



**'85 Annual
Convention**
DENVER, COLORADO
MARCH 24-29

**DENVER
MARRIOTT
CITY CENTER**



AMERICAN CONCRETE INSTITUTE

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ACI Fall Convention

March 24-29, 1985

Denver, Colorado

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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:

| | | |
|-----------|----------|------------------|
| Sunday | March 24 | 1:00 pm- 5:00 pm |
| Monday | March 25 | 8:00 am- 5:00 pm |
| Tuesday | March 26 | 8:00 am- 5:00 pm |
| Wednesday | March 27 | 8:00 am- 5:00 pm |
| Thursday | March 28 | 8:00 am- 5:00 pm |
| Friday | March 29 | 8:00 am-10:30 am |

Fees:

| | |
|-------------------|----------------------|
| Member | \$105.00 (full week) |
| Nonmember | \$120.00 (full week) |
| One-day Member | \$ 45.00 (per day) |
| One-day Nonmember | \$ 50.00 (per day) |
| Student | Free |

Registration fees cover attendance at all ACI technical and educational committee meetings, general session, and forums. Also, the Concrete Mixer ticket is included in the full week registration fee.

For those who plan to attend the following seminar, there is no fee for attendance, but we do request payment for handout material:

Concrete Design with Micro Computers
— Handout Material Fee \$24.00

Awards Breakfast

| | |
|--------------------------|------------------|
| Thursday, March 28, 1985 | 8:00 am-10:00 am |
| Awards Breakfast | Cost \$10.00 |

Come meet the awardees. Have fun, enjoy a good breakfast, and watch the multi-media awards presentation. Please purchase tickets at the registration desk.

Badges

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

| | |
|-----------|-------|
| Member | White |
| Nonmember | Peach |
| Fellow | White |
| Student | Blue |
| Spouse | Beige |



TELEPHONE (313) 532-2600
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american concrete institute

BOX 19150 REDFORD STATION
22400 WEST SEVEN MILE ROAD
DETROIT, MICHIGAN 48219

March, 1985

Dear ACI Convention Delegates:

The American Concrete Institute's March convention in Denver, Colo., promises to be an exciting event. Denver is a city on the move and abounds in scenic attractions and things to do and see.

The convention theme is precast construction but the technical program will not be limited to this one subject by any means. And don't forget about the annual Awards Breakfast and the General Session.

For the spouses, a week-long series of tours and hospitality events has been arranged. Of course, members as well as their spouses are encouraged to sign up for these.

I welcome ACI members, their spouses, and other convention attendees — our meeting in Denver, the mile-high city, should be one of the Institute's best ever. I look forward to meeting all of you there.

Best Regards,

Ignacio Martin
President
American Concrete Institute

STATE OF COLORADO

EXECUTIVE CHAMBERS
136 State Capitol
Denver, Colorado 80203-1792
Phone (303) 866-2471



Richard D. Lamm
Governor

March 24, 1985

To the participants of the
American Concrete Institute Convention:

On behalf of the residents of the State of Colorado, I am pleased to welcome you to Denver for the annual American Concrete Institute Convention.

Our mile-high city offers a variety of cultural and recreational opportunities. I hope you will spend some time enjoying the scenic beauty of Colorado.

Have a most pleasant stay in our state.

Sincerely,


Richard D. Lamm
Governor



March, 1985

Welcome to Denver!

I am pleased to extend a warm Western welcome to all in attendance at the 1985 Annual Convention of the American Concrete Institute, meeting in Denver the week of March 24-29.

I am well acquainted with the goals of your fine organization and commend and congratulate all members for their contributions, individually and as members of the ACI, to their respective communities. Your activities planned for 1985 will be important and interesting to all who are involved in the concrete industry, and I am confident your deliberations in Denver this week will contribute to the laying of foundations for greater design, construction and manufacture of concrete products and structures.

I was very interested in reading the preview of your convention and hope that it is the best you've ever held. I hope all delegates, family members, and guests of the convention will also enjoy the numerous recreational and cultural facilities which our city has to offer, and that the American Concrete Institute will return to Denver again and again.

Sincerely,

A handwritten signature in blue ink that reads "Federico Peña".

Federico Peña
Mayor

SCHEDULE

Annual Convention

SUNDAY, March 24, 1985

- 1:00 pm- 5:00 pm **Registration Hours**
5:30 pm- 7:00 pm **Wine & Cheese Party - Sponsored by the
Rocky Mountain Chapter**

MONDAY, March 25, 1985

- 8:00 am- 5:00 pm **Registration Hours**
8:30 am- 9:30 pm **Administrative, Technical and Educational
Committee Meetings**

TUESDAY, March 26, 1985

- 8:00 am- 5:00 pm **Registration Hours**
8:30 am- 9:30 pm **Administrative, Technical and Educational
Committee Meetings**
9:00 am-12:00 pm **Technical Sessions:**
 - Question and Answer Session for
Contractors
 - Concrete Design for Micro Computers
(Part I)
- 10:00 am- 5:00 pm **All Day Film Session**
2:00 pm- 5:00 pm **Technical Sessions:**
 - Open Paper Session
 - Concrete Shells Constructed on
Air-Supported Forming
 - Concrete Design for Micro Computers
(Part II)
 - Precast Concrete Buildings: The State
of the Art

WEDNESDAY, March 27, 1985

- 8:00 am- 5:00 pm **Registration Hours**
8:30 am- 9:30 pm **Technical Committee Meetings**
9:00 am-12:00 pm **Technical Sessions:**
- Repair of Prestressed Concrete Structures
 - Philosophy of Structural Safety
 - Wall Panels - Why Denver Is The #1 Precast City
 - Precast Bridges (Part I)
- 2:00 pm- 5:00 pm **Technical Sessions:**
- Precast Concrete
 - Adhesives for Concrete
 - Precast Bridges (Part II)
 - Research in Progress
- 6:30 pm- 8:00 pm **Concrete Mixer (Reception)**

THURSDAY, March 28, 1985

- 8:00 am- 5:00 pm **Registration Hours**
8:00 am-10:00 am **Awards Breakfast**
10:00 am-12:00 pm **General Session**
2:00 pm- 5:00 pm **Technical Sessions:**
- Precast Fiber Reinforced Concrete
 - Non-Chloride Accelerators
 - Precast Parking Structures
- 2:00 pm- 9:30 pm **Technical Committee Meetings**
2:00 pm- 4:00 pm **Forney/ACI Cube Strength Contest**
4:00 pm- 6:00 pm **Student Program**
7:30 pm-10:00 pm **Forum: The Chloride Issue-The New Limits**

FRIDAY, March 29, 1985

- 8:00 am-10:30 am **Registration Hours**
8:30 am-12:30 pm **Technical Committee Meetings**
9:00 am-12:00 pm **Technical Sessions:**
- Chloride-Induced Corrosion of Steel in Concrete
 - Use of Computers for Statistical Analysis of Test Data
 - Inelastic Response of Concrete Structures
 - Tilt-Up Construction

SPECIAL EVENTS

PUBLICATION DISPLAY

Sunday through Friday

See the latest ACI publications now available. Orders taken at the ACI registration desk.

