1986 ACI FALL CONVENTION

November 9-14

Convention Theme:
Concrete and the Infrastructure

Baltimore, Maryland

U.S. Frigate Constellation

AMERICAN CONCRETE INSTITUTE
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**ACI FALL CONVENTION**  
November 9-14, 1986  
Omni International Hotel  
Baltimore, Maryland

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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:

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time</th>
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<tbody>
<tr>
<td>Sunday</td>
<td>November 9</td>
<td>1:00 PM - 5:00 PM</td>
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<tr>
<td>Monday</td>
<td>November 10</td>
<td>7:30 AM - 5:00 PM</td>
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<td>Tuesday</td>
<td>November 11</td>
<td>8:00 AM - 5:00 PM</td>
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<td>Wednesday</td>
<td>November 12</td>
<td>8:00 AM - 5:00 PM</td>
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<td>Thursday</td>
<td>November 13</td>
<td>8:00 AM - 5:00 PM</td>
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<tr>
<td>Friday</td>
<td>November 14</td>
<td>8:00 AM - 10:30 AM</td>
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Fees:

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<tr>
<th>Category</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Member</td>
<td>$105.00 (full week)</td>
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<tr>
<td>Nonmember</td>
<td>$120.00 (full week)</td>
</tr>
<tr>
<td>One-day Member</td>
<td>$45.00 (per day)</td>
</tr>
<tr>
<td>One-day Nonmember</td>
<td>$50.00 (per day)</td>
</tr>
<tr>
<td>Student</td>
<td>$5.00 (excludes social functions)</td>
</tr>
</tbody>
</table>

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.

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<thead>
<tr>
<th>Category</th>
<th>Color</th>
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<tbody>
<tr>
<td>Member</td>
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<td>Fellow</td>
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<tr>
<td>Student</td>
<td>Blue</td>
</tr>
<tr>
<td>Spouse</td>
<td>Beige</td>
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</table>
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
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
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,

[Signature]

Mayor
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) .... Internat'l 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
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)
International

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)
  International 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)
  International 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)
  International B
- Method of Proportioning Concrete with
  Fly Ash and Slag (Part II)
  International C

9:30 AM - 3:00 PM

TOUR: BRESCO Plant and Slag Grinding
Facility (Fee: $18.00)
SPECIAL EVENTS

COFFEE BAR
Monday through Friday
8:00 AM-10:00 AM
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
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
12:30 PM-2:00 PM Liberty
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
4:30 PM-6:30 PM South Tower Foyer
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
8:30 AM-9:45 AM Liberty
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. Sinsky, 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
Cost: $18.00 per person
9:30 AM-3:30 PM

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
- Chairman's 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
Pat Diamondidis
Barbara Fox
Joan Magnani
Julie Ward
Mary Pat Cook
Gail Dobson
Jackie Glassgold
Joann Petillo
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

