed Precast (4-1/2 hrs)	D'Alesandro
318-H	Seismic Provisions (4-1/2 hrs)	Washington
336	Footings (3 hrs)	2107/08
340	Design Aids (3 hrs)	Lincoln
349	Nuclear Structures (3 hrs)	Hopkins
3:30 PM-5:00 PM		
*E703	Construction Practices	Preston
E902-B	Lab Technician (3 hrs)	Jefferson
*E902-C	Concrete Inspector—General	Peale
*E902-Z	Training Courses	Calhoun
*FAC	Financial Advisory Committee (CLOSED)	Douglass
122	Energy Conservation (3 hrs)	1901/02
* 207	Mass Concrete	Internat'l A
* 223	Expansive Cement	2101/02
* 230	Soil Cement	2001/02
* 315	Detailing of Reinforcement	Internat'l B
* 318-A	General Conc. & Const.	McKeldin
* 318-E	Shear & Torsion	Schaefer
* 318-G	Prestressed Precast	D'Alesandro
* 318-H	Seismic Provisions	Washington
* 336	Footings	2107/08
* 340	Design Aids	Lincoln
* 349	Nuclear Structures	Hopkins
351-4	Grouting of Equip/Mach (3 hrs)	Adams
5:00 PM-6:30 PM		
*E902-B	Lab Technician	Jefferson
*E902-C	Concrete Inspector—General	Peale
E902-F	Formwork Designer (1-1/2 hrs)	Calhoun
E903	Convention Training (1-1/2 hrs)	Preston
* 122	Energy Conservation	1901/02
* 207	Mass Concrete	Internat'l A
* 318-A	General Conc. & Const.	McKeldin
* 318-E	Shear & Torsion	Schaefer
* 318-G	Prestressed Precast	D'Alesandro
* 318-H	Seismic Provisions	Washington
325 IR67	Design of Conc. Overlay (1-1/2 hrs)	Hopkins
* 351-4	Grouting of Equip/Mach	Adams
515	Coatings (1-1/2 hrs)	2001/02
543	Piles (1-1/2 hrs)	2107/08
546-1	Underwater Repair (1-1/2 hrs)	Douglass
553	Swimming Pools (1-1/2 hrs)	Lincoln
7:30 PM-9:00 PM		
E801	Student Concrete Projects (1-1/2 hrs)	Carroll

COMMITTEES

DAY/TIME FUNCTION ROOM

7:30 PM-10:30 PM

360 Design of Slabs on Grade Calhoun

TUESDAY November 11, 1986

8:30 AM-10:00 AM

	Publications Committee (1-1/2 hrs)	2101/02
E705	Educational Computer Act. (3 hrs)	Washington
E902	Certification (4-1/2 hrs)	Hopkins
207	Mass Concrete (4-1/2 hrs)	Jefferson
211-A	Edit & Coordination (3 hrs)	1901/02
216	Fire Resistance (1-1/2 hrs)	2107/08
309	Consolidation (3 hrs)	2115/16
318-B	Reinf. & Develop. (4-1/2 hrs)	Preston
<u>318-C</u>	<u>Serviceability/Safety (4-1/2 hrs)</u>	<u>McKeldin</u>
<u>318-D</u>	<u>Flexure & Axial Loads (4-1/2 hrs)</u>	<u>Schaefer</u>
<u>318-F</u>	<u>Two-Way Slabs (4-1/2 hrs)</u>	<u>D'Alesandro</u>
325	Pavements (3 hrs)	Calhoun
344-1	Wrapped Tank (1-1/2 hrs)	Douglass
344-2	Tendon Tank (1-1/2 hrs)	2001/02
351 Full	Equipment Foundations (3 hrs)	Adams
524	Plastering (4-1/2 hrs)	Lincoln

9:00 AM-10:30 AM SESSION:

- Chapter Forum Poe

9:00 AM-12:00 NOON SESSIONS:

- Infrastructure (Part I) Internat'l B
- Responsibilities in Construction Internat'l D

10:00 AM-3:00 PM SESSION:

- Tunnel Films Internat'l C

10:00 AM-11:30 AM

*E705	Educational Computer Act.	Washington
*E902	Certification	Hopkins
117	Tolerances (3 hrs)	2001/02
* 207	Mass Concrete	Jefferson
* 211-A	Edit & Coordination	1901/02
229	Controlled Low Strength (6 hrs)	2101/02
* 309	Consolidation	2115/16
* 318-B	Reinf. & Develop.	Preston
* <u>318-C</u>	<u>Serviceability/Safety</u>	<u>McKeldin</u>
* <u>318-D</u>	<u>Flexure & Axial Loads</u>	<u>Schaefer</u>
* <u>318-F</u>	<u>Two-Way Slabs</u>	<u>D'Alesandro</u>
* 325	Pavements	Calhoun
344 Full	Circular Prestressed Tanks (7-1/2 hrs)	Douglass
*351 Full	Equipment Foundations	Adams
435	Deflection (3 hrs)	Carroll
439	Steel Reinforcement (3 hrs)	2107/08
* 524	Plastering	Lincoln

11:30 AM-1:00 PM

*E902	Certification	Hopkins
* 117	Tolerances	2001/02
120	History (1-1/2 hrs)	Washington

COMMITTEES

TUESDAY

DAY/TIME	FUNCTION	ROOM
11:30 AM-1:00 PM (continued)		
123	Research (1-1/2 hrs)	Adams
* 207	Mass Concrete	Jefferson
* 229	Controlled Low Strength	2101/02
* 318-B	Reinf. & Develop.	Preston
* 318-C	Serviceability/Safety	McKeldin
* 318-D	Flexure & Axial Loads	Schaefer
* 318-F	Two-Way Slabs	D'Alesandro
325-E	RC Compacted Conc. Pav. (1-1/2 hrs)	Calhoun
*344 Full	Circular Prestressed Tanks	Douglass
* 435	Deflection	Carroll
* 439	Steel Reinforcement	2107/08
503	Adhesives (1-1/2 hrs)	1901/02
523	Insulating & Cellular (1-1/2 hrs)	2115/16
* 524	Plastering	Lincoln
12:30 PM-2:00 PM		
	Tort Reform Luncheon	Liberty
	(Fee: \$10.00 with registration/ \$20.00 luncheon only)	
1:00 PM-2:00 PM		
	Lunch Break	
1:00 PM-2:00 PM		
441	Columns (2-1/2 hrs)	Calhoun
2:00 PM-3:30 PM		
EAC Full	Educational Activities Committee (3 hrs)	Hopkins
124	Esthetics (3 hrs)	2001/02
210	Erosion in Hydraulic Struct. (3 hrs)	2107/08
211-C	No Slump (3 hrs)	1901/02
214	Strength Tests (3 hrs)	Schaefer
* 229	Controlled Low Strength	2101/02
302	Construction of Floors (4-1/2 hrs)	D'Alesandro
318 Full	Standard Building Code (4-1/2 hrs)	Carroll
343/348 TC	Task Committee (4-1/2 hrs)	Jefferson
*344 Full	Circular Prestressed Tanks	Douglass
348/343 TC	Task Committee (4-1/2 hrs)	Jefferson
352	Joints (3 hrs)	Adams
358	Guideways (1-1/2 hrs)	2115/16
363	High-Strength (3 hrs)	Preston
* 441	Columns	Calhoun
532	Concrete Masonry (1-1/2 hrs)	Lincoln
554	Bearing Systems (3 hrs)	McKeldin
2:00 PM-5:00 PM SESSIONS:		
	• Concrete Construction Forum	Internat'l D
	• Infrastructure (Part II)	Internat'l B
	• Open Paper Session	Poe
	• Polymer Portland Cement Concrete	Internat'l A
3:30 PM-5:00 PM		
	Membership (3 hrs)	Washington
*EAC Full	Educational Activities Committee	Hopkins

COMMITTEES

DAY/TIME	FUNCTION	ROOM
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3:30 PM-5:00 PM (continued)

* 124	Esthetics	2001/02
* 210	Erosion in Hydraulic Struct.	2107/08
* 211-C	No Slump	1901/02
* 214	Strength Tests	Schaefer
227	Radioactive Waste Management (3 hrs)	Lincoln
* 229	Controlled Low Strength	2101/02
* 302	Construction of Floors	D'Alesandro
*318 Full	Standard Building Code	Carroll
*343/348 TC	Task Committee	Jefferson
*344 Full	Circular Prestressed Tanks	Douglass
*348/343 TC	Task Committee	Jefferson
* 352	Joints	Adams
* 363	High-Strength	Preston
550	Precast Structures (3 hrs)	2115/16
* 554	Bearing Systems	McKeldin

5:00 PM-6:30 PM

*	Membership	Washington
* 227	Radioactive Waste Management	Lincoln
* 302	Construction of Floors	D'Alesandro
*318 Full	Standard Building Code	Carroll
*343/348 TC	Task Committee	Jefferson
*344 Full	Circular Prestressed Tanks	Douglass
348	Safety (4 hrs)	Adams
*348/343 TC	Task Committee	Jefferson
350	Environmental Eng. Struct. (2-1/2 hrs)	Schaefer
408	Bond & Develop. of Reinf. (1-1/2 hrs)	1901/02
549	Ferrocement (1-1/2 hrs)	McKeldin
* 550	Precast Structures	2115/16

6:30 PM-7:30 PM

RCRC	Concrete Exp. Tests (4 hrs)	Hopkins
* 348	Safety	Adams
* 350	Environmental Eng. Struct.	Schaefer

7:30 PM-9:00 PM

*RCRC	Concrete Exp. Tests	Hopkins
231	Early Age (2-1/2 hrs)	D'Alesandro
* 348	Safety	Adams

7:30 PM-10:00 PM SESSION:

- **Panel Discussion on Basics and Usefulness of Computer Spread Sheets in the Concrete Industry** Internat'l A