COFFEE BAR

Monday through Friday

ACI Registration Area

8:00 am-10:00 am

Join your colleagues every morning for coffee and tea (complimentary) in the registration area.

4:30 REHABILITATION (Cash Bar)

Tuesday, March 26, 1985

ACI Registration Area

4:30 pm-6:30 pm

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

CONCRETE MIXER

Wednesday, March 27, 1985

Colorado Ballroom

6:30 pm-8:00 pm

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 registration desk.)

AWARDS BREAKFAST

Thursday, March 28, 1985

Colorado A - E

8:00 am-10:00 am

Cost: \$10.00

Come meet the Awardees. Have fun, enjoy a good breakfast and watch the multi-media awards presentation.

Please purchase tickets before Wednesday afternoon.

GENERAL SESSION

Thursday, March 28, 1985

Colorado F - J

10:00 am-12:00 pm

Presidential Address

Ignacio Martin, Partner, Capacete, Martin & Associates, San Juan, Puerto Rico

Keynote Speaker

Leonard M. Perlmutter, Chairman of the Board, Stanley Structures, Denver, Colorado

Please refer to page 51 for further details.

BREAKFAST MEETINGS (by invitation only)

Tuesday, March 26, 1985 7:00 a.m.

Colorado C, D

Technical Chairmen Training

Wednesday, March 27, 1985 7:00 a.m.

Denver III

Chicago Speakers/Chairmen Training

Wednesday, March 27, 1985 7:00 a.m.

Denver IV

Coordination of Constructability

LADIES PROGRAM

A program has been planned for the women, but is not exclusive to them. Check the program in the back of this booklet. There is something of interest for everyone!

FIRST TIME CONVENTION ATTENDEES

Monday through Thursday

ACI Registration Area

Is this your first ACI Convention? Would you like to know more about ACI? Bring your questions to the information table set up in the ACI Registration Area in the Prefunction Area.

POSTER SESSION

Wednesday, March 27, 1985

Registration Area

10:00 am-12:00 pm

Come enjoy a cup of coffee and view the posters. Refer to page 28 for details.



ROCKY MOUNTAIN CONVENTION COMMITTEE

General Chairman

Robert T. Bates
Meurer & Associates

Executive Committee Chairmen

Finance: Fred Groom, Walt Flanagan & Company
Concrete Mixer: Jack Janney, Janney Associates, Inc.
VIP Reception: Paul Albright, Master Builders
Special Events: Roger Kaness, S. A. Miro Inc.

Finance

Fred Groom
Don Thorpe
Ed McGinty
Pres Fraker

Concrete Mixer

Jack Janney
Stan Smith
Joe Mitchell
Vic Land
Ray Schutz

VIP Reception

Paul Albright
Sam Kelley
Larry Cole
Jack Horn
Bill Gearhart
Steve Close
David Cantrell
Ed Hedstrom
Paul Kelley
Bob McCabe
Bob Haggerty
Rachel Stiffler

Special Events

Roger Kaness
Vic Land
Karen Woods
Steve Jirsa
John Claude Romain
Pres Fraker
Alberta Hedstrom
Lois Kaness
Tony Murray
Lona Prebis
Wally Prebis

Advisor: Pres Fraker

Secretary: Ed McGinty

Treasurer: Don Thorpe

Advisor: Bob Florey

The officers, staff, and members of ACI would like to thank the Local Convention Committee, the Hostesses and the Rocky Mountain Chapter for their contribution to a successful 1985 Annual Convention.

THANK YOU

ACI ROCKY MOUNTAIN CHAPTER OFFICERS

President

Robert T. Bates
Meurer & Associates

Vice President

Roger H. Kaness
S. A. Miro Incorporated

Past President

Steven T. Jirsa
Structural Consultants

Secretary-Treasurer

Frederick Groom
City Concrete Company

Directors

Jack O. Banning
Mobile Pre Mix Concrete

Jack R. Janney
Wiss, Janney, Elstner & Company

Donald Thorpe
Al Cohen Construction Company

PROGRAM COMMITTEE MEETINGS

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

SATURDAY/SUNDAY/MONDAY

| DAY/TIME | FUNCTION | ROOM |
|----------|----------|------|
|----------|----------|------|

SATURDAY, March 23, 1985

8:00 am- 6:00 pm

| | |
|--|------------|
| Technical Activities Committee (Full) | Denver III |
|--|------------|

SUNDAY, March 24, 1985

8:00 am- 6:00 pm

| | |
|--|------------|
| Technical Activities Committee (WG) | Denver II |
| Technical Activities Committee (WG) | Denver III |
| Technical Activities Committee (WG) | Denver V |
| Technical Activities Committee (WG) | Denver VI |

9:00 am- 6:00 pm

| | |
|---|-----------|
| Educational Activities Committee (7 hrs) | Denver IV |
| Planning Committee (7 hrs) | Matchless |

MONDAY, March 25, 1985

8:00 am- 1:00 pm

| | |
|--|------------|
| Technical Activities Committee (Full) | Denver III |
|--|------------|

8:30 am-10:30 am

| | | |
|--------|--------------------------------|-------------|
| E703 | Construction Practices (4 hrs) | Saratoga |
| E902-1 | Field Tech I (4 hrs) | Suite 304 |
| E902-2 | Lab Tech I (8 hrs) | Pomeroy |
| E902-3 | Concrete Insp.-General (8 hrs) | Silverheels |
| E902-7 | Shotcrete Nozzleman (4 hrs) | Suite 316 |
| 120 | History (2 hrs) | Goldcoin |
| 207 | Mass Concrete (4 hrs) | Colorado I |

COMMITTEES

DAY/TIME FUNCTION ROOM

8:30 am-10:30 am (continued)

| | | |
|-------|---------------------------------|------------|
| 211-B | Lightweight (2 hrs) | Nat Hill |
| 212 | Chemical Admixtures (4 hrs) | Denver VI |
| 223 | Expansive Cement (2 hrs) | Penrose |
| 228 | Nondestructive Testing (4 hrs) | Colorado G |
| 229 | Controlled Low-Strength (2 hrs) | Colorado H |
| 315 | Detail of Reinforcement (4 hrs) | Colorado D |
| 336 | Footings (4 hrs) | Colorado J |
| 351-2 | Fd. for Rotat. & Recip. (4 hrs) | Denver V |
| 367 | Precast Chimneys (4 hrs) | Suite 324 |
| 437 | Strength of Structures (8 hrs) | Denver I |
| 506 | Shotcreting (8 hrs) | Denver II |