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<th>FUNCTION</th>
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<td><strong>SATURDAY, November 8, 1986</strong></td>
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<tr>
<td>TAC Full</td>
<td>Technical Activities Committee</td>
<td>Schaefer</td>
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<tr>
<td>8:00 AM-6:00 PM</td>
<td><strong>SUNDAY, November 9, 1986</strong></td>
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<tr>
<td>Review Group 1</td>
<td>Calhoun</td>
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<td>Review Group 2</td>
<td>Preston</td>
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<td>Review Group 3</td>
<td>McKeldin</td>
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<td>Review Group 4</td>
<td>Schaefer</td>
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<tr>
<td>9:00 AM-6:00 PM</td>
<td><strong>MONDAY, November 10, 1986</strong></td>
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<tr>
<td>EAC Full</td>
<td>Educational Activities Committee</td>
<td>Hopkins</td>
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<td>2:00 PM-5:00 PM</td>
<td>Planning Committee (3 hrs)</td>
<td>Peale</td>
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<td>E902</td>
<td>Certification (3 hrs)</td>
<td>Douglass</td>
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<td>5:30 PM-7:00 PM</td>
<td>Opening Reception</td>
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<td><strong>MONDAY, November 10, 1986</strong></td>
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<tr>
<td>TAC Full</td>
<td>Technical Activities Committee</td>
<td>Schaefer</td>
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<td>(4-1/2 hrs)</td>
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<td><strong>MONDAY, November 10, 1986</strong></td>
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<tr>
<td>CLC</td>
<td>Construction Liaison Committee</td>
<td>Jefferson</td>
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<td>(3 hrs)</td>
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<td>E702</td>
<td>Designing Structures (1-1/2 hrs)</td>
<td>Calhoun</td>
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<tr>
<td>E703</td>
<td>Construction Practices (7-1/2 hrs)</td>
<td>Preston</td>
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<td>E902-A</td>
<td>Field Technician I (4-1/2 hrs)</td>
<td>Adams</td>
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<td>E902-C</td>
<td>Concrete Inspector—General (9 hrs)</td>
<td>Peale</td>
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<tr>
<td>FAC</td>
<td>Financial Advisory Committee</td>
<td>Douglass</td>
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<td>211-D</td>
<td>High-Strength (1-1/2 hrs)</td>
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<td>212</td>
<td>Chemical Admixtures (1-1/2 hrs)</td>
<td>Internat'IA</td>
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<td>213</td>
<td>Lightweight Aggregates (1-1/2 hrs)</td>
<td>McKeldin</td>
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<td>336</td>
<td>Footings (3 hrs)</td>
<td>2107/08</td>
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<td>349-3</td>
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<td>2001/02</td>
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<td>Fd./Rotat. &amp; Recip. (1-1/2 hrs)</td>
<td>Lincoln</td>
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<td>506</td>
<td>Shotcreting (4-1/2 hrs)</td>
<td>Washington</td>
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<td>533</td>
<td>Wall Panels (3 hrs)</td>
<td>2101/02</td>
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<tr>
<td>546</td>
<td>Repair (3 hrs)</td>
<td>Hopkins</td>
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*Reconvening Meeting*  
( ) Total Duration of Meeting
<table>
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<td>*CLC Construction Liaison Committee</td>
<td>Jefferson</td>
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<tr>
<td></td>
<td>*E703 Construction Practices</td>
<td>Preston</td>
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<tr>
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<td>E901 Scholarships (1-1/2 hrs)</td>
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<td>* 336 Footings</td>
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<td>* 349-3 Embedded Steel</td>
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<td></td>
<td>445 Shear &amp; Torsion (3 hrs)</td>
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<td>* 506 Shotcreting</td>
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<td>* 533 Wall Panels</td>
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<td>E902-D Concrete Craftsman (2-1/2 hrs)</td>
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<td>201 Durability (1-1/2 hrs)</td>
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<td>213-Sub High-Strength (1-1/2 hrs)</td>
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<td>349-4 Impulsive &amp; Impactive (1-1/2 hrs)</td>
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<td>360 Design of Slabs on Grade (1-1/2 hrs)</td>
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<td>E902-Z Training Courses (3 hrs)</td>
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* Reconvening Meeting
( ) Total Duration of Meeting
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<td><strong>207</strong> Mass Concrete (4-1/2 hrs)</td>
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<td><strong>211-B</strong> Lightweight (1-1/2 hrs)</td>
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<td><strong>223</strong> Expansive Cement (3 hrs)</td>
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<td><strong>230</strong> Soil Cement (3 hrs)</td>
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<td><strong>315</strong> Detailing of Reinforcement (3 hrs)</td>
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<td>General Conc. &amp; Const. (4-1/2 hrs)</td>
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<tr>
<td><strong>318-E</strong></td>
<td>Shear &amp; Torsion (4-1/2 hrs)</td>
<td>Schaefer</td>
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<td><strong>318-G</strong></td>
<td>Prestressed Precast (4-1/2 hrs)</td>
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<td><strong>318-H</strong></td>
<td>Seismic Provisions (4-1/2 hrs)</td>
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<td>336</td>
<td>Footings (3 hrs)</td>
<td>2107/08</td>
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<tr>
<td>340</td>
<td>Design Aids (3 hrs)</td>
<td>Lincoln</td>
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<tr>
<td>349</td>
<td>Nuclear Structures (3 hrs)</td>
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<td><em>E703</em>* Construction Practices</td>
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<tr>
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<td>Lab Technician (3 hrs)</td>
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<td><strong>E902-C</strong></td>
<td>Concrete Inspector—General</td>
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<td>122</td>
<td>Energy Conservation (3 hrs)</td>
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<td>Mass Concrete</td>
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<td><strong>223</strong></td>
<td>Expansive Cement</td>
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<td>Soil Cement</td>
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<td>Detailing of Reinforcement</td>
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<td>Shear &amp; Torsion</td>
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<td><strong>318-G</strong></td>
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<td>D'Alesandro</td>
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<td>340</td>
<td>Design Aids</td>
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<td>349</td>
<td>Nuclear Structures</td>
<td>Hopkins</td>
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<tr>
<td>351-4</td>
<td>Grouting of Equip/Mach (3 hrs)</td>
<td>Adams</td>
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<td>5:00 PM-6:30 PM</td>
<td><strong>E902-B</strong> Lab Technician</td>
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<tr>
<td><strong>E902-F</strong></td>
<td>Formwork Designer (1-1/2 hrs)</td>
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<td><strong>E903</strong></td>
<td>Convention Training (1-1/2 hrs)</td>
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<td>Energy Conservation</td>
<td>1901/02</td>
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<td><strong>207</strong></td>
<td>Mass Concrete</td>
<td>Internatl A</td>
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<td><strong>318-A</strong></td>
<td>General Conc. &amp; Const.</td>
<td>McKeldin</td>
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<td><strong>318-E</strong></td>
<td>Shear &amp; Torsion</td>
<td>Schaefer</td>
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<td>Prestressed Precast</td>
<td>D'Alesandro</td>
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<td>Seismic Provisions</td>
<td>Washington</td>
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<td>325 IR67</td>
<td>Design of Conc. Overlay (1-1/2 hrs)</td>
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<td><strong>351-4</strong></td>
<td>Grouting of Equip/Mach</td>
<td>Adams</td>
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<td>515</td>
<td>Coatings (1-1/2 hrs)</td>
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<td>543</td>
<td>Piles (1-1/2 hrs)</td>
<td>2107/08</td>
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<tr>
<td>546-1</td>
<td>Underwater Repair (1-1/2 hrs)</td>
<td>Douglass</td>
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<tr>
<td>553</td>
<td>Swimming Pools (1-1/2 hrs)</td>
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<tr>
<td>7:30 PM-9:00 PM</td>
<td><strong>E801</strong> Student Concrete Projects (1-1/2 hrs)</td>
<td>Carroll</td>
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* Reconvening Meeting
( ) Total Duration of Meeting
**TUESDAY November 11, 1986**