9:00 PM-10:00 PM

*RCRC	Concrete Exp. Tests	Hopkins
* 231	Early Age	D'Alesandro

WEDNESDAY, November 12, 1986

8:30 AM-9:45 AM

Rap Session Liberty

8:30 AM-10:00 AM

307	Reinforced Conc. Chimneys (6 hrs)	Adams
364	Rehabilitation (1-1/2 hrs)	McKeldin

COMMITTEES

WEDNESDAY

DAY/TIME	FUNCTION	ROOM
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8:30 AM-10:00 AM (continued)

423-J	Prestressed (3 hrs)	D'Alesandro
504	Joint Sealants (3 hrs)	Washington
544	Fiber Reinforced (9 hrs)	Hopkins

10:00 AM-11:30 AM

* 307	Reinforced Conc. Chimneys	Adams
* 423-J	Prestressed	D'Alesandro
* 504	Joint Sealants	Washington
* 544	Fiber Reinforced	Hopkins

10:00 AM-12:00 NOON

General Session	International
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11:30 AM-1:00 PM

* 307	Reinforced Conc. Chimneys	Adams
437	Strength of Structures (1-1/2 hrs)	D'Alesandro
* 544	Fiber Reinforced	Hopkins

1:00 PM-2:00 PM**Lunch Break****2:00 PM-3:30 PM**

	Convention Committee (3 hrs)	Calhoun
	Specification (1-1/2 hrs)	Peale
CAC	Chapter Activities (3 hrs)	Douglass
E902-E	Concrete Inspector-Nuclear (4-1/2 hrs)	Washington
226-1	Fly Ash (1-1/2 hrs)	D'Alesandro
304	Meas., Mix, Trans/Placing (1-1/2 hrs)	McKeldin
* 307	Reinforced Conc. Chimneys	Adams
318 Full	Standard Building Code (4-1/2 hrs)	Carroll
330	Parking Lots (1-1/2 hrs)	2107/08
345	Bridge Construction (3 hrs)	Lincoln
347	Formwork (4-1/2 hrs)	Poe
366	Precast Pipelines (1-1/2 hrs)	Schaefer
421-J	Slabs (4-1/2 hrs)	2115/16
* 544	Fiber Reinforced	Hopkins
548-C	PC Overlays (3 hrs)	Jefferson
555	Removal & Reuse (1-1/2 hrs)	2101/02

2:00 PM-5:00 PM SESSIONS:

- **Infrastructure Rehabilitation** Internat'l A
- **Introduction and Discussion of the ACI Lab Technician Certification Program** Internat'l B
- **Load and Resistance Factors for Bridge Design** Internat'l C
- **Research in Progress** Internat'l D
- **Use of Ferrocement in Retrofitting and Repairing Structures** Liberty

3:30 PM-5:00 PM

*	Convention Committee	Calhoun
	Standards Board (1-1/2 hrs)	Peale
*CAC	Chapter Activities	Douglass

COMMITTEES

WEDNESDAY/THURSDAY

DAY/TIME FUNCTION ROOM

3:30 PM-5:00 PM (continued)

*E902-E	Concrete Inspector-Nuclear	Washington
121	Quality Assurance (3 hrs)	2101/02
209	Creep & Shrinkage (1-1/2 hrs)	2107/08
211 Full	Proportioning (3 hrs)	McKeldin
224	Cracking (3 hrs)	Schaefer
226-3	Silica Fume (1-1/2 hrs)	D'Alesandro
*318 Full	Standard Building Code	Carroll
* 345	Bridge Construction	Lincoln
* 347	Formwork	Poe
367	Precast Chimneys (1-1/2 hrs)	Adams
* 421-J	Slabs	2115/16
* 544	Fiber Reinforced	Hopkins
* 548-C	PC Overlays	Jefferson

5:00 PM-6:30 PM

IAC	International Activities (1-1/2 hrs)	Peale
*E902-E	Concrete Inspector-Nuclear	Washington
* 121	Quality Assurance	2101/02
*211 Full	Proportioning	McKeldin
215	Fatigue (1-1/2 hrs)	Calhoun
222	Corrosion (1-1/2 hrs)	D'Alesandro
* 224	Cracking	Schaefer
*318 Full	Standard Building Code	Carroll
* 347	Formwork	Poe
* 421-J	Slabs	2115/16
444	Models of Structures (1-1/2 hrs)	Douglass
* 544	Fiber Reinforced	Hopkins
548-A	Polymer PC Concrete (1-1/2 hrs)	Adams
548-B	Sub on Standard Tests (1-1/2 hrs)	Jefferson

5:00 PM-7:00 PM

446	Fracture Mechanics (2 hrs)	Lincoln
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6:30 PM-8:30 PM

Concrete Mixer International

THURSDAY November 13, 1986

8:30 AM-10:00 AM

CMRC	Concrete Mat'l Res. Council (3 hrs)	Hopkins
NACE-TG	Corrosion Prevention (7-1/2 hrs)	D'Alesandro
118-Sub	Concrete Comp. Users Group (3 hrs)	Schaefer
215	Fatigue (1-1/2 hrs)	Calhoun
228	Nondestructive Testing (4-1/2 hrs)	McKeldin
301	Structural Specifications (9 hrs)	Douglass
303	Architectural C I P (3 hrs)	Peale
305	Hot Weather (3 hrs)	Preston
357	Offshore Structures (7-1/2 hrs)	Washington
359-2	Sub Design (9 hrs)	Jefferson
359-3	Sub Mat'ls Const. & Ex. (9 hrs)	Adams
359-6	WG Test & Overpressure (3 hrs)	Lincoln
547	Refractory (7-1/2 hrs)	2107/08
551	Tilt-up (9 hrs)	2115/16

COMMITTEES

THURSDAY

DAY/TIME	FUNCTION	ROOM
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9:00 AM-12:00 NOON SESSIONS:

- | | |
|--|--------------|
| • Cracking in Prestressed Concrete Structures (Part I) | Internat'l A |
| • Fiber Reinforced Concrete in the Infrastructure (Part I) | Internat'l B |
| • Method of Proportioning with Fly Ash and Slag (Part I) | Internat'l C |
| • Parking Structures (Part I) | Internat'l D |

9:00 AM-6:00 PM

Board of Direction	Carroll
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10:00 AM-11:30 AM

- | | | |
|-----------|-----------------------------|-------------|
| * CMRC | Concrete Mat'l Res. Council | Hopkins |
| *NACE-TG | Corrosion Prevention | D'Alesandro |
| * 118-Sub | Concrete Comp. Users Group | Schaefer |
| * 228 | Nondestructive Testing | McKeldin |
| * 301 | Structural Specifications | Douglass |
| * 303 | Architectural C I P | Peale |
| * 305 | Hot Weather | Preston |
| 334 | Shells (3 hrs) | Calhoun |
| * 357 | Offshore Structures | Washington |
| * 359-2 | Sub Design | Jefferson |
| * 359-3 | Sub Mat'ls Const. & Ex. | Adams |
| * 359-6 | WG Test & Overpressure | Lincoln |
| * 547 | Refractory | 2107/08 |
| * 551 | Tilt-up | 2115/16 |

11:30 AM-1:00 PM

- | | | |
|------------|---|-------------|
| *NACE-TG | Corrosion Prevention | D'Alesandro |
| 221 | Aggregates (1-1/2 hrs) | Hopkins |
| 225-3 | Expert Systems/Knowledge Base (1-1/2 hrs) | Preston |
| * 228 | Nondestructive Testing | McKeldin |
| * 301 | Structural Specifications | Douglass |
| * 334 | Shells | Calhoun |
| 343 | Bridge Design (3 hrs) | Peale |
| * 357 | Offshore Structures | Washington |
| * 359-2 | Sub Design | Jefferson |
| * 359-3 | Sub Mat'ls Const. & Ex. | Adams |
| 442 Ad hoc | Inelastic Design (1-1/2 hrs) | Lincoln |
| 517 | Accelerate Curing (1-1/2 hrs) | Schaefer |
| * 547 | Refractory | 2107/08 |
| * 551 | Tilt-up | 2115/16 |

1:00 PM-2:00 PM

- | | | |
|-------|---------------------------|----------|
| * 301 | Structural Specifications | Douglass |
| * 343 | Bridge Design | Peale |

1:00 PM-2:00 PM**Lunch Break****2:00 PM-3:30 PM**

- | | | |
|----------|------------------------------------|-------------|
| *NACE-TG | Corrosion Prevention | D'Alesandro |
| E-701 | Construction Materials (1-1/2 hrs) | Calhoun |
| 118 Full | Computers (3 hrs) | Schaefer |

COMMITTEES

DAY/TIME	FUNCTION	ROOM
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2:00 PM-3:30 PM (continued)

225-1	Math Model Cement Hydration (3 hrs)	Preston
* 301	Structural Specifications	Douglass
306	Cold Weather (4-1/2 hrs)	Hopkins
311	Inspection (4-1/2 hrs)	Lincoln
* <u>343</u>	<u>Bridge Design</u>	Peale
* <u>357</u>	<u>Offshore Structures</u>	Washington
* <u>359-2</u>	<u>Sub Design</u>	Jefferson
* 359-3	Sub Mat'ls Const. & Ex.	Adams
* 547	Refractory	2107/08
548	Polymers (4-1/2 hrs)	McKeldin
* 551	Tilt-up	2115/16

2:00 PM-5:00 PM SESSIONS:

- **Cracking in Prestressed Concrete Structures (Part II)** Internat'l A
- **Fiber Reinforced Concrete in the Infrastructure (Part II)** Internat'l B
- **Parking Structures (Part II)** Internat'l D
- **Physical Models in Engineering Education and Practice** Liberty
- **Recent Outstanding Examples of Concrete Shells** Internat'l C