10:30 am-12:30 pm

| | | |
|---------|--------------------------------|-------------|
| E702 | Designing Structures (2 hrs) | Penrose |
| *E703 | Construction Practices | Saratoga |
| *E902-1 | Field Tech I | Suite 304 |
| *E902-2 | Lab Tech I | Pomeroy |
| *E902-3 | Concrete Inspector-General | Silverheels |
| *E902-7 | Shotcrete Nozzleman | Suite 316 |
| * 207 | Mass Concrete | Colorado I |
| 211-E | Evaluation (2 hrs) | Nat Hill |
| * 212 | Chemical Admixtures | Denver VI |
| * 228 | Nondestructive Testing | Colorado G |
| * 315 | Detail of Reinforcement | Colorado D |
| 318 | Standard Building Code (2 hrs) | Denver IV |
| * 336 | Footings | Colorado J |
| J343 | Bridge Design | Colorado H |
| * 351-2 | Fd. for Rotat. & Recip. | Denver V |
| * 367 | Precast Chimneys | Suite 324 |
| * 437 | Strength of Structures | Denver I |
| * 506 | Shotcreting | Denver II |

2:00 pm- 4:00 pm

| | | |
|---------|--------------------------------------|-------------|
| | Publications Committee (2 hrs) | Goldcoin |
| E901 | Scholarships (2 hrs) | Saratoga |
| *E902-2 | Lab Tech I | Pomeroy |
| *E902-3 | Concrete Inspector-General | Silverheels |
| E902-4 | Concrete Craftsman (4 hrs) | Suite 304 |
| E903 | Chairmen Training (2 hrs) | Penrose |
| 210 | Erosion in Hydraulic Struct. (4 hrs) | Suite 335 |
| 211-C | No Slump (2 hrs) | Nat Hill |
| 213-Sub | High Strength (2 hrs) | Colorado G |
| 221 | Aggregates (2 hrs) | Denver IV |
| 226-1 | Fly Ash (4 hrs) | Denver VI |
| 226-2 | Slag (2 hrs) | Suite 316 |
| 302 | Construction of Floors (4 hrs) | Denver III |
| 304 | Meas., Mix., Trans/Placing (4 hrs) | Colorado H |
| 318-B | Reinforcement & Develop. (4 hrs) | Colorado A |

COMMITTEES

MONDAY

| DAY/TIME | FUNCTION | ROOM |
|----------|----------|------|
|----------|----------|------|

2:00 pm- 4:00 pm (continued)

| | | |
|-------|-------------------------------|------------|
| 318-C | Serviceability/Safety (4 hrs) | Colorado B |
| 318-D | Flexure & Axial Loads (4 hrs) | Colorado C |
| 318-F | Two-Way Slabs (4 hrs) | Colorado D |
| 351-4 | Foundations (6 hrs) | Denver V |
| * 437 | Strength of Structures | Denver I |
| 439 | Steel Reinforcement (4 hrs) | Colorado I |
| * 506 | Shotcreting | Denver II |
| 523 | Insulating & Cellular (2 hrs) | Suite 324 |
| 543 | Piles (4 hrs) | Colorado J |

4:00 pm- 6:00 pm

| | | |
|---------|---|-------------|
| | Construction Review Committee (2 hrs) | Penrose |
| | International Activities Committee (2 hrs) | Goldcoin |
| *E902-2 | Lab Tech I | Pomeroy |
| *E902-3 | Concrete Inspector-General | Silverheels |
| *E902-4 | Concrete Craftsman | Suite 304 |
| * 210 | Erosion in Hydraulic Structures | Suite 335 |
| 211-D | High Strength (2 hrs) | Nat Hill |
| 213 | Lightweight Aggregates (2 hrs) | Colorado G |
| * 226-1 | Fly Ash | Denver VI |
| 226-3 | Silica Fume (2 hrs) | Suite 316 |
| 227 | Radioactive Waste Management (2 hrs) | Saratoga |
| * 302 | Construction of Floors | Denver III |
| * 304 | Measuring, Mixing, Trans/Placing | Colorado H |
| * 318-B | Reinforcement & Development | Colorado A |
| * 318-C | Serviceability/Safety | Colorado B |
| * 318-D | Flexure & Axial Loads | Colorado C |
| * 318-F | Two-Way Slabs | Colorado D |
| * 351-4 | Foundations | Denver V |
| * 437 | Strength of Structures | Denver I |
| * 439 | Steel Reinforcement | Colorado I |
| * 506 | Shotcreting | Denver II |
| * 543 | Piles | Colorado J |
| 552 | Cement Grouting (2 hrs) | Suite 324 |

6:00 pm- 8:00 pm

| | | |
|-----|-----------------------------|-----------|
| 122 | Energy Conservation (4 hrs) | Matchless |
|-----|-----------------------------|-----------|

6:00 pm- 9:00 pm

| | | |
|------|-------------------------|-----------|
| J445 | Shear & Torsion (3 hrs) | Denver VI |
|------|-------------------------|-----------|

7:30 pm- 9:30 pm

| | | |
|---------|----------------------------------|----------|
| E801 | Student Concrete Projects | Goldcoin |
| * 351-4 | Foundations | Denver V |
| 548-Sub | Polymer Portland Cement Concrete | Penrose |

COMMITTEES

DAY/TIME FUNCTION ROOM

8:00 pm-10:00 pm

* 122 Energy Conservation Matchless

TUESDAY, March 26, 1985

8:30 am-10:30 am

| | | |
|-------|--------------------------------------|------------|
| E902 | Certification (4 hrs) | Colorado B |
| 118 | Computers (4 hrs) | Suite 1934 |
| 216 | Fire Resistance (2 hrs) | Suite 1905 |
| 226 | Fly Ash, Pozzolan, Slag (4 hrs) | Denver III |
| 308 | Curing (4 hrs) | Penrose |
| 318-A | General Conc. & Const. (4 hrs) | Colorado G |
| 318-E | Shear & Torsion (4 hrs) | Colorado H |
| 318-G | Prestressed Precast (4 hrs) | Colorado I |
| 318-H | Seismic Provisions (4 hrs) | Colorado J |
| 325 | Pavements (4 hrs) | Suite 324 |
| 340 | Design Aids (4 hrs) | Pomeroy |
| 350 | Sanitary Engineering Struct. (4 hrs) | Suite 304 |
| 351-3 | Fd. of Static Equip. (4 hrs) | Denver V |
| 355 | Anchorage (8 hrs) | Suite 1908 |
| 408 | Bond & Develop. of Reinf. (4 hrs) | Suite 316 |
| 441 | Columns (2 hrs) | Denver VI |
| 531 | Concrete Masonry Struct. (4 hrs) | Goldcoin |
| 533 | Wall Panels (4 hrs) | Suite 335 |
| 546 | Repair (2 hrs) | Denver II |
| J550 | Precast Structural (8 hrs) | Suite 1930 |
| 553 | Swimming Pools (4 hrs) | Saratoga |

9:00 am-12:00 pm

- Question & Answer Session for Contractors Colorado E
- Computer Design with Micro Computers (Part I) Colorado F