8:30 AM - 10:00 AM

<table>
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<th>Function</th>
<th>Room</th>
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<tr>
<td>Publications Committee (1-1/2 hrs)</td>
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<tr>
<td>Educational Computer Act. (3 hrs)</td>
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<tr>
<td>Certification (4-1/2 hrs)</td>
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<td>Mass Concrete (4-1/2 hrs)</td>
<td>Jefferson</td>
</tr>
<tr>
<td>Edit &amp; Coordination (3 hrs)</td>
<td>1901/02</td>
</tr>
<tr>
<td>Fire Resistance (1-1/2 hrs)</td>
<td>2107/08</td>
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<tr>
<td>Consolidation (3 hrs)</td>
<td>2115/16</td>
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<tr>
<td>Reinf. &amp; Develop. (4-1/2 hrs)</td>
<td>Preston</td>
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<tr>
<td>Serviceability/Safety (4-1/2 hrs)</td>
<td>McKeldin</td>
</tr>
<tr>
<td>Flexure &amp; Axial Loads (4-1/2 hrs)</td>
<td>Schaefer</td>
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<tr>
<td>Two-Way Slabs (4-1/2 hrs)</td>
<td>D'Alesandro</td>
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<tr>
<td>Pavements (3 hrs)</td>
<td>Calhoun</td>
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<tr>
<td>Wrapped Tank (1-1/2 hrs)</td>
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<tr>
<td>Tendon Tank (1-1/2 hrs)</td>
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<tr>
<td>Equipment Foundations (3 hrs)</td>
<td>Adams</td>
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<tr>
<td>Plastering (4-1/2 hrs)</td>
<td>Lincoln</td>
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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