3:30 PM-5:00 PM

*NACE-TG	Corrosion Prevention	D'Alesandro
*118 Full	Computers	Schaefer
* 225-1	Math Model Cement Hydration	Preston
226	Fly Ash, Pozzolan, Slag (1-1/2 hrs)	Calhoun
* 301	Structural Specifications	Douglass
* 306	Cold Weather	Hopkins
* 311	Inspection	Lincoln
* <u>357</u>	<u>Offshore Structures</u>	Washington
* <u>359-2</u>	<u>Sub Design</u>	Jefferson
* 359-3	Sub Mat'ls Const. & Ex.	Adams
<u>442</u>	<u>Lateral Forces (4 hrs)</u>	Peale
* 547	Refractory	2107/08
* 548	Polymers	McKeldin
* 551	Tilt-up	2115/16

5:00 PM-6:30 PM

225 Full	Hydraulic Cements (1-1/2 hrs)	Preston
* 301	Structural Specifications	Douglass
* 306	Cold Weather	Hopkins
* 311	Inspection	Lincoln
* <u>359-2</u>	<u>Sub Design</u>	Jefferson
* 359-3	Sub Mat'ls Const. & Ex.	Adams
* <u>442</u>	<u>Lateral Forces</u>	Peale
* 548	Polymers	McKeldin
* 551	Tilt-up	2115/16

6:30 PM-7:30 PM

* <u>442</u>	<u>Lateral Forces</u>	Peale
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THURSDAY/FRIDAY

DAY/TIME	FUNCTION	ROOM
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7:30 PM-10:00 PM SESSION:

- **Forum: Incentives in Specifications and Contracts** Liberty

FRIDAY, November 14, 1986**8:30 AM-10:00 AM**

116	Notation & Nomenclature (3 hrs)	Preston
355	Anchorage (3 hrs)	Schaefer
359-J	Nuclear Vessels (4-1/2 hrs)	Carroll
362	Parking Structures (3 hrs)	McKeldin
547	Refractory (4-1/2 hrs)	D'Alesandro

9:00 AM-12:00 NOON SESSIONS:

- **Analysis and Design of Shells for Construction Loads** Internat'l A
- **Curing Methodologies for Special or Unusual Concretes** Internat'l D
- **Fiber Reinforced Concrete in the Infrastructure (Part III)** Internat'l B
- **Method of Proportioning with Fly Ash and Slag (Part II)** Internat'l C

9:30 AM-3:00 PM**TOUR:**

BRESCO Plant and Slag Grinding Facility (Fee: \$18.00)

10:00 AM-11:30 AM

* 116	Notation & Nomenclature	Preston
* 355	Anchorage	Schaefer
* 359-J	Nuclear Vessels	Carroll
* 362	Parking Structures	McKeldin
* 547	Refractory	D'Alesandro

11:30 AM-1:00 PM

* 359-J	Nuclear Vessels	Carroll
* 547	Refractory	D'Alesandro

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Please note that the above contributions were received prior to September 30, 1986. Please refer to the program addendum for additional sponsors.

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STUDENT ACTIVITIES PROGRAM

MONDAY, November 10, 1986

10:00 AM-6:30 PM

Room: **Carroll**

STUDENT ACTIVITIES PROGRAM

Sponsored by Committee E801

Session Chairman: Richard Wm. Magnani
Partner
Whitney, Bailey, Cox & Magnani
Timonium, Maryland

10:00 AM-1:00 PM

Field Trip

A field trip is planned to a local construction site and local precasting yard using high-strength concrete.

3:00 PM-5:00 PM

Student Seminar

Technical Paper Presentation:

High-Strength Concrete

Rodney A. Meyers, Operations Manager of Concrete, Arundel Corporation, Baltimore, Maryland

Careers in Concrete Presentation:

James Schott, Regional Manager, Master Builders, Baltimore, Maryland

5:30 PM-6:30 PM

Concrete Beam Contest

TECHNICAL SESSIONS

TUESDAY, November 11, 1986

10:00 AM-3:00 PM

Room: **International C**

TUNNEL FILMS

Presentation of a multi-media show on the Fort McHenry Tunnel and a film on the Detroit-Windsor Tunnel.

The Fort McHenry Tunnel presentation will be shown at the following times:

10:00 AM

11:00 AM

12:00 NOON

1:00 PM

2:00 PM

The Detroit-Windsor Tunnel Film will be shown at the following times:

10:30 AM

11:30 AM

12:30 PM

1:30 PM

2:30 PM

SESSIONS

TUESDAY, November 11, 1986

9:00 AM-10:30 AM

Room: **Poe****CHAPTER FORUM: How to Establish and Operate a Successful Local ACI Chapter Awards Program**

Sponsored by the Chapter Activities Committee

Session Chairman: Karl J. Anderson
Vice President
Concrete Technology Corporation
Tacoma, Washington

SESSIONS

Several ACI chapters will discuss the details of their successful local chapter awards programs and the lessons learned from their experiences. Open discussion will center on how chapters can establish their own local awards programs or improve on existing programs.

The following chapters will be represented:

Rocky Mountain

Chapter: Myles A. Murray
President
Restruction Corporation
Sedalia, Colorado

Eastern New York

Chapter: Ronald E. Vaughn
President
Soil and Material Test, Inc.
Castleton, New York

San Diego International

Chapter: David J. Akers
Vice President
Southern California Soil and Test
San Diego, California

Southern California

Chapter: Richard C. Hodson
Sales and Service Manager/
Western Region
L.M. Scofield Company
Los Angeles, California

TUESDAY, November 11, 1986

9:00 AM-12:00 NOON

Room: International B

INFRASTRUCTURE (PART I)

Sponsored by ACI Maryland Chapter

Session Co-Chairmen: Richard Wm. Magnani
Partner
Whitney, Bailey, Cox and Magnani
Timonium, Maryland

Drupad B. Desai
Associate Vice President
Daniel, Mann, Johnson and Mendenhall
Baltimore, Maryland

Introduction

Richard Wm. Magnani, Partner, Whitney, Bailey, Cox and Magnani,
Timonium, Maryland

Lead-In Speaker

Francis W. Kuchta, Director of Public Works, City of Baltimore,
Baltimore, Maryland

Design of Tunnel Liner Ring — The Fort McHenry Tunnel

Anthony R. Lancellotti, Deputy, Tunnel Engineering, Parsons,
Brinckerhoff, Quade and Douglas, New York, New York

Baltimore Harbor Getting Ready for the 21st Century

David A. Wagner, Administrator, Maryland Port Administration,
Baltimore, Maryland

Baltimore Metro — A Story of Urban Transit

Drupad B. Desai, Associate Vice President, Daniel, Mann, Johnson
and Mendenhall, Baltimore, Maryland

**Architecture and Engineering Performance Information Center,
University of Maryland**

Donald W. Vanoy, Director, Architecture and Engineering Performance
Information Center — University of Maryland, College Park, Maryland

Construction of Baltimore Resource Recovery Facility (BRESKO)

Calvin D. Disney, Vice President, Whiting-Turner Contracting
Company, Towson, Maryland

Slag Grinding Facility, Atlantic Cement Company (Preview of Tour)

Jere H. Rose, Director of Technical Services, Blue Circle, Inc.,
Marietta, Georgia

NOTE:

Part II will be presented on Tuesday, November 11,
1986 at 2:00 PM to 5:00 PM in International B.

★
THE
SESSION

SESSIONS

TUESDAY, November 11, 1986

9:00 AM-12:00 NOON

Room: International D

RESPONSIBILITIES IN CONSTRUCTION

Sponsored by Construction Liaison Committee

Session Chairman: Paul Sommers
Chief Engineer
Algernon Blair, Inc.
Montgomery, Alabama

Moderator: Charles M. Ayers
Director of Business Development
Walbridge, Aldinger Company
Livonia, Michigan

SESSIONS

The Engineer's Responsibility

Edward O. Pfrang, Executive Director, American Society of Civil Engineers, New York, New York

Avoiding Failures

Dov Kaminetzky, President, Feld, Kaminetzky and Cohen, New York, New York

The Contractor's Responsibility

Richard J. Haller, Senior Vice President, Walbridge, Aldinger Company, Livonia, Michigan

Construction Litigation

G. Scott Romney, Partner, Honigman, Miller, Schwartz and Cohn, Detroit, Michigan

Liability and Insurance

Kenneth Ford, Assistant Vice President, Claims Department, U.S. Fidelity and Guaranty, Baltimore, Maryland

TUESDAY, November 11, 1986
12:30 PM-2:00 PM

Room: **Liberty**

TORT REFORM LUNCHEON

Fee: \$10.00 (with registration)
\$20.00 (luncheon only)

The American Concrete Institute will present an informal luncheon followed by a talk from the American Tort Reform Association's president, James K. Coyne. Mr. Coyne will describe ATRA's efforts to change tort laws and what effect these changes would have on you.

SESSIONS

ATTENDANCE IS LIMITED.