9:00 am- 6:00 pm

- Board of Direction Denver IV

10:00 am- 5:00 pm

- All Day Film Session Denver I

10:30 am-12:30 pm

| | | |
|---------|---------------------------------|------------|
| *E902 | Certification | Colorado B |
| * 118 | Computers | Suite 1934 |
| 201 | Durability (2 hrs) | Denver II |
| * 226 | Fly Ash, Pozzolan, Slag | Denver III |
| * 308 | Curing | Penrose |
| 313 | Bins & Silos (8 hrs) | Suite 1905 |
| * 318-A | General Concrete & Construction | Colorado G |
| * 318-E | Shear & Torsion | Colorado H |
| * 318-G | Prestressed Precast | Colorado I |
| * 318-H | Seismic Provisions | Colorado J |
| * 325 | Pavements | Suite 324 |
| * 340 | Design Aids | Pomeroy |
| * 350 | Sanitary Engineering Structures | Suite 304 |

COMMITTEES

TUESDAY

| DAY/TIME | FUNCTION | ROOM |
|----------|----------|------|
|----------|----------|------|

10:30 am-12:30 pm (continued)

| | | |
|---------|------------------------------|------------|
| * 351-3 | Fd. of Static Equip. | Denver V |
| * 355 | Anchorage | Suite 1908 |
| * 408 | Bond & Development of Reinf. | Suite 316 |
| * 531 | Concrete Masonry Structures | Goldcoin |
| * 533 | Wall Panels | Suite 335 |
| * J550 | Precast Structural | Suite 1930 |
| * 553 | Swimming Pools | Saratoga |

2:00 pm- 4:00 pm

| | | |
|--------|--|------------|
| | Const. Liaison Council (4 hrs) | Penrose |
| | Educational Activities Committee (4 hrs) | Denver II |
| 209 | Creep & Shrinkage (2 hrs) | Suite 1934 |
| 211-A | Edit. & Coordination (2 hrs) | Saratoga |
| * 313 | Bins & Silos | Suite 1905 |
| 318 | Standard Building Code (Full) (4 hrs) | Denver III |
| 349-1 | General, Materials, Const. (4 hrs) | Pomeroy |
| 349-2 | Design (4 hrs) | Suite 304 |
| 349-3 | Embedded Steel (4 hrs) | Suite 316 |
| 349-4 | Impulsive & Impactive (4 hrs) | Suite 335 |
| 351 | Foundations (Full) (4 hrs) | Denver V |
| * 355 | Anchorage | Suite 1908 |
| J530 | Masonry Structures (6 hrs) | Goldcoin |
| * J550 | Precast Structural | Suite 1930 |
| 554 | Bearing Systems (4 hrs) | Suite 324 |

2:00 pm- 5:00 pm

- **Conc. Shells Constructed on Air-Supported Forming** Colorado A,B,C,D
- **Precast Conc. Buildings: State of the Art** Colorado E
- **Concrete Design with Micro Computers (Part II)** Colorado F
- **Open Paper Session** Colorado G,H,I,J

4:00 pm- 6:00 pm

| | | |
|---------|--|------------|
| | *Construction Liaison Council | Penrose |
| | *Educational Activities Committee (Full) | Denver II |
| 123 | Research (2 hrs) | Denver VI |
| 222 | Corrosion (2 hrs) | Suite 1934 |
| * 313 | Bins & Silos | Suite 1905 |
| * 318 | Standard Building Code (Full) | Denver III |
| 348 | Safety (4 hrs) | Saratoga |
| * 349-1 | General, Materials, Construction | Pomeroy |
| * 349-2 | Design | Suite 304 |
| * 349-3 | Embedded Steel | Suite 316 |
| * 349-4 | Impulsive & Impactive | Suite 335 |
| * 351 | Foundations (Full) | Denver V |

COMMITTEES

| DAY/TIME | FUNCTION | ROOM |
|-------------------------------------|--------------------------|------------|
| 4:00 pm- 6:00 pm (continued) | | |
| * 355 | Anchorage | Suite 1908 |
| * J530 | Masonry Structures | Goldcoin |
| * J550 | Precast Structural | Suite 1930 |
| * 554 | Bearing Systems | Suite 324 |
| 6:00 pm- 8:00 pm | | |
| * 348 | Safety | Saratoga |
| * J530 | Masonry Structures | Goldcoin |
| 6:00 pm-10:00 pm | | |
| * 360 | Design of Slabs (4 hrs) | Penrose |
| 7:30 pm- 9:30 pm | | |
| * 348 | Safety | Saratoga |
| 351-4 | Grouting of Equip./Mach. | Denver V |
| * 313 | Bins & Silos | Suite 1905 |
| 8:00 pm-10:00 pm | | |
| J334 | Shells | Matchless |

WEDNESDAY, March 27, 1985**8:30 am-10:30 am**

| | | |
|-------|---|------------|
| | Chapter Activities Committee (4 hrs) | Matchless |
| 224 | Cracking | Suite 1908 |
| 307 | Chimneys (6 hrs) | Penrose |
| 318-B | Reinforcement & Develop. (2 hrs) | Denver I |
| 318-C | Serviceability/Safety (2 hrs) | Denver II |
| 318-D | Flexure & Axial Loads (2 hrs) | Denver V |
| 318-F | Two-Way Slabs (2 hrs) | Denver VI |
| 344 | Circular Prestressed Tanks (8 hrs) | Suite 316 |
| 347 | Formwork (8 hrs) | Suite 324 |
| 349 | Nuclear Structures (4 hrs) | Goldcoin |
| 435 | Deflection (4 hrs) | Suite 335 |
| 504 | Joint Sealants (4 hrs) | Suite 1905 |
| J530 | Masonry Structures (10 hrs) | Pomeroy |

9:00 am-12:00 pm

- **Repair of Prestressed Concrete Structures** Colorado A,B,C,D
- **Philosophy of Structural Safety** Colorado E
- **Wall Panels - Why Denver is the #1 Precast City** Colorado F
- **Precast Bridges (Part I)** Colorado G,H,I,J

10:00 am-12:00 pm

- **Poster Session** ACI Registration Area

WEDNESDAY

| DAY/TIME | FUNCTION | ROOM |
|----------|----------|------|
|----------|----------|------|

10:30 am-12:30 pm

| | | |
|-------|--|------------|
| | *Chapter Activities Committee | Matchless |
| | Const. Materials Review Council (2 hrs) | Denver III |
| | Membership Committee (2 hrs) | Saratoga |
| 211 | Proportioning (Full) (2 hrs) | Denver IV |
| * 224 | Cracking | Suite 1908 |
| * 307 | Chimneys | Penrose |
| 318-A | General Conc. & Const. (2 hrs) | Denver I |
| 318-E | Shear & Torsion (2 hrs) | Denver II |
| 318-H | Seismic Provisions (2 hrs) | Denver V |
| * 344 | Circular Prestressed Tanks | Suite 316 |
| * 347 | Formwork | Suite 324 |
| * 349 | Nuclear Structures | Goldcoin |
| * 435 | Deflection | Suite 335 |
| * 504 | Joint Sealants | Suite 1905 |
| *J530 | Masonry Structures | Pomeroy |