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<td>117 Tolerances (3 hrs)</td>
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<tr>
<td>* 207 Mass Concrete</td>
<td>Jefferson</td>
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<tr>
<td>* 211-A Edit &amp; Coordination</td>
<td>1901/02</td>
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<tr>
<td>229 Controlled Low Strength (6 hrs)</td>
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<td>* 309 Consolidation</td>
<td>2115/16</td>
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<td>* 318-B Reinf. &amp; Develop.</td>
<td>Preston</td>
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<tr>
<td>* 318-C Serviceability/Safety</td>
<td>McKeldin</td>
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<tr>
<td>* 318-D Flexure &amp; Axial Loads</td>
<td>Schaefer</td>
</tr>
<tr>
<td>* 318-E Two-Way Slabs</td>
<td>D'Alesandro</td>
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<tr>
<td>* 325 Pavements</td>
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<tr>
<td>344 Full Circular Prestressed Tanks (7-1/2 hrs)</td>
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<td>*351 Full Equipment Foundations</td>
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<td>435 Deflection (3 hrs)</td>
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<tr>
<td>439 Steel Reinforcement (3 hrs)</td>
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11:30 AM - 1:00 PM

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* Reconvening Meeting

( ) Total Duration of Meeting
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<td>* 229</td>
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<td>* 343/348 TC</td>
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<tr>
<td>* 344 Full</td>
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<td>Douglass</td>
</tr>
<tr>
<td>* 348/343 TC</td>
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<tr>
<td>* 352</td>
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<td>* 363</td>
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<td>550</td>
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<tr>
<td>* 554</td>
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<td>* 302</td>
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<td>350</td>
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<td>6:30 PM-7:30 PM</td>
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<td>Environmental Eng. Struct.</td>
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<td>* 350</td>
<td>Safety</td>
<td>Adams</td>
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</table>
| 7:30 PM-10:00 PM | SESSION:                                      | Internat'l A
|                 | Panel Discussion on Basics and                |            |
|                 | Usefulness of Computer Spread                |            |
|                 | Sheets in the Concrete Industry              |            |
| 9:00 PM-10:00 PM | RCRC Concrete Exp. Tests                      | Hopkins    |
| * 231            | Early Age (2-1/2 hrs)                         | D'Alesandro|
| * 348            | Safety                                        | Adams      |

**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

* Reconvening Meeting
WEDNESDAY

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<th>DAY/TIME</th>
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<td>423-J</td>
<td>Joint Sealants (3 hrs)</td>
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<td>10:00 AM-11:30 AM</td>
<td>* 307 Reinforced Conc. Chimneys</td>
<td>Adams</td>
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<tr>
<td>* 423-J</td>
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<td>* 504</td>
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10:00 AM-12:00 NOON

General Session

International

11:30 AM-1:00 PM

* 307 Reinforced Conc. Chimneys
* 437 Strength of Structures (1-1/2 hrs)
* 544 Fiber Reinforced

1:00 PM-2:00 PM

Lunch Break

2:00 PM-3:30 PM

Convention Committee (3 hrs)
Specification (1-1/2 hrs)
CAC Chapter Activities (3 hrs)
E902-E Concrete Inspector-Nuclear (4-1/2 hrs)
226-1 Fly Ash (1-1/2 hrs)
304 Meas., Mix. Trans/Placing (1-1/2 hrs)
* 307 Reinforced Conc. Chimneys