**TICKETS ARE SOLD ON A
FIRST-COME, FIRST-SERVE BASIS.**

**PLEASE PURCHASE YOUR TICKETS AT
THE ACI REGISTRATION DESK.**

TUESDAY, November 11, 1986

2:00 PM-5:00 PM

Room: **International D**

CONCRETE CONSTRUCTION FORUM

Sponsored by Construction Review Committee

Moderator: Charles W. Mayer
Administrator
Gust K. Newberg Construction
Chicago, Illinois

Concrete Topping Construction

Eugene H. Boeke, Jr., Vice President, Beers Construction Company,
Atlanta, Georgia

Durability of Lean Concrete With and Without Fly Ash

Steven H. Kosmatka, Concrete Engineer, Portland Cement Association,
Skokie, Illinois

Contractor Quality Control Systems

William Hotaling, Jr., Hotaling Consultants, Vienna, Virginia

CFP Fiber Reinforced Concrete

Robert Krob, Director of Construction, Prudential Development, Short
Hills, New Jersey

Proposed Changes by ACI Committee 347 to Safety Factors Affecting Formwork Design

Peter D. Courtois, Vice President—Engineering, Dayton Superior
Corporation, Miamisburg, Ohio

A Composite System That Works

Jaime Moreno, Manager, Technical Marketing, Material Service
Corporation, Chicago, Illinois

TUESDAY, November 11, 1986
2:00 PM-5:00 PM

Room: International B

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INFRASTRUCTURE (PART II)

Sponsored by ACI Maryland Chapter

Session Chairman: Richard Wm. Magnani
Partner
Whitney, Bailey, Cox and Magnani
Timonium, Maryland

Introduction

Richard Wm. Magnani, Partner, Whitney, Bailey, Cox and Magnani,
Timonium, Maryland

New Designs/Construction Methods for Cable-Stayed and Other Concrete Segmental Bridges

Eugene C. Figg, Jr., President, Figg and Muller Engineers, Inc.,
Tallahassee, Florida

Widening and Replacement of Concrete Deck of Woodrow Wilson Memorial Bridge

James G. Lutz, Vice President, Greiner Engineering Sciences, Inc.,
Timonium, Maryland

Prestressed Composite Steel-Concrete Beams

Hamid Saadatmanesh, Visiting Assistant Professor, Department of
Civil Engineering, University of Maryland, College Park, Maryland;
Pedro Albrecht, Professor, Department of Civil Engineering, University
of Maryland, College Park, Maryland; Billal M. Ayyub, Assistant
Professor, Department of Civil Engineering, University of Maryland,
College Park, Maryland

Condition Surveys of Large Diameter Concrete Lined Tunnels

Harry R. Price, Project Engineer, Neyer, Tiseo and Hindo, Ltd., Detroit,
Michigan; Keith M. Swaffar, Project Engineer, Neyer, Tiseo and Hindo,
Ltd., Detroit, Michigan

On Evaluation of Parking Structures

Vladimir Novokshchenov, Senior Structural Engineer, Sear-Brown
Associates, Rochester, New York

SESSIONS

TUESDAY, November 11, 1986

2:00 PM-5:00 PM

Room: Poe

OPEN PAPER SESSION

Sponsored by TAC Ad hoc Committee

Session Co-Chairmen: Catherine W. French,
Assistant Professor
University of Minnesota
Minneapolis, Minnesota

Ahmad Durrani
Assistant Professor
Rice University
Houston, Texas

Introduction

Catherine W. French, Assistant Professor, University of Minnesota,
Minneapolis, Minnesota; Ahmad Durrani, Assistant Professor, Rice
University, Houston, Texas

Variability of Bond Strength of Reinforced Concrete Beams

S.A. Mirza, Professor, Department of Civil Engineering, Lakehead
University, Thunder Bay, Ontario, Canada; J.G. MacGregor, Professor,
Department of Civil Engineering, University of Alberta, Edmonton,
Alberta, Canada

Bond Performance of Reinforcing Steel Embedded in Concrete Made Using Superplasticizer

Peggy M. Carrasquillo, Research Engineer, University of Texas,
Austin, Texas

Stiffness of Circular Reinforced Concrete Columns

Mohammad R. Ehsani, Assistant Professor, Department of Civil
Engineering, University of Arizona, Tucson, Arizona; Fadel F.
Alameddine, Graduate Student, Department of Civil Engineering,
University of Arizona, Tucson, Arizona

Computer Aided Design of Prestressed Concrete Flat Slab Systems

Appasamy Senthilnathan, Graduate Student, Rice University, Houston,
Texas

Load of 100 psf Required to Break A Thin Shell Fiber Glass Reinforced Ferrocement Hyperbolic Paraboloid

E.H. Curtis, Civil Engineer, U.S. National Park Service — Denver
Service Center, Falls Church, Virginia

Sulphur Concrete Used for Highway Repair

Scott S. Pickard, Special Projects, Champaign, Illinois

Epoxy Repair of a Distressed Concrete School Facility

Arthur J. Hayes, Project Manager, Gale Engineering Company, Inc.,
Weymouth, Massachusetts

TUESDAY, November 11, 1986

2:00 PM-5:00 PM

Room: **International A**

POLYMER PORTLAND CEMENT CONCRETE

Sponsored by Committee 548

Session Chairman: Lou A. Kuhlmann
Development Leader
Dow Chemical Company
Midland, Michigan

Introduction

Lou A. Kuhlmann, Development Leader, Dow Chemical Company,
Midland, Michigan

What Are Latexes?

D. Gerry Walters, Technical Service, Reichhold Chemicals, Inc., Dover,
Delaware

Principle of Latex Modification and Some Typical Properties of Latex Modified Mortars and Concretes

Yoshihiko Ohama, Professor, College of Engineering, Nihon University,
Koriyama, Fukushima-ken, Japan

Some Applications of Epoxy Emulsions

Myles A. Murray, President, Restruction Services, Denver, Colorado

The Application and Use of Styrene/Butadiene Latex Modified Concrete

Lou A. Kuhlmann, Development Leader, Dow Chemical Company,
Midland, Michigan

Some Applications of Acrylic Emulsions

Joseph A. Lavelle, Research Manager — Concrete Products, Rohm
and Haas Company, Spring House, Pennsylvania

TUESDAY, November 11, 1986

7:30 PM-10:00 PM

Room: International A

PANEL DISCUSSION ON BASICS AND USEFULNESS OF COMPUTER SPREAD SHEETS IN THE CONCRETE INDUSTRY

Sponsored by Committees E705 and E702

Session Chairman: David G. Kittridge
Senior Engineer
Boyle Engineering Corporation
Orlando, Florida

Introduction: What are Spread Sheets?

David G. Kittridge, Senior Engineer, Boyle Engineering Corporation,
Orlando, Florida

Spread Sheet Programs in Education

Thomas H. Wenzel, Associate Professor, Marquette University,
Milwaukee, Wisconsin

Statistical Analysis of Concrete Using Spread Sheets

Bob Barnett, Principal Engineer, Bob Barnett, Cropwell, Alabama

Spread Sheets for Suppliers and Contractors

Alan H. Nelson, Senior Engineer, PCA Engineering Services Division,
Skokie, Illinois

BREAKFAST ASSEMBLY

WEDNESDAY, November 12, 1986

8:30 AM-9:45 AM

Room: Liberty

RAP SESSION AND CONTINENTAL BREAKFAST

A complimentary continental breakfast will be served from 8:30 AM to 9:00 AM with the Rap Session starting at 9:00 AM. Complete the question card in your convention packet or present your question personally at the microphone.

WHAT DO YOU WANT TO KNOW ABOUT ACI?

Walter E. Kunze

President

and

George F. Leyh

Executive Vice President

Invite YOU to Ask Them.

SESSIONS

ACI ACCESSORIES

At the ACI Convention Registration Desk
you may place an order or purchase
the following accessories:

ACI Desk Pen Set	\$26.25
ACI symbol laser-engraved in concrete on a walnut base. Gold-tone ballpoint pen.	
ACI Fellow Pin/Tie Tac	\$10.50
Our ACI emblem and Fellow designation in 10k gold	
ACI Member Pin	\$ 9.95
Rhodium, enameled in ACI blue	
ACI Necktie	\$11.00
Two colors are available: — navy blue with maroon stripes — maroon with navy blue stripes	
Golf Hat	\$ 6.25
Dark blue with ACI logo	
ACI Key Tags	\$ 3.95
Two styles are available: — All chain with pewter finish — Ring mesh with pewter finish	

GENERAL SESSION

WEDNESDAY, November 12, 1986

10:00 AM-12:00 NOON

Room: **International**

GENERAL SESSION

Session Chairman: I. Leon Glassgold
Masonry Resurfacing and Construction
Company, Inc.
Baltimore, Maryland

Welcome to Baltimore

I. Leon Glassgold, General Chairman, 1986 Fall Convention Local ACI
Maryland Chapter

Raymond E. Davis Lecture:

*"The Builder's Function in Advancing the Techniques and Uses of
Reinforced Concrete"*

Charles J. Pankow, President, Charles J. Pankow, Inc., San Francisco,
California

Certificates of Appreciation for the 1986 Fall Convention

Introduction of International Visitors

Recognition of Chapter Officers Present

Recognition of Past Presidents Present

Keynote Address:

"Concrete and the Infrastructure"

Major General Mark J. Sisinyak, Director of Engineering and
Construction, Office of the Chief of Engineers, U.S. Army Corps of
Engineers, Washington, D.C.

WEDNESDAY, November 12, 1986

2:00 PM-5:00 PM

Room: International A

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N**INFRASTRUCTURE REHABILITATION**

Sponsored by Committee 364

Session Chairman: Tony C. Liu
Civil Engineer
U.S. Army Corps of Engineers
Washington, D.C.

The Rehabilitation of Big Eddy Dam

John A. Bickley, Vice President — Concrete Division, Trow Group, Ltd., Brampton, Ontario, Canada; Ian W. Gore

Rehabilitation and Underpinning of Shenandoah Dam and Powerhouse

William J. Stea, Associate Consulting Civil Engineer, Ebasco Services, Inc., New York, New York; R. Hedgecock; I. Ciloglu; R. Curtiss

Rehabilitation of Navigation Lock Walls

James E. McDonald, Research Civil Engineer, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi

Rehabilitation of Loop Parkway Bridge

Avanti C. Shroff, Senior Vice President, Iffland, Kavanagh, Waterbury, New York, New York

Rehabilitation of Sixteen Million Gallon Linden Reservoir

Ashok K. Dhingra, Principal Engineer, Vice President, James M. Montgomery, Consulting Engineers, Pasadena, California

Evaluation and Design of Repairs for Brandywine Shoal Lighthouse

Michael J. Paul, Treasurer, Gredell and Paul Consulting Structural Engineers, Newark, Delaware

SESSIONS

WEDNESDAY, November 12, 1986

2:00 PM-5:00 PM

Room: **International B**

**INTRODUCTION AND DISCUSSION
OF THE ACI LAB TECHNICIAN
CERTIFICATION PROGRAM**

Sponsored by Committee E902

Session Chairman: Robert L. Henry
Consultant
Wiss, Janney, Elstner Associates
Arlington, Texas

Introduction

Robert L. Henry, Consultant, Wiss, Janney, Elstner Associates,
Arlington, Texas

**Background, Overview and History of Certification and of Lab
Technician**

Bertold E. Weinberg, Senior Project Manager, New York State
Dormitory Authority, Elsmere, New York