1:00 pm- 5:00 pm

| | | |
|--|----------------------|----------|
| | Convention Committee | Denver I |
|--|----------------------|----------|

2:00 pm- 4:00 pm

| | | |
|---------|----------------------------------|------------|
| | Specifications Committee (2 hrs) | Matchless |
| | Standards Board (2 hrs) | Saratoga |
| 117 | Tolerances (4 hrs) | Denver V |
| 301-Sub | Working Group (4 hrs) | Denver II |
| * 307 | Chimneys | Penrose |
| 318-G | Prestressed Precast | Goldcoin |
| 330 | Parking Lots | Suite 335 |
| * 344 | Circular Prestressed Tanks | Suite 316 |
| * 347 | Formwork | Suite 324 |
| 363 | High Strength (2 hrs) | Denver III |
| J421 | Slabs (4 hrs) | Denver VI |
| J423 | Prestressed (4 hrs) | Suite 1908 |
| *J530 | Masonry Structures | Pomeroy |
| 546-1 | Underwater Repair (2 hrs) | Suite 1905 |
| 551 | Tilt-Up (4 hrs) | Denver IV |

2:00 pm- 5:00 pm

| | | |
|--|-----------------------------|------------------|
| | ● Precast Concrete | Colorado A,B,C,D |
| | ● Adhesive for Concrete | Colorado E |
| | ● Research in Progress | Colorado F |
| | ● Precast Bridges (Part II) | Colorado G,H,I,J |

4:00 pm- 6:00 pm

| | | |
|--------|------------------------------------|----------|
| E902-5 | Concrete Inspector-Nuclear (2 hrs) | Goldcoin |
| 116 | Notation & Nomenclature (2 hrs) | Penrose |
| * 117 | Tolerances | Denver V |

COMMITTEES

WEDNESDAY/THURSDAY

| DAY/TIME | FUNCTION | ROOM |
|-------------------------------------|------------------------------|------------|
| 4:00 pm- 6:00 pm (continued) | | |
| * 301-Sub | Working Group | Denver II |
| * 330 | Parking Lots | Suite 335 |
| * 344 | Circular Prestressed Tanks | Suite 316 |
| 345 | Bridge Construction (2 hrs) | Suite 304 |
| * 347 | Formwork | Suite 324 |
| 362 | Parking Structures (2 hrs) | Suite 1905 |
| * J421 | Slabs | Denver VI |
| * J423 | Prestressed | Suite 1908 |
| 444 | Models of Structures (2 hrs) | Saratoga |
| 517 | Accelerated Curing (2 hrs) | Denver III |
| * J530 | Masonry Structures | Pomeroy |
| * 551 | Tilt-Up | Denver IV |

6:00 pm- 8:00 pm

| | | |
|--------|--------------------|---------|
| * J530 | Masonry Structures | Pomeroy |
|--------|--------------------|---------|

6:30 pm- 8:00 pm

- Concrete Mixer (reception) Colorado Ballroom

THURSDAY, March 28, 1985**8:00 am-10:00 am**

- Awards Breakfast Colorado A-E

8:30 am-10:30 am

| | | |
|--------|---|------------|
| CCMS | Con. Conc. & Masonry Struct. (4 hrs) | Suite 304 |
| 225-1 | Math Model Cement Hydration (2 hrs) | Denver VI |
| 306 | Cold Weather Concreting (4 hrs) | Matchless |
| 359-WG | Concrete Inspectors (4 hrs) | Saratoga |
| 359-WG | Design (8 hrs) | Goldcoin |
| 359-WG | Duties & Responsibilities (6 hrs) | Penrose |
| 359-WG | Reinforcement & Prestressed (4 hrs) | Pomeroy |
| 359-WG | Concrete (4 hrs) | Suite 1908 |
| 359-WG | Testing & Overpressure (4 hrs) | Suite 316 |
| J530 | Masonry Structures (4 hrs) | Denver II |
| 544 | Bearing Systems (4 hrs) | Denver III |

10:00 am-12:00 pm

- General Session Colorado F-J

10:30 am-12:30 pm

| | | |
|----------|------------------------------|-----------|
| * CCMS | Con. Conc. & Masonry Struct. | Suite 304 |
| * 306 | Cold Weather Concreting | Matchless |
| * 359-WG | Concrete Inspectors | Saratoga |
| * 359-WG | Design | Goldcoin |
| * 359-WG | Duties & Responsibilities | Penrose |

COMMITTEES

THURSDAY

| DAY/TIME | FUNCTION | ROOM |
|----------|----------|------|
|----------|----------|------|

10:30 am-12:30 pm (continued)

| | | |
|----------|-----------------------------|------------|
| * 359-WG | Reinforcement & Prestressed | Pomeroy |
| * 359-WG | Concrete | Suite 1908 |
| * 359-WG | Testing & Overpressure | Suite 316 |
| * J530 | Masonry Structures | Denver II |
| * 544 | Bearing Systems | Denver III |

2:00 pm- 4:00 pm

• **Forney/ACI Cube Strength Contest** **ACI Registration Area**

2:00 pm- 4:00 pm

| | | |
|----------|---|------------|
| | Board of Direction (4 hrs) | Denver IV |
| 214 | Strength Tests (4 hrs) | Denver I |
| 225-2 | Concrete at Early Ages (2 hrs) | Denver VI |
| 301 | Structure Specifications (Full) (4 hrs) | Denver II |
| 303 | Architectural (4 hrs) | Suite 335 |
| 309 | Consolidation (4 hrs) | Denver V |
| 311 | Inspection (4 hrs) | Saratoga |
| J352 | Joints Monolithic (4 hrs) | Suite 1905 |
| 358 | Guideways (4 hrs) | Suite 304 |
| * 359-WG | Design | Goldcoin |
| * 359-WG | Duties & Responsibilities | Penrose |
| 359-WG | Materials, Const. & Exam. (4 hrs) | Suite 1908 |
| 364 | Rehabilitation (4 hrs) | Suite 316 |
| J442 | Lateral Forces (4 hrs) | Suite 324 |
| 503 | Adhesives (2 hrs) | Matchless |
| 551 | Tilt-Up (4 hrs) | Pomeroy |

2:00 pm- 5:00 pm

Precast Fiber Reinforced Concrete **Colorado A,B,C,D**
Non-Chloride Accelerators **Colorado E**
Precast Parking Structures **Colorado F**

4:00 pm- 6:00 pm

| | | |
|----------|------------------------------------|----------------|
| | * Board of Direction | Denver IV |
| | Student Activities Program (2 hrs) | Colorado G & H |
| * 214 | Strength Tests | Denver I |
| 215 | Fatigue (2 hrs) | Matchless |
| 225 | Hydraulic Cement (2 hrs) | Denver VI |
| 305 | Hot Weather (2 hrs) | Penrose |
| * 301 | Structure Specifications (Full) | Denver II |
| * 303 | Architectural | Suite 335 |
| * 309 | Consolidation | Denver V |
| * 311 | Inspection | Saratoga |
| * J352 | Joints Monolithic | Suite 1905 |
| * 358 | Guideways | Suite 304 |
| * 359-WG | Design | Goldcoin |