318 Full Standard Building Code (4-1/2 hrs)

Carroll

330 Parking Lots (1-1/2 hrs)
345 Bridge Construction (3 hrs)
347 Formwork (4-1/2 hrs)
366 Precast Pipelines (1-1/2 hrs)
421-J Slabs (4-1/2 hrs)
* 544 Fiber Reinforced
548-C PC Overlays (3 hrs)
555 Removal & Reuse (1-1/2 hrs)

2:00 PM-5:00 PM

SESSIONS:
* Infrastructure Rehabilitation
* Introduction and Discussion of the ACI Lab Technician Certification Program
* Load and Resistance Factors for Bridge Design
* Research in Progress
* Use of Ferrocement in Retrofitting and Repairing Structures

2:00 PM-5:00 PM

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

2:00 PM-3:30 PM

Calhoun
Poe
Schaefer
Lincoln
Jefferson
2107/08
2115/16
2101/02

3:30 PM-5:00 PM

Reconvening Meeting

International A
International B
International C
International D
Liberty
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<td>121 Quality Assurance (3 hrs)</td>
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<td>209 Creep &amp; Shrinkage (1-1/2 hrs)</td>
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<td>211 Full Proportioning (3 hrs)</td>
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<td>224 Cracking (3 hrs)</td>
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<tr>
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<td>226-3 Silica Fume (1-1/2 hrs)</td>
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<td>Carroll</td>
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<tr>
<td></td>
<td>345 Bridge Construction</td>
<td>Lincoln</td>
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<td>347 Formwork</td>
<td>Poe</td>
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<tr>
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<td>367 Precast Chimneys (1-1/2 hrs)</td>
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<td>421-J Slabs</td>
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<tr>
<td>*548-C PC Overlays</td>
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<td>5:00 PM-6:30 PM</td>
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<td>Peale</td>
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<td>215 Fatigue (1-1/2 hrs)</td>
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<td>222 Corrosion (1-1/2 hrs)</td>
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<td>*224 Cracking</td>
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<td>347 Formwork</td>
<td>Poe</td>
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<td>444 Models of Structures (1-1/2 hrs)</td>
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<td>548-A Polymer PC Concrete (1-1/2 hrs)</td>
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<td>548-B Sub on Standard Tests (1-1/2 hrs)</td>
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<td>5:00 PM-7:00 PM</td>
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<td>Fracture Mechanics (2 hrs)</td>
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**THURSDAY, November 13, 1986**

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<th>CMRC</th>
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<td>NACE-TG</td>
<td>Corrosion Prevention (7-1/2 hrs)</td>
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<td>118-Sub</td>
<td>Concrete Comp. Users Group (3 hrs)</td>
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<td>215</td>
<td>Fatigue (1-1/2 hrs)</td>
<td>Calhoun</td>
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<tr>
<td>228</td>
<td>Nondestructive Testing (4-1/2 hrs)</td>
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<td>301</td>
<td>Structural Specifications (9 hrs)</td>
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<tr>
<td>303</td>
<td>Architectural C I P (3 hrs)</td>
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<td>305</td>
<td>Hot Weather (3 hrs)</td>
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<tr>
<td>357</td>
<td>Offshore Structures (7-1/2 hrs)</td>
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<td>359-2</td>
<td>Sub Design (9 hrs)</td>
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<td>Sub Mat'l Const. &amp; Ex. (9 hrs)</td>
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<td>359-6</td>
<td>WG Test &amp; Overpressure (3 hrs)</td>
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<tr>
<td>547</td>
<td>Refractory (7-1/2 hrs)</td>
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<tr>
<td>551</td>
<td>Tilt-up (9 hrs)</td>
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* Reconvener Meeting
| Duration of Meeting | 21 |