Who Will Sponsor Program; How Will It Work; and How Is It Set Up

Orville R. Werner II, Senior Materials Engineer, Commercial Testing
Labs, Denver, Colorado

**Criteria We Look For and Requirements for Examiners, Supplementary
Examiners, Trainers, Trainees**

Geoffrey R. Cook, Consulting Engineer, Procter and Redfern Ltd., Don
Mills, Ontario, Canada

**What is the Value of Certification to the Individual and to the
Workplace; What Are We Intending to Accomplish**

Robert L. Gladhill, National Bureau of Standards, Gaithersburg,
Maryland

WEDNESDAY, November 12, 1986

2:00 PM-5:00 PM

Room: International C

LOAD AND RESISTANCE FACTOR DESIGN FOR BRIDGES

Sponsored by Committees 343 and 348

Session Chairman: Andrzej S. Nowak
Associate Professor
Department of Civil Engineering
University of Michigan
Ann Arbor, Michigan

Introduction: Load and Resistance Factor Design for Bridges

Harold B. Sandberg, Chairman of the Board, Alfred Benesch and Company, Chicago, Illinois

Philosophy and Objectives of Load and Resistance Factor Design for Bridges

Andrzej S. Nowak, Associate Professor, Department of Civil Engineering, University of Michigan, Ann Arbor, Michigan

Bridge Live Load Models

Fred Moses, Professor, Department of Civil Engineering, Case Western Reserve University, Cleveland, Ohio

Load and Resistance Factor Design Bridge Codes — An Assessment of Existing Experience

Roger A. Dorton, Manager, Structural Office, Ministry of Transportation and Communications, Downsview, Ontario, Canada

Do the Benefits of Load and Resistance Factor Design Justify Implementation Costs?

Robert C. Cassano, Chief, Division of Structures, California Department of Transportation, Sacramento, California

Bridge Design, Maintenance, and Management

Charles F. Galambos, Chief, Structures Division, Federal Highway Administration, McLean, Virginia

Recently Developed Criteria for Load Capacity Rating of Reinforced Concrete Bridges

Roy A. Imbsen, President, Engineering Computer Corporation, Sacramento, California

Panel Discussion (all authors)

WEDNESDAY, November 12, 1986
2:00 PM-5:00 PM

Room: International D

RESEARCH IN PROGRESS

Sponsored by Committee 123



Session Chairman: Menashi D. Cohen
Associate Professor
Department of Civil Engineering
Northeastern University
Boston, Massachusetts

SESSIONS

Development of Bond Strength Between Lifts of Roller Compacted Concrete

Timothy P. Dolen, Civil Engineer, U.S. Bureau of Reclamation, Denver, Colorado

Lightweight Aggregate for High-Strength Concrete

Vladimir Novokshchenov, Senior Structural Engineer, Sear-Brown Associates, Rochester, New York

Path-Dependent Nonlinear Analysis of Reinforced Concrete Frames by Microcomputers

Apostolos Fafitis, Assistant Professor, Department of Civil Engineering, Arizona State University, Tempe, Arizona; S. Sherani, Graduate Student, Department of Civil Engineering, Arizona State University, Tempe, Arizona

Hydration Behavior of MgO Doped and B₂O₃ Doped Belite (C₂S) at Various Glass Content

Thomas P. Zgambo, Senior Physical Chemist, The Gillette Company, Boston, Massachusetts; Menashi D. Cohen, Associate Professor, Department of Civil Engineering, Northeastern University, Boston, Massachusetts; Kenneth E. Daugherty, Professor, Department of Chemistry, North Texas State University, Denton, Texas

WEDNESDAY, November 12, 1986
2:00 PM-5:00 PM

Room: Liberty

USE OF FERROCEMENT IN RETROFITTING AND REPAIRING OF STRUCTURES

Sponsored by Committee 549

Session Co-Chairmen: Ronald F. Zollo
Professor
University of Miami
Coral Gables, Florida

Gordon B. Batson
Professor
Clarkson University
Potsdam, New York

Introduction

Ronald F. Zollo, Professor, University of Miami, Coral Gables, Florida

Effect of Bundling of Reinforcement on Mechanical Properties of Ferrocement

P. Paramasivam, Associate Professor, Department of Civil Engineering, National University of Singapore, Kent Ridge, Singapore, Republic of Singapore; Rasiah SriRavindrarajah, Professor, Department of Civil Engineering, National University of Singapore, Kent Ridge, Singapore, Republic of Singapore

Structural Repairs with Ferrocement Laminate

Martin E. Iorns, Ferrocement Consultant, Ferrocement Laminates, West Sacramento, California

Behavior of Ferrocement Reinforcement in Tension

Antonio Nanni, Assistant Professor, Department of Civil and Architectural Engineering, University of Miami, Coral Gables, Florida; Ronald F. Zollo, Professor, Department of Civil and Architectural Engineering, University of Miami, Coral Gables, Florida

Infrastructure Rehabilitation with Ferrocement

James P. Romualdi, Professor, Department of Civil Engineering, Carnegie-Mellon University, Pittsburgh, Pennsylvania

Industrial Development of Cement Products Reinforced with Fibrillated Polypropylene Networks

Andrea Vittone, Director of Technical Services, Retiflex, Milano, Italy

Shear Strength of Ferrocement Beams

Khim Chye Gary Ong, Lecturer, Department of Civil Engineering, National University of Singapore, Kent Ridge, Singapore, Republic of Singapore; Mohammad A. Mansur, Senior Lecturer, Department of Civil Engineering, National University of Singapore, Kent Ridge, Singapore, Republic of Singapore

THURSDAY, November 13, 1986

9:00 AM-12:00 NOON

Room: **International A**

CRACKING IN PRESTRESSED CONCRETE STRUCTURES (PART I)

Sponsored by Committee 224

Session Chairman: Grant T. Halvorsen
Associate Professor
West Virginia University
Morgantown, West Virginia

SESSIONS

Flexural Cracking of Pretensioned and Post-Tensioned Beams: State of the Art

Edward G. Nawy, Professor and Chairman, Department of Civil Engineering, Rutgers University, Piscataway, New Jersey

Cracking of Partially Prestressed Concrete Beams Under Static and Cyclic Fatigue Loading

M.H. Harajli, Assistant Professor, Department of Civil Engineering, American University of Beirut, Beirut, Lebanon; Antoine E. Naaman, Professor, Department of Civil Engineering, University of Michigan, Ann Arbor, Michigan

Cracking of Partially Prestressed Concrete Beams

M. Nadim Hassoun, Professor, South Dakota State University, Brookings, South Dakota

Cracking in Detroit CATS Guideway Beams

James S. Guarre, Project Manager, ABAM Engineers, Inc., Federal Way, Washington; David J. Vander Wal, Senior Engineer, Walker Parking Consultants, Kalamazoo, Michigan; Charles W. Dolan, Cornell University, Ithaca, New York

Experience With Cracking: Serviceability of Partially Prestressed Concrete

Ned M. Cleland, President, Blue Ridge Design, Inc., Winchester, Virginia

Cracking in Prestressed Concrete Compression Members

Robert L. Yuan, Professor, Department of Civil Engineering, University of Texas, Arlington, Texas; Mohsen Abdel-Karim Issa, Graduate Student, Department of Civil Engineering, University of Texas, Arlington, Texas

NOTE:

Part II will be presented on Thursday, November 13, 1986 at 2:00 PM-5:00 PM in International A.

THURSDAY, November 13, 1986

9:00 AM-12:00 NOON

Room: International B

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SESSION
THEME**FIBER REINFORCED CONCRETE IN
THE INFRASTRUCTURE (PART I)**

Sponsored by Committee 544

Session Chairman: Surendra P. Shah
Professor
Department of Civil Engineering
Northwestern University
Evanston, Illinois

Process Zone Size and Crack Growth Measurement in Fiber Cements
Yiu-Wing Mai, Associate Professor, Department of Mechanical Engineering, Sydney University, Sydney, New South Wales, Australia; Brian Cotterell, Reader, Department of Mechanical Engineering, Sydney University, Sydney, New South Wales, Australia; Roger M.L. Foote, Research Student, Department of Mechanical Engineering, Sydney University, Sydney, New South Wales, Australia

Failure Mechanisms and Fracture of Fiber Reinforced Concrete
Vellore S. Gopalaratnam, Assistant Professor, Department of Civil Engineering, University of Missouri, Columbia, Missouri; Surendra P. Shah, Professor, Department of Civil Engineering, Northwestern University, Evanston, Illinois

Development of Lightweight Durable Fiber Reinforced Concrete
Hiroo Takada, Senior Research Engineer, Institute of Technology, Shimizu Construction Company, Ltd., Tokyo, Japan; Ikuo Uchida, Senior Research Chemist, Research and Development Division, Chichibu Cement Company, Ltd., Saitama-ken, Japan; Takayuki Sakurada, Assistant to General Manager, GRC Marketing, Technical and Development Department, Nippon Sheet Glass Company, Ltd., Tokyo, Japan

The Fracture Characteristics of Fiber Reinforced Concrete in Shear
Ben Barr, Lecturer, Department of Civil Engineering, University College, Cardiff, Wales, United Kingdom

Properties of Glass Fiber Reinforced Concrete with Low Alkaline Cement
Masaharu Hayashi, Engineer, Technical Development of FRC Section, Nippon Electric Glass Company, Ltd., Shiga, Japan; Shigeyuki Akihama, Chief Research Engineer, Kajima Corporation, Tokyo, Japan; Tatsuo Suenaga, Senior Research Engineer, Kajima Corporation, Tokyo, Japan; Mitsuo Tanaka, Chief of the First Research Section, Chichibu Cement Company, Ltd., Saitama, Japan

Prediction of the Tensile Strength of Fiber Reinforced Concrete: A Critique of the Composite Material Concept
Parviz Soroushian, Assistant Professor, Department of Civil and Environmental Engineering, Michigan State University, East Lansing, Michigan; Ziad Bayasi, Graduate Student, Department of Civil and Environmental Engineering, Michigan State University, East Lansing, Michigan

NOTE:

Part II will be presented on Thursday, November 13, 1986 at 2:00 PM-5:00 PM in International B.