COMMITTEES

| DAY/TIME | FUNCTION | ROOM |
|-------------------------------------|---------------------------|------------|
| 4:00 pm- 6:00 pm (continued) | | |
| * 359-WG | Materials, Const. & Exam. | Suite 1908 |
| * 364 | Rehabilitation | Suite 316 |
| * J442 | Lateral Forces | Suite 324 |
| * 551 | Tilt-Up | Pomeroy |

| | | |
|-------------------------|------------------|----------|
| 7:00 pm-10:00 pm | | |
| 548 | Polymers (3 hrs) | Denver I |

| | | |
|-------------------------|---------------------|-----------|
| 7:30 pm- 9:30 pm | | |
| 549 | Ferrocement (2 hrs) | Matchless |

| | | |
|-------------------------|---|------------|
| 7:30 pm-10:00 pm | | |
| | • Forum: The Chloride Issue - The New Limits | Colorado E |

FRIDAY, March 29, 1985

| | | |
|-------------------------|--------------------------------|-----------|
| 8:30 am-10:30 am | | |
| | Metrication Committee (2 hrs) | Saratoga |
| 121 | Quality Assurance (4 hrs) | Denver II |
| 309 | Consolidation (4 hrs) | Denver V |
| * J359 | Nuclear Vessels (Full) (4 hrs) | Denver IV |
| 515 | Coatings (4 hrs) | Matchless |

| | | |
|--------------------------|------------------------|-----------|
| 10:30 am-12:30 pm | | |
| * 121 | Quality Assurance | Denver II |
| * 309 | Consolidation | Denver V |
| * J359 | Nuclear Vessels (Full) | Denver IV |
| * 515 | Coatings | Matchless |

| | | |
|-------------------------|---|----------------|
| 9:00 am-12:00 pm | | |
| | • Chloride - Induced Corrosion of Steel in Concrete | Colorado A - D |
| | • Use of Computers for Statistical Analysis of Test Data | Colorado E |
| | • Inelastic Response of Concrete Structures | Colorado F |
| | • Tilt-Up Construction | Colorado G - J |

| | | |
|--------------------------|-------------|----------|
| 10:30 am-12:30 pm | | |
| 332 | Residential | Saratoga |



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THANK YOU

ACI FUTURE CONVENTIONS

1985 Fall Convention

September 29-October 4
Palmer House Hotel
Chicago, Illinois

1986 Annual Convention

March 16-21
Hyatt Regency Hotel
San Francisco, California

1986 Fall Convention

November 9-14
Baltimore Omni Hotel
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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.

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Phoenix, Arizona

The Phoenix Corporation
Honolulu, Hawaii

WEDNESDAY, March 27, 1985

10:00 am-12:00 pm

Room: **Prefunction Area**

POSTER SESSION

Session Chairman: James O. Jirsa
Professor
University of Texas
Austin, Texas

Prestressed Concrete Segmental Bridge Design and Construction Concepts

Gerard A. Sauvageot, Assistant Technical Director, Figg and Muller, Inc., Denver, Colorado; R. Craig Finley, Senior Bridge Engineer, Figg and Muller, Inc., Denver, Colorado

Eisenhower Station — Washington, D.C., Metro

Gerard F. Fox, Partner, Howard Needles Tammen & Bergendoff, New York, New York; Walter Sharko, Associate, Howard Needles Tammen & Bergendoff, Jacksonville, Florida

Shear Fatigue Behavior of Prestressed Concrete Girders

Michael E. Kreger, Assistant Professor, University of Texas, Austin, Texas; Patrick M. Bachman, Engineer, Porter-Donaghue Associates, Austin, Texas

Dynamic Loading of Highway Bridges

Roger E. Green, Professor, University of Waterloo, Waterloo, Canada; John R. Billing, Ministry of Transportation and Communications, Ontario, Canada

Influence of Axial Force Reversals on Flexural Behavior of Concrete Columns

Daniel P. Abrams, Naval Civil Engineering Laboratory, Port Hueneme, California; William Epp, Structural Engineer, Sargent and Lundy, Chicago, Illinois

Glass Fiber Reinforced Concrete for Architectural Cladding

Les Kempers, Manager, Glass Fiber Reinforced Concrete Architectural Products, Stanley Structures, Denver, Colorado; Bart Baker, Sales Representative, Glass Fiber Reinforced Concrete Architectural Products, Stanley Structures, Denver, Colorado

Special Applications of Silica Fume Concrete

John Wolsiefer, National Management Service, Hauppauge, New York

Sulfur Concrete — Engineering Applications in an Acid Environment

Scott S. Pickard, Vice President, Sulcon, Inc., Champaign, Illinois; Marvin W. Morgan, Construction Superintendent, Sulcon, Inc., Champaign, Illinois

Flexible Design and Production Methods Applied to Precast Concrete

A. Murray Lount, CAD, Inc., Vancouver, BC, Canada

Interactive Computer Graphics Analysis — Design of Reinforced Concrete Buildings

Victor E. Saouma, Professor, University of Colorado, Boulder, Colorado; Efthimios S. Sikiotis, Graduate Research Assistant, University of Colorado, Boulder, Colorado

STUDENT ACTIVITIES PROGRAM

THURSDAY, March 28, 1985

2:00 pm- 6:00 pm

Room: **Colorado G,H**

STUDENT PROGRAM

Sponsored by ACI Committee E-801

Session Chairman: R. John Craig
Associate Professor
Department of Civil and
Environmental Engineering
New Jersey Institute of Technology
Newark, New Jersey

Session Moderator: Luke M. Snell
Associate Professor of Construction
Southern Illinois University
Edwardsville, Illinois

This program has three main goals:

1. Create student interest and familiarity with ACI
2. Stimulate some interest in working concrete projects at both the undergraduate and graduate levels
3. Show students some of the existing careers in concrete construction and design

The program is geared for the following:

1. Students—undergraduate and graduate
2. General members of ACI
3. Those interested in Committee E-801 activities

PROGRAM

Room: **ACI Registration Area**

2:00 pm **Forney/ACI Cube Strength Contest**

4:00 pm **Student Concrete Projects**

Careers Related to Concrete Construction and Design

Presentation of Papers by Students

Social Hour

ACI ACCESSORIES

At the ACI convention registration desk
you may place an order or purchase
the following accessories:

| | |
|---|--------|
| ACI Fellow Pin/Tie Tac | \$9.95 |
| Our ACI emblem and Fellow designation in 10k gold | |
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| Phodium, enameled in ACI blue | |
| Necktie | \$6.50 |
| Dark blue, embroidered with ACI logo | |
| Golf Hat | \$5.95 |
| Dark blue with ACI logo | |
| Money Clip | \$5.25 |
| Antique silver tone, in gift box | |
| ACI Key Tags | \$3.95 |
| Two styles-available in all-chain or ring mesh, both have pewter finish | |

Reminder

Awards Breakfast

Thursday

Cost: \$10.00

Purchase tickets by
Wednesday, March 27, 1985.