21
### Thursday

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<tr>
<td></td>
<td>- Cracking in Prestressed Concrete Structures (Part I)</td>
<td>Intern'l A</td>
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<td>- Fiber Reinforced Concrete in the Infrastructure (Part I)</td>
<td>Intern'l B</td>
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<td>- Method of Proportioning with Fly Ash and Slag (Part I)</td>
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<td>- Parking Structures (Part I)</td>
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<td>1. CMRC Concrete Mat'l Res. Council</td>
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<td>2. *NACE-TG Corrosion Prevention</td>
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<td>3. *118-Sub Concrete Comp. Users Group</td>
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<td>4. 228 Nondestructive Testing</td>
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<td>5. *301 Structural Specifications</td>
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<td>6. *303 Architectural C I P</td>
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<td>7. *305 Hot Weather</td>
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<td></td>
<td>8. 334 Shells (3 hrs)</td>
<td>Cathoan</td>
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<td>9. *357 Offshore Structures</td>
<td>Washington</td>
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<tr>
<td></td>
<td>10. **359-2 Sub Design</td>
<td>Jefferson</td>
</tr>
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<td></td>
<td>11. **359-3 Sub Mat's Const. &amp; Ex.</td>
<td>Adams</td>
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<td>12. **359-6 WG Test &amp; Overpressure</td>
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<td>13. 547 Refractory</td>
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<td>14. 551 Tilt-up</td>
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<td>1. *NACE-TG Corrosion Prevention</td>
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<td>2. 221 Aggregates (1-1/2 hrs)</td>
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<td>3. 225-3 Expert Systems/Knowledge Base (1-1/2 hrs)</td>
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<td>4. 228 Nondestructive Testing</td>
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<td>5. *301 Structural Specifications</td>
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<td>6. *334 Shells</td>
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<td>7. 343 Bridge Design (3 hrs)</td>
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<td>8. *357 Offshore Structures</td>
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<td>10. *359-3 Sub Mat's Const. &amp; Ex.</td>
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<td>11. 442 Ad hoc Inelastic Design (1-1/2 hrs)</td>
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<td>12. 517 Accelerate Curing (1-1/2 hrs)</td>
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<td>13. 547 Refractory</td>
<td>2107/08</td>
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<td>14. 551 Tilt-up</td>
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<td>1:00 PM-2:00 PM</td>
<td>1. *301 Structural Specifications</td>
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<td>1. *NACE-TG Corrosion Prevention</td>
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<td>2. E-701 Construction Materials (1-1/2 hrs)</td>
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<td>3. 118 Full Computers (3 hrs)</td>
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* Re-convening Meeting
( ) Total Duration of Meeting
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<td>306  Cold Weather (4-1/2 hrs)</td>
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<tr>
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<td>311  Inspection (4-1/2 hrs)</td>
<td>Lincoln</td>
</tr>
<tr>
<td></td>
<td>343  Bridge Design</td>
<td>Peale</td>
</tr>
<tr>
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<td>357  Offshore Structures</td>
<td>Washington</td>
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<td>359-2 Sub Design</td>
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<td>359-3 Sub Mat'l's Const. &amp; Ex.</td>
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<td>548  Polymers (4-1/2 hrs)</td>
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<td>Cracking in Prestressed Concrete Structures (Part II)</td>
<td>Internat'l A</td>
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<td>Fiber Reinforced Concrete in the Infrastructure (Part II)</td>
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<td>Parking Structures (Part II)</td>
<td>Internat'l D</td>
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<td>Physical Models in Engineering Education and Practice</td>
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<td>Recent Outstanding Examples of Concrete Shells</td>
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<td>226  Fly Ash, Pozzolan, Slag (1-1/2 hrs)</td>
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<td>Douglass</td>
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<td>306  Cold Weather</td>
<td>Hopkins</td>
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<td>225 Full Hydraulic Cements (1-1/2 hrs)</td>
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<td>359-2 Sub Design</td>
<td>Jefferson</td>
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<td>359-3 Sub Mat'l's Const. &amp; Ex.</td>
<td>Adams</td>
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<td>442  Lateral Forces</td>
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<td>548  Polymers</td>
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<td>551  Tilt-up</td>
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<td>6:30 PM - 7:30 PM</td>
<td>442 Lateral Forces</td>
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* Reconvening Meeting
( ) Total Duration of Meeting
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<tr>
<th>DAY/TIME</th>
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<tr>
<td>7:30 PM-10:00 PM</td>
<td>SESSION:</td>
<td>Liberty</td>
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<td></td>
<td>• Forum: Incentives in Specifications and Contracts</td>
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<td>FRIDAY, November 14, 1986</td>
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<tr>
<td>8:30 AM-10:00 AM</td>
<td>116 Notation &amp; Nomenclature (3 hrs)</td>
<td>Preston</td>
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<td></td>
<td>355 Anchorage (3 hrs)</td>
<td>Schaefer</td>
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<td>359-J Nuclear Vessels (4-1/2 hrs)</td>
<td>Carroll</td>
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<td>362 Parking Structures (3 hrs)</td>
<td>McKelkin</td>
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<td>547 Refractory (4-1/2 hrs)</td>
<td>D'Alesandro</td>
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<tr>
<td>9:00 AM-12:00 NOON</td>
<td>SESSIONS:</td>
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<td></td>
<td>• Analysis and Design of Shells for Construction Loads</td>
<td>Internat'l A</td>
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<td></td>
<td>• Curing Methodologies for Special or Unusual Concretes</td>
<td>Internat'l D</td>
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<td>• Fiber Reinforced Concrete in the Infrastructure (Part III)</td>
<td>Internat'l B</td>
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<td>• Method of Proportioning with Fly Ash and Slag (Part II)</td>
<td>Internat'l C</td>
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<tr>
<td>9:30 AM-3:00 PM</td>
<td>TOUR: BRESCO Plant and Slag Grinding Facility (Fee: $18.00)</td>
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<td>10:00 AM-11:30 AM</td>
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THANK YOU