Part III will be presented on Friday, November 14, 1986 at 9:00 AM-12:00 NOON in International B.

SESSIONS

THURSDAY, November 13, 1986

9:00 AM-12:00 NOON

Room: International C

METHOD OF PROPORTIONING CONCRETE WITH FLY ASH AND SLAG (PART I)

Sponsored by Committees 211 and 226

Session Chairman: Jere H. Rose
Director of Technical Services
Blue Circle, Inc.
Marietta, Georgia

SESSIONS

Strength and Durability Considerations Affecting Mix Proportioning of Concrete Containing Fly Ash

Peggy M. Carrasquillo, Research Engineer, University of Texas, Austin, Texas; Paul J. Tikalsky, Graduate Research Assistant, University of Texas, Austin, Texas

A Concrete Proportioning Odyssey, The Optimum/Pessimum Fly Ash Percentage

Edwin R. Dunstan, Jr., President, Dunstan Inc., Lakewood, Colorado

Proportioning Procedures for Concrete Containing Ground Slag and Portland Cement

Donald W. Lewis, Consultant, Donald W. Lewis, Kingsport, Tennessee

A Class C Fly Ash Blend as Affected by Admixture Additions

Fred D. Kinney, Principal Materials Researcher, Master Builders, Inc., Beechwood, Ohio; Sue Flack, Materials Researcher, Master Builders, Inc., Beechwood, Ohio

Use of Ground Granulated Iron Blast Furnace Slag in Mass Concrete for the Jacksonville Dames Point Bridge

Martin Mittelacher, Director of Technical Services, Florida Rock Industries, Inc., Jacksonville, Florida

Ready Mix Concrete with Class F Fly Ash

Billy M. Scott, Chief Engineer, Concrete Supply Company, Charlotte, North Carolina

Low Cement Content High Quality Structural Grade Concrete Containing Fly Ash

Tarun R. Naik, Associate Professor, Department of Civil Engineering, University of Wisconsin, Milwaukee, Wisconsin; Bruce W. Ramme, Project Engineer, Engineering and Construction Department, Wisconsin Electrical Power Company, Milwaukee, Wisconsin

NOTE:

Part II will be presented on Friday, November 14, 1986 at 9:00 AM to 12:00 NOON in International C.

THURSDAY, November 13, 1986

9:00 AM-12:00 NOON

Room: **International D**

PARKING STRUCTURES (PART I)

Sponsored by Committee 362

Session Chairman: Carl A. Peterson
President
Carl A. Peterson and Associates, Inc.
Glenview, Illinois

ACI Committee 362 Report on Parking Structures — An Overview

Howard R. May, Vice President, Desman Parking Associates, Chicago, Illinois

Design of a Structure With Mild Steel Reinforcing in a Multi-Use Building Complex (Design Considerations/Solutions)

P. V. Banavalkar, Executive Vice President, CBM Engineers, Inc., Houston, Texas; Harendra Mahendra, Principal, CBM Engineers, Inc., Houston, Texas

Design of a Post-Tensioned Parking Structure (Design Considerations/Solutions)

Orville E. Arnold, Principal, Arnold and O'Sheridan, Inc., Madison, Wisconsin

A Review of PTI's Specification for Unbonded Tendons

Clifford L. Freyermuth, Executive Director, Post-Tensioning Institute, Phoenix, Arizona

SESSIONS

NOTE:

Part II will be presented on Thursday, November 13, 1986 at 2:00 PM to 5:00 PM in International D.

THURSDAY, November 13, 1986
2:00 PM-5:00 PM

Room: **International A**

CRACKING IN PRESTRESSED CONCRETE STRUCTURES (PART II)

Sponsored by Committee 224

Session Chairman: Ned H. Burns
Professor
Department of Civil Engineering
University of Texas
Austin, Texas

SESSIONS

Causes, Prevention and Control of Cracking in Precast/Prestressed Members — Fabrication and Handling

Dino J. Scalia, Draftsman, Shockey Brothers Precast, Inc., Winchester, Virginia; H. Clark

Shear Cracking Behavior of Thin-Webbed Prestressed Concrete Beams

Arunachal Ray, Graduate Student, Department of Civil Engineering, University of Manitoba, Winnipeg, Manitoba, Canada

Shear Force Distribution at Openings in Prestressed Concrete Beams

Ahmed M. El-Laithy, Director of Structural Mechanics and Design, Resource International, Columbus, Ohio

Anchorage Zone Behavior of Post-Tensioned Bridge Decks With Closely Spaced Anchors

Jack Burgess, Structural Design Consultants, Portland, Maine; John E. Breen, Nasser I. Al-Rashid Chair in Civil Engineering, Ferguson Laboratory, Austin, Texas; Randall W. Poston, Associate, Schupack Suarez Engineers, Inc., South Norwalk, Connecticut

Model Study of Cracking in Prestressed Concrete Flat Plates

Pinaki R. Chakrabarti, Associate Professor, Department of Civil Engineering, California State University, Fullerton, California

Crack Formation and Its Mitigation in Post-Tensioned Concrete Structures

Bijan B. Aalami, Professor, San Francisco State University, San Francisco, California; Florian G. Barth, President, BFL Consulting Engineers, Mountain View, California

THURSDAY, November 13, 1986

2:00 PM-5:00 PM

Room: International B

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N**FIBER REINFORCED CONCRETE IN
THE INFRASTRUCTURE (PART II)**

Sponsored by Committee 544

Session Chairman: Gordon B. Batson
Professor
Clarkson University
Potsdam, New York

SIFCON in Compression

Ray Mondragon, Research Engineer, New Mexico Engineering Research Institute, University of Mexico, Albuquerque, New Mexico

Crack Free Concrete

Herbert Krenchel, Associate Professor, Department of Structural Engineering, Technical University of Denmark, Lyngby, Denmark; Surendra P. Shah, Professor, Department of Civil Engineering, Northwestern University, Evanston, Illinois

Stress-Strain Properties of SIFCON in Compression

Joseph R. Homrich, Research Assistant, Department of Civil Engineering, University of Michigan, Ann Arbor, Michigan; Antoine E. Naaman, Professor, Department of Civil Engineering, University of Michigan, Ann Arbor, Michigan

Creep of Concrete Containing Fibers and Silica Fume

Jules Houde, Professor, Ecole Polytechnique, Montreal, Quebec, Canada; Richard Roux, Professor, Ecole Polytechnique, Montreal, Quebec, Canada; Alain Prézeau, Graduate Student, Department of Civil Engineering, Ecole Polytechnique, Montreal, Quebec, Canada

Properties of Polyacrylonitrile Fiber Reinforced Concrete

J.D. Wörner, König und Heunisch, Consulting Engineers, Frankfurt; H. Hahne, Hoechst AG Kelheim, Kelheim; S. Karl, Technische Hochschule Darmstadt, Darmstadt

Flexural Behavior of Fibro-Ferrocete One-Way Slabs

R.P. Clarke; Anil K. Sharma, Lecturer, University of West Indies, Trinidad, West Indies

SESSIONS

NOTE:

Part III will be presented on Friday, November 14, 1986 at 9:00 AM to 12:00 NOON in International B.

THURSDAY, November 13, 1986

2:00 PM-5:00 PM

Room: **International D**

PARKING STRUCTURES (PART II)

Sponsored by Committee 362

Session Chairman: Carl A. Peterson
President
Carl A. Peterson and Associates, Inc.
Glenview, Illinois

SESSIONS

Design of a Precast, Prestressed Double Tee Parking Structure (Design Considerations/Solutions)

Irwin Speyer, Principal, Irwin Speyer, Consulting Engineers, White Plains, New York

Summary of PCI Research on Performance of Existing Precast, Prestressed Concrete Parking Structures

Thomas J. D'Arcy, Managing Principal, Consulting Engineers Group, San Antonio, Texas

Review of Repair and Protection Systems Used in Parking Structures

John A. Bickley, Vice President, Concrete Division, Trow Group, Ltd., Brampton, Ontario, Canada

Cathodic Protection Used on Parking Structures

Mark H. Hoffman, Senior Principal, THP Limited, Consulting Engineers, Cincinnati, Ohio; Kenneth Clear, President, Kenneth C. Clear, Inc., Sterling, Virginia

THURSDAY, November 13, 1986

2:00 PM-5:00 PM

Room: Liberty

PHYSICAL MODELS IN ENGINEERING EDUCATION AND PRACTICE

Sponsored by Committee 444

Session Chairman: Gajanan M. Sabnis
Professor
Howard University
Washington, D.C.