**Pull Out
This Four-Page Section
And Schedule Your Meetings**

Personal Log 1985 Annual Convention

Delegate's Name _____

Sunday, March 24, 1985

8:00 a.m.—
1:00 p.m. _____

1:00 p.m.—
5:00 p.m. Registration Hours _____

5:30 p.m.—
7:00 p.m. _____

Monday, March 25, 1985

7:00 a.m.—
8:30 a.m. _____

8:30 a.m.—
10:30 a.m. _____

10:30 a.m.—
12:30 p.m. _____

12:30 p.m.—
2:00 p.m. Lunch Break _____

2:00 p.m.—
4:00 p.m. _____

4:00 p.m.—
6:00 p.m. _____

6:00 p.m.—
7:30 p.m. _____

7:30 p.m.—
9:30 p.m. _____

Tuesday, March 26, 1985

7:00 a.m. —

8:30 a.m. _____

8:30 a.m. —

10:30 a.m. _____

9:00 a.m. —

Sessions:

12:00 p.m. Question & Answer Session/Contractors Colorado E

Concrete Design w/Micro Computers (I) Colorado F

10:00 a.m. —

5:00 p.m. All Day Film Session Denver I

10:30 a.m. —

12:30 p.m. _____

12:30 p.m. —

2:00 p.m. Lunch Break

2:00 p.m. —

4:00 p.m. _____

2:00 p.m. —

Sessions:

5:00 p.m. Concrete Shells Const. on Air-Supported Forming
Colorado A,B,C,D

Precast Concrete Buildings: State of the Art Colorado E

Concrete Design w/Micro Computers (II) Colorado F

Open Paper Session Colorado G,H,I,J

4:00 p.m. —

6:00 p.m. _____

6:00 p.m. —

7:30 p.m. _____

7:30 p.m. —

9:30 p.m. _____

Wednesday, March 27, 1985

7:00 a.m. —

8:30 a.m. _____

8:30 a.m. —

10:30 a.m. _____

Wednesday, March 27, 1985 (continued)

9:00 a.m. — **Sessions:**
12:00 p.m. Repair of Prestressed Concrete Structures Colorado A,B,C,D

Philosophy of Structural Safety Colorado E

Wall Panels - Why Denver Is The #1 Precast City Colorado F

Precast Bridges (I) Colorado G,H,I,J

10:30 a.m. —
12:30 p.m. _____

12:30 p.m. —
2:00 p.m. Lunch Break

2:00 p.m. —
4:00 p.m. _____

2:00 p.m. — **Sessions:**
5:00 p.m. Precast Concrete Colorado A,B,C,D

Adhesives for Concrete Colorado E

Research in Progress Colorado F

Precast Bridges (II) Colorado G,H,I,J

4:00 p.m. —
6:00 p.m. _____

6:00 p.m. —
7:30 p.m. _____

7:30 p.m. —
9:30 p.m. _____

Thursday, March 28, 1985

7:00 a.m. —
8:30 a.m. _____

8:00 a.m. —
10:00 a.m. Awards Breakfast Colorado A,B,C,D,E

8:30 a.m. —
10:30 a.m. _____

Thursday, March 28, 1985 (continued)

10:00 p.m. —

12:00 p.m. GENERAL SESSION Colorado F,G,H,I,J

10:30 a.m. —

12:30 p.m. _____

12:30 p.m. —

2:00 p.m. Lunch Break

2:00 p.m. —

4:00 p.m. _____

2:00 p.m. — **Sessions:**

5:00 p.m. Precast Fiber Reinforced Concrete Colorado A,B,C,D

Non-Chloride Accelerators Colorado E

Precast Parking Structures Colorado F

4:00 p.m. —

6:00 p.m. Student Activities Program Colorado G,H

6:00 p.m. —

7:30 p.m. _____

7:30 p.m. —

10:00 p.m. Forum: The Chloride Issue - The New Limits Colorado E

Friday, March 29, 1985

7:00 a.m. —

8:30 a.m. _____

8:30 a.m. —

10:30 a.m. _____

9:00 a.m. — **Sessions:**

12:00 p.m. Chloride-Induced Corrosion of Steel in Concrete
Colorado A,B,C,D

Use of Computers for Statistical Analysis of Test Data Colorado E

Inelastic Response of Concrete Structures Colorado F

Tilt-Up Construction Colorado G,H,I,J

10:30 a.m. —

12:30 p.m. _____

TECHNICAL SESSIONS

TUESDAY, March 26, 1985

9:00 am-12:00 pm

Room: Colorado E

QUESTION AND ANSWER SESSION FOR CONTRACTORS

Sponsored by TAC ad hoc Committee

Session Chairman: Joseph A. Dobrowolski
Concrete Consultant
Altadena, California

Panelists: James L. Cope
Chairman, Committee 304
Morgen Manufacturing Co.
Yankton, South Dakota

Charles M. Dabney
Chairman, Committee 303
Charles M. Dabney Associates
Newport Beach, California

Edwin Decker
Chairman, Committee 212
Gifford-Hill & Co.
Dallas, Texas

Allan R. Kenney
Chairman, Committee 533
Precast Systems Consulting Inc.
Frisco, Texas

Donald W. Musser
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Skokie, Illinois

Guy S. Puccio
Chairman, Committee 504
Acme Highway Products
Amherst, New York

Donald L. Schlegel
Chairman, Committee 309
Price Brothers Co.
Dayton, Ohio

Dean Stephan
Chairman, Committee 117
Charles Pankow Inc.
Altadena, California

TUESDAY, March 26, 1985

9:00 am-12:00 pm

Room: Colorado F

CONCRETE DESIGN WITH MICRO COMPUTERS (PART I)

Sponsored by Committee E702

Session Chairman: Kenneth H. Murray
Principal Engineer
Gilbert Associates, Inc.
Reading, Pennsylvania

Development of Strand Pattern Details to Meet Flexural Requirements for Building Members

Mark Moore, Structural Engineer, Wiss, Janney, Elstner Associates, Inc., Princeton Junction, New Jersey; H. Kent Preston, Senior Consultant, Wiss, Janney, Elstner Associates, Inc., Princeton Junction, New Jersey

The Equivalent Frame Analysis Method Adapted to Apple IIe

Michael A. Cassaro, Professor, University of Louisville, Louisville, Kentucky; Ali Al-Sewaad, I, Student, University of Louisville, Louisville, Kentucky; Joseph Cattani, Student, University of Louisville, Louisville, Kentucky

Design of Concrete Sections Subject to Shear and Torsion

Stephen Ho, Guinnin-Campbell, Dallas, Texas

Shear Analysis for Two-way Slab at Interior Rectangular Column

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

Selection and Design of PCI Standard Double Tee Sections

Fouad H. Fouad, Assistant Professor, University of Alabama, Birmingham, Alabama; Judith H. Price, Engineer, Rust International Corporation, Birmingham, Alabama

Biaxial Bending of Reinforced Concrete Columns

Mohammad R. Ehsani, Assistant Professor, University of Arizona, Tucson, Arizona; David B. Rosenbaum, Graduate Student, University of Arizona, Tucson, Arizona

Design of R/C Slabs on the IBM PC

M. Daniel Vanderbilt, President, Engineering Design Software Co., Ft. Collins, Colorado

**“Concrete Design With
Micro Computers” \$24.00**

This material may be
purchased at the
registration desk.