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

The American Concrete Institute and the ACI Maryland Chapter greatly appreciate their support.
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STUDENT ACTIVITIES PROGRAM

MONDAY, November 10, 1986
10:00 AM-6:30 PM

Sponsored by Committee E801

Room: Carroll

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
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
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

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. Vanyo, Director, Architecture and Engineering Performance
Information Center — University of Maryland, College Park, Maryland

Construction of Baltimore Resource Recovery Facility (BRESCO)
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.
TUESDAY, November 11, 1986
9:00 AM-12:00 NOON

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

The Engineer's Responsibility
Edward O. Pfang, 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.

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

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

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 Albrect, 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
TECHNICAL SESSION

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. Carasquillo, 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
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
TECHNICAL SESSION

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.

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 Fellow Pin/Tie Tac $10.50
Our ACI emblem and Fellow designation in 10k gold

ACI Member Pin $9.95
Rhodium, enamelled 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

Infrastructural Rehabilitation
Sponsored by Committee 384

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
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
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 R. 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)
TECHNICAL SESSION

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

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 B$_2$O$_3$ Doped Belite (C$_2$S) 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
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
TECHNICAL SESSION

THURSDAY, November 13, 1986
9:00 AM-12:00 NOON

CRACKING IN PRESTRESSED CONCRETE STRUCTURES (PART I)
Sponsored by Committee 224

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

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

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

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. Foole, Research Student, Department of Mechanical Engineering, Sydney University, Sydney, New South Wales, Australia

Failure Mechanisms and Fracture of Fiber Reinforced Concrete
Velio 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, Kaihima Corporation, Tokyo, Japan; Tatsuo Suenaga, Senior Research Engineer, Kaihima 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 Sorourshian, 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.
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

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

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

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-Latify, 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, Schuybauk 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

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. Honrich, 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 Polycrystalline 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-Ferrocrete One-Way Slabs
R.P. Clarke; Anil K. Sharma, Lecturer, University of West Indies, Trinidad, West Indies

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

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

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
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. Germak, 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

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
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
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

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
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 Senbeta, 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. Vogl, 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 Senbeta, 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 Kliger, Consultant, Construction Technology Laboratories, Skokie, Illinois
FRIDAY, November 14, 1986
9:00 AM-12:00 NOON
Room: International B

FIBER REINFORCED CONCRETE IN THE INFRASTRUCTURE (PART III)
Sponsored by Committee 544

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

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
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.
Alberto Girardi, 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. Calucci, 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, 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 tour 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