Physical Models of Concrete Structures in Undergraduate Education

Charles Douglas Sutton, Associate Professor, Department of Civil Engineering, Purdue University, West Lafayette, Indiana

Small Scale Models of Concrete Block Masonry Structures

B.E. Abboud, Graduate Student, Department of Civil Engineering, Drexel University, Philadelphia, Pennsylvania; H.G. Harris, Professor, Department of Civil Engineering, Drexel University, Philadelphia, Pennsylvania; A.A. Hamid, Associate Professor, Department of Civil Engineering, Drexel University, Philadelphia, Pennsylvania

Precast Concrete U-Beam Half Joints

Leslie A. Clark, Senior Lecturer, Department of Civil Engineering, University of Birmingham, Birmingham, England; B.S. Gill, Research Student, Department of Civil Engineering, University of Birmingham, Birmingham, England

Model Analysis Used in Education and as Design Tool

Fikry K. Garas, Head, Research Laboratories, Taylor Woodrow Construction, Ltd., Southall, Middlesex, England

Wind Tunnel Modeling in Structural Design

Jack E. Cermak, Professor and Senior Counsel, Fluid Mechanics and Wind Engineering Program, Department of Civil Engineering, Colorado State University, Fort Collins, Colorado

Fatigue Strength of Reinforced Concrete Bridge Decks

Philip C. Perdikaris, Associate Professor, Department of Civil Engineering, Case Western Reserve University, Cleveland, Ohio; Sergio Beim, Graduate Student, Department of Civil Engineering, Case Western Reserve University, Cleveland, Ohio

Earthquake Simulation of Small-Scale Concrete Structures

Vincent Caccese, Assistant Professor, University of Maine, Orono, Maine; Harry G. Harris, Professor, Department of Civil Engineering, Drexel University, Philadelphia, Pennsylvania

THURSDAY, November 13, 1986

2:00 PM-5:00 PM

Room: **International C**

RECENT OUTSTANDING EXAMPLES OF CONCRETE SHELLS

Sponsored by Committee 334

Session Chairman: John F. Abel
Professor
Department of Civil Engineering
Cornell University
Ithaca, New York

SESSIONS

Non-Geometric Concrete Shells in Europe

Heinz Isler, Professor, Ingenieurbüro und Studienbüro, Burgdorf, Switzerland

The Royal Saudi Naval Stadium at Jubail

John V. Christiansen, Bainbridge Island, Washington

The Largest Air-Formed Concrete Shells in the United States

Jack L. Brunk, Vice President, Porter Grain Systems, Inc., Rensselaer, Indiana; Arnold Wilson, Professor, Department of Civil Engineering, Brigham Young University, Provo, Utah

Continuous Hyperbolic Paraboloid Roofs for Water Treatment Plant

T. Dale Rokosh, Senior Structural Engineer, Associated Engineering Alberta, Ltd., Edmonton, Alberta, Canada; Sidney H. Simmonds, Professor, Department of Civil Engineering, University of Alberta, Edmonton, Alberta, Canada

Design and Construction of the Palace of Sports at Santiago, Dominican Republic

Victor Pizano, Ingenieria, Santo Domingo, Dominican Republic

THURSDAY, November 13, 1986

7:30 PM-10:00 PM

Room: Liberty

FORUM: INCENTIVES IN SPECIFICATIONS AND CONTRACTS

Sponsored by Committee 123

Session Chairman: Robert L. Henry
Consultant
Wiss, Janney, Elstner Associates
Arlington, Texas

Session Moderator: Joe Fratianni
Vice President
Huber, Hunt and Nichols, Inc.
Indianapolis, Indiana

Introduction

Robert L. Henry, Consultant, Wiss, Janney, Elstner Associates,
Arlington, Texas

From the Engineer's Point of View

Joe Fratianni, Vice President, Huber, Hunt and Nichols, Inc.,
Indianapolis, Indiana

From the Contractor's Point of View

James M. Shilstone, President, Shilstone and Associates, Inc., Dallas,
Texas

From the Architect's (Owner's) Point of View

Joseph Camellerie, Construction Manager, EBASCO Services,
Huntington, New York

From the Legal (Attorney's) Point of View

Alan Goldstein, Attorney, Dutton and Overman, Indianapolis, Indiana

SESSIONS

FRIDAY, November 14, 1986

9:00 AM-12:00 NOON

Room: **International A**

ANALYSIS AND DESIGN OF SHELLS FOR CONSTRUCTION LOADS

Sponsored by Committee 334

Session Co-Chairmen: Phillip L. Gould

Professor
Department of Civil Engineering
Washington University
St. Louis, Missouri

Bing-Yuan Ting
Senior Engineer
The Marley Cooling Tower Company
Mission, Kansas

SESSIONS

Cooling Tower Shells with Openings

Heinz D. Kopper, Managing Director, Zerna, Schultz und Partner,
Bochum, West Germany

Review of Cooling Tower Construction Loads

Otto C. Guedelhoefer, Principal Engineer, Raths, Raths and Johnson,
Inc., Willowbrook, Illinois

Analysis of Nuclear Containment Shell Structure Due to Prestressing Tendon Force

Reda M. Bakeer, Assistant Professor, Department of Civil Engineering,
Tulane University, New Orleans, Louisiana; Sankar C. Das, Associate
Professor, Department of Civil Engineering, Tulane University, New
Orleans, Louisiana

Influences of Column Supports in Cooling Tower Shells

Kye J. Han, Assistant Professor, Department of Civil Engineering,
University of Houston—University Park, Houston, Texas; Wen Wei Tu,
Graduate Student, Department of Electrical Engineering, University of
Houston—University Park, Houston, Texas

Earth Formed Shells: Form Removal Stresses

Bruce A. Suprenant, Associate Professor, Department of Civil
Engineering and Mechanics, University of South Florida, Tampa,
Florida; Kim D. Basham, Lecturer, University of Wyoming, Laramie,
Wyoming

FRIDAY, November 14, 1986
9:00 AM-12:00 NOON

Room: International D

CURING METHODOLOGIES FOR SPECIAL OR UNUSUAL CONCRETES

Sponsored by Committees 308 and 517

Session Chairman: Luke M. Snell
Program Director—Construction
School of Engineering
Southern Illinois University
Edwardsville, Illinois

Introduction: Curing of Concrete

Luke M. Snell, Program Director—Construction, School of Engineering, Southern Illinois University, Edwardsville, Illinois

Variability in Concrete Curing Practices in the United States and Canada

Ephraim Senbetta, Manager, Engineering, Master Builders, Inc., Cleveland, Ohio

High-Strength Concrete Produced with Steam Curing and Chloride-Free Accelerator

Sandor Popovics, Samuel S. Baxter Professor of Civil Engineering, Drexel University, Philadelphia, Pennsylvania; John D. Pauling, Havertown, Pennsylvania

Integration of Time-Temperature Curing Histories with PC Spread Sheet Software

Ronald L. Dilly, Assistant Professor, College of Technology, University of Houston, Houston, Texas; Vahid Beizai, Project Manager, MRA/Materials Engineers, Inc., Houston, Texas; Woodward L. Vogt, President, MRA/Materials Engineers, Inc., Houston, Texas

The Effect of Curing on Expansion and Shrinkage of Shrinkage Compensating Concrete

Hamid Farzam, Project Engineer, Master Builders, Inc., Cleveland, Ohio; Ephraim Senbetta, Manager, Engineering, Master Builders, Inc., Cleveland, Ohio; Mark Bury, Technician, Master Builders, Inc., Cleveland, Ohio

The Effect of Curing on Concrete Containing Fly Ash

Steven H. Gebler, Senior Research Engineer, Construction Technology Laboratories, Skokie, Illinois; Paul Klieger, Consultant, Construction Technology Laboratories, Skokie, Illinois

FRIDAY, November 14, 1986

9:00 AM-12:00 NOON

Room: International B

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FIBER REINFORCED CONCRETE IN THE INFRASTRUCTURE (PART III)

Sponsored by Committee 544

Session Chairman: James I. Daniel
Structural Engineer
Portland Cement Laboratory
Skokie, Illinois

SESSIONS

Steel Fiber Reinforced Heat Resistant Pavement

George Y. Wu, Civil Engineer, Naval Civil Engineering Laboratory, Port Hueneme, California

Behavior of Partially Prestressed Beams Made Using High-Strength Fiber Reinforced Concrete

Perumalsamy N. Balaguru, Associate Professor, Rutgers University, Piscataway, New Jersey; Ahmed S. Ezeldin, Graduate Student, Rutgers University, Piscataway, New Jersey

Prefabrication of Load-Bearing Structures in Steel Fiber Reinforced Concrete

Hans Cederqvist, Managing Director, Ekebro International AB, Vasteras, Sweden

Technological Aspects of Steel Fiber Reinforced Concrete

Jan Olek, Research Assistant, Purdue University, West Lafayette, Indiana; Zygmunt Jamroz, Professor, Technical University Cracow, Warszawska, Poland

Fiber Reinforced Soil Cement

R. John Craig, Professor, Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, New Jersey; John Schuring, Jr., Assistant Professor, Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, New Jersey; W. Costello, Graduate Student, Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, New Jersey; L. Soong, Graduate Student, Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, New Jersey

Behavior of Steel Fibrous Concrete Beam Column Connections

Vijay K. Sood, Professor, Department of Civil Engineering, Punjab Engineering College, Chandigarh, India; Sat P. Gupta, Professor and Head, Department of Civil Engineering, Punjab Engineering College, Chandigarh, India

Behavior of Steel Fiber Reinforced Concrete Knee-Type Beam Column Connections

R.L. Jindal, Civil Engineer, City of San Francisco, Hayward, California; V.R. Sharma

FRIDAY, November 14, 1986

9:00 AM-12:00 NOON

Room: International C

METHOD OF PROPORTIONING CONCRETE WITH FLY ASH AND SLAG (PART II)

Sponsored by Committees 211 and 226

Session Chairman: Peter G. Snow
Vice President
Ash Management Systems
Houston, Texas

Proportioning of High-Strength Concrete in Washington, D.C.

Almerigo Giraldi, Vice President—Engineering, Super Concrete Corporation, Washington, D.C.

Is There a Water/Fly Ash Ratio Similar to Abram's Water/Cement Ratio?