TUESDAY, March 26, 1985

2:00 pm- 5:00 pm

Room: Colorado G,H,I,J

OPEN PAPER SESSION

Sponsored by TAC ad hoc Committee

Session Chairman: David Darwin
University of Kansas
Lawrence, Kansas

Sulfur Concrete's Major Applications

Scott S. Pickard, Vice President, General Manager, Sulcon, Inc.,
Champaign, Illinois

Design of Concrete Inverted T-Beams

S. A. Mirza, Professor of Civil Engineering, Lakehead University,
Thunder Bay, Ontario, Canada; R. W. Furlong, Professor of Civil
Engineering, University of Texas, Austin, Texas

Effect of Slab on the Behavior of Exterior Connections

Ahmad J. Durrani, Assistant Professor, Rice University, Houston,
Texas

Truss Models for Reinforced and Prestressed Concrete Under Shear and Torsion

Julio A. Ramirez, Assistant Professor of Structural Engineering, Purdue
University, West Lafayette, Indiana; John E. Breen, Carol Cockrell
Curran Chair in Engineering, University of Texas, Austin, Texas

Dynamic Response of R/C Frames with Irregular Vertical Configu- rations

Sharon L. Wood, Research Assistant, University of Illinois, Urbana,
Illinois

Effect of Steel Fibers on the Rotation Capacity of R/C Continuous Beams

M. Nadim Hassoun, Professor, South Dakota State University, Brook-
ings, South Dakota; Khani Sahebjam, Teaching Assistant, South
Dakota University, Brookings, South Dakota

Fiberglass Reinforced Concrete for Precast Products

Shyam N. Shukla, Project Manager, Lawrence Livermore National
Laboratory, Livermore, California; James M. Leaver, General Con-
tractor, Lafayette, California

TUESDAY, March 26, 1985

2:00 pm- 5:00 pm

Room: Colorado A,B,C,D

CONCRETE SHELLS CONSTRUCTED ON AIR-SUPPORTED FORMING

Sponsored by Committee 334

Session Chairman: Robert B. Haber
Professor
University of Illinois
Urbana, Illinois

Concrete Shells Constructed on Air-Supported Forming: An Overview

Jonathon Zimmerman, McCartney Engineering Consultants, Longmont, Colorado

The Shape of Things to Come: Aesthetics of Balloon-Formed Shell Structures

Lloyd Turner, Boulder Creek, California

Stratiform Shells

William Milburn, Jr., Milburn Research, Boulder, Colorado

Applications of the Air-Form Thin Shell Theory

Jack Brunk, Porter Grain, Rensselaer, Indiana

Challenges in the Design and Construction of Concrete Shells on Air-Supported Forming

Arnold Wilson, Professor, Brigham Young University, Provo, Utah

The DYK Igloo and Automated Shell Construction Techniques

M. J. Dykmans, Principal, Dyk-Tech, El Cajon, California

Binishells: Inflated Reinforced Concrete Dome Structures

Dante Bini, President, Binistar, Inc., San Francisco, California

Construction of Air-Formed Concrete Structures

George Paul, Tecton Corporation, Colorado Springs, Colorado; Mert Hull, Tecton Corporation, Colorado Springs, Colorado

TUESDAY, March 26, 1985

2:00 pm- 5:00 pm

Room: **Colorado F**

CONCRETE DESIGN WITH MICRO COMPUTERS (PART II)

Sponsored by Committee E702

Session Chairman: Kenneth H. Murray
Principal Engineer
Gilbert Associates, Inc.
Reading, Pennsylvania

Determining Adequate Curing for Concrete Members

Luke M. Snell, Consultant/Program Director, Southern Illinois University, Edwardsville, Illinois; Robert Rutledge, Professor, Southern Illinois University, Edwardsville, Illinois; Norval Wallace, Acting Dean, Southern Illinois University, Edwardsville, Illinois

Reinforced Fibrous Concrete Computer Programs for Design

R. John Craig, Associate Professor, New Jersey Institute of Technology, Newark, New Jersey; A. Sjamsu, Z. Patel, K. Patel, D. Patel, R. Patel, Graduate Students, New Jersey Institute of Technology, Newark, New Jersey

RCCR-Wall: Reinforced Concrete Cantilever Retaining Wall

M. Asghar Bhatti, Assistant Professor, University of Iowa, Iowa City, Iowa; M. E. Nagib, P. Breckner, L. Farsakh, Graduate Students, University of Iowa, Iowa City, Iowa

Computer Aided Analysis and Design of R/C Structural Members

Musa R. Resheidat, Assistant Professor, Yarmouk University, Irbid, Jordan

TEMPEST: A Computer Code for Nonlinear Structural Analysis of R/C Plane Frames

Frank J. Vecchio, Research Engineer, Ontario Hydro, Toronto, Canada

An Interactive Microcomputer Aided Design of Ferrocement Storage Tanks

K. Shashi Kumar, International Ferrocement Information Center, Bangkok, Thailand; Lin Jan-Shone; R. P. Rama

Microcomputer Generated Design Aids for RC Design

Grant T. Halvorsen, West Virginia University, Morgantown, West Virginia

TUESDAY, March 26, 1985

2:00 pm- 5:00 pm

Room: **Colorado E**

PRECAST CONCRETE BUILDINGS: THE STATE OF THE ART

Sponsored by the Rocky Mountain Chapter

Session Cochairmen: Paul Mack
Rocky Mountain Prestress
Denver, Colorado

Jerry Jacques
Stanley Structures
Denver, Colorado

Fire Truck Loads - 250 psf - Too Much or Too Little?

Walter J. Prebis, Executive Director, Colorado Prestressers Association, Lakewood, Colorado

New Frontiers in Prestressed Concrete Bridges

Alex Aswad, Staff Consultant, Stanley Structures, Inc., Denver, Colorado

Beaver Creek Garage - The Hidden Atlas

Albert E. Anderson, President, Anderson & Hastings Consulting Engineers, Inc., Denver, Colorado

Innovations in the Guarantee Bank Building

Roger H. Kaness, Principal, S. A. Miro, Inc., Denver, Colorado

Unique Applications for Precast Concrete

Donald L. Berry, Vice President, Richard Weingardt Consultants, Inc., Denver, Colorado

-3-

WEDNESDAY, March 27, 1985

9:00 am-12:00 pm

Room: **Colorado A,B,C,D**

REPAIR OF PRESTRESSED CONCRETE STRUCTURES

Sponsored by Committees 423 & 546

Session Chairman: Daniel P. Jenny
Prestressed Concrete Institute
Chicago, Illinois

Repair of Bond