Malcolm R.H. Dunstan, Director, Malcolm Dunstan and Associates, Newton Abbot, Devon, England

Proportioning of Fly Ash Concrete Mixtures

Jan Olek, Research Assistant, Purdue University, West Lafayette, Indiana; Sidney Diamond, Professor, Purdue University, West Lafayette, Indiana

Mix Design Procedures for Concrete Containing Fly Ash Adopted by the Texas Highway Department

Ramon L. Carrasquillo, Associate Professor, Department of Civil Engineering, University of Texas, Austin, Texas; Fred Schindler, Material and Test Concrete Engineer, Texas Highway Department, Austin, Texas

Uniformity of Concrete Containing Ground Blast Furnace Slag

Jere H. Rose, Director of Technical Services, Blue Circle, Inc., Marietta, Georgia

Proportioning with Fly Ash for the Optimum Concrete Strength

Ava Szypula, Laboratory Director of Chemistry and Petrography, Testwell Craig Laboratories, Inc., Ossining, New York

Fly Ash Substitutes in Concrete

Della M. Roy, Professor, Pennsylvania State University, University Park, Pennsylvania; Philip D. Cady, Professor, Pennsylvania State University, University Park, Pennsylvania; P.H. Licastro, Sr., Research Associate

Large Scale Use of Fly Ash Concrete in the North Central Florida Area

John J. Colussi, Manager, Technical Services, Conversion Systems, Inc., Horsham, Pennsylvania; Steve Berry, Area Manager, Tarmac Florida, Inc., Daytona Beach, Florida; David C. DeWitt, Quality Control Technician, Technical Services Department, Tarmac Florida, Inc., Jacksonville, Florida; Jerry Johnson, President, Falcon Development Company, Ormond Beach, Florida; Raymond E. Mechling, Regional Manager, Tarmac Florida, Inc., Daytona, Florida; Ronald W. Parker, Manager, Southeast District Sales, Conversion Systems, Inc., Jacksonville Beach, Florida

SOCIAL ACTIVITIES PROGRAM

Hospitality Room — Pratt

SUNDAY, November 9, 1986

- 1:00 PM- 5:00 PM **Spouse Registration** — Registration will be in the ACI Registration Area.
- 5:30 PM- 7:00 PM **Opening Reception** — **International**
Sponsored by the ACI Maryland Chapter.

MONDAY, November 10, 1986

- 8:00 AM- 3:00 PM **Hospitality Room** — A hostess will be available to register new guests and to answer your questions. Continental breakfast will be available from 8:00 AM to 9:30 AM.
- 10:00 AM-11:00 AM **Orientation Program** — **Pratt**
- 3:00 PM- 5:00 PM **Spouse Wine & Cheese Open House** —
President Kunze's Suite
Hosted by Mrs. Frances Kunze.

TUESDAY, November 11, 1986

- 8:00 AM- 3:00 PM **Hospitality Room** — A hostess will be available to register new guests and to answer your questions. Coffee will be available from 8:00 AM to 9:30 AM.
- 9:30 AM-11:00 AM **Fall Convention Spouse Breakfast** — **Liberty**
ACI is pleased to invite you to our traditional Fall Convention Spouse Breakfast.
- 12:00 NOON-
5:00 PM* **Baltimore . . . History, Culture and Charm** —
Your knowledgeable guide will tell you about Baltimore's interesting sights and landmarks. Stops will be at Peabody Library, Lexington Market (chance to browse or sample local delicacies), Baltimore Museum of Art (famous for the Cone Collection of Impressionist Art), and Fort McHenry . . . birthplace of the Star Spangled Banner. Tour fee: \$18.00 per person.

WEDNESDAY, November 12, 1986

- 8:00 AM- 3:00 PM **Hospitality Room** — A hostess will be available to register new guests and to answer your questions. Continental breakfast will be available from 8:00 AM to 9:30 AM.
- 10:00 AM-
12:00 NOON **General Session—** **International**
- 1:00 PM- 4:30 PM * **Mansions as Museums** — Visit the Peale Museum and see their exhibit of Baltimore Rowhouses. Tour of The Engineering Society... the most beautiful townhouse in the state, designed by Stanford White, and filled with antique tapestries and Tiffany glass. On to Mt. Clare, a pre-revolutionary mansion, home of Charles Carroll, the Barrister, containing original furniture and paintings. Tour fee: \$15.00 per person.
- 6:30 PM- 8:00 PM **Concrete Mixer** — **International**
Reception sponsored by the ACI Maryland Chapter.

THURSDAY, November 13, 1986

- 8:00 AM- 3:00 PM **Hospitality Room** — A hostess will be available to register new guests and to answer your questions. Continental breakfast will be available from 8:00 AM to 9:30 AM.
- 9:15 AM- 4:30 PM * **Annapolis** — A luxury colonial city on the Chesapeake Bay. Visit the Maryland State House, oldest in the United States, and the U.S. Naval Academy. At St. Johns College, you will have an opportunity to stand beneath the "Liberty Tree." Luncheon at the Middletown Inn. Afternoon for antiquing, shopping and browsing in the interesting unique shops that line the streets of this city of three centuries. Tour fee: \$33.00 per person (luncheon included).

FRIDAY, November 14, 1986

- 8:00 AM-10:00 AM **Hospitality Room** — Join us as we wish a fond farewell to the old friends and new acquaintances you have made during your stay in Baltimore. Continental breakfast will be available from 8:00 AM to 9:30 AM.

* Buses for all the tours will depart from the Liberty Street side of the Omni International Hotel at four times listed.

ACI FUTURE CONVENTIONS

1987 Annual Convention

March 22-27

Maria Isabel Sheraton

Mexico City, Mexico

1987 Fall Convention

November 8-13

Seattle Sheraton

Seattle, Washington

1988 Annual Convention

March 20-25

Marriott's Orlando World Center

Orlando, Florida

1988 Fall Convention

October 30-November 4

Hyatt Regency—Houston

Houston, Texas

Note: The convention preview will be distributed to ACI members three months prior to each convention. Others may receive a copy by contacting Institute Headquarters.

SUSTAINING MEMBERS OF THE AMERICAN CONCRETE INSTITUTE

Master Builders

Cleveland, Ohio

Portland Cement Association

Skokie, Illinois

W. R. Grace & Company

Construction Products Division

Cambridge, Massachusetts

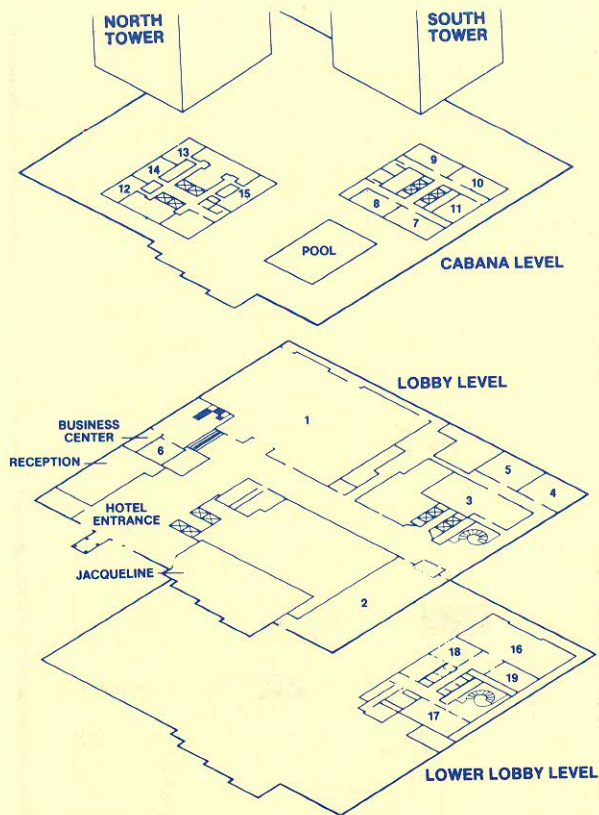
Post-Tensioning Institute

Phoenix, Arizona

The Phoenix Corporation

Honolulu, Hawaii

FLOOR PLAN OMNI INTERNATIONAL HOTEL BALTIMORE

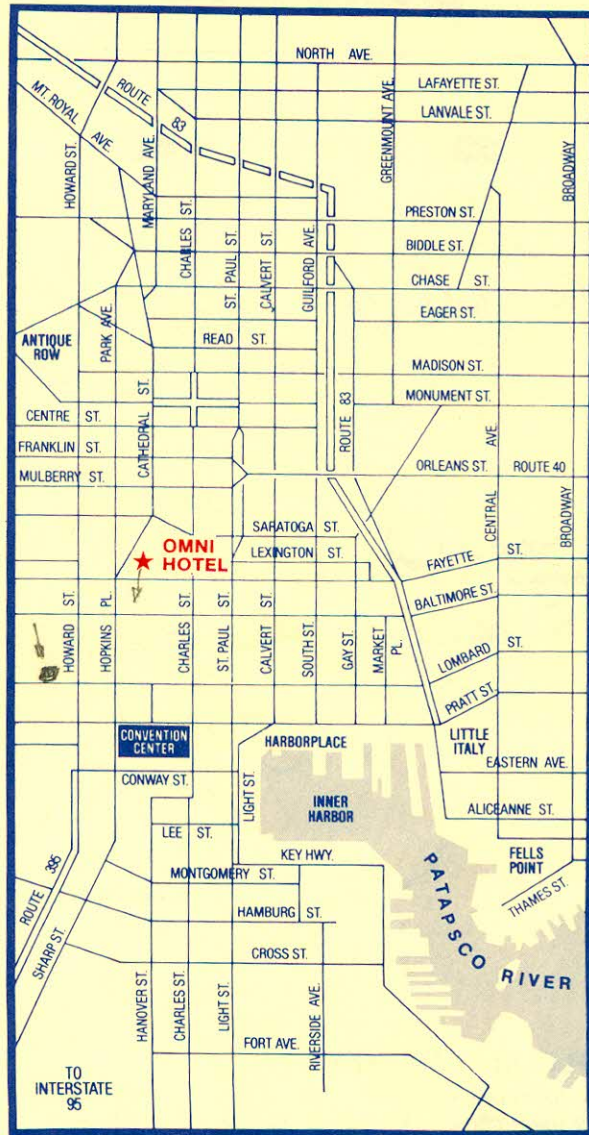


FLOOR PLAN - KEY

#1 International Ballroom	#8 Preston	#14 Adams
#2 Liberty Ballroom, A & B	#9 McKeldin	#15 Lincoln
#3 Carroll Room	#10 Schaefer	#16 Pratt, A & B
#4 E. A. Poe Room	#11 D'Alesandro	#17 Hopkins
#5 Mencken	#12 Washington	#18 Douglass
#6 Hanover	#13 Jefferson	#19 Peale
#7 Calhoun		

CITY MAP

BALTIMORE CITY MAP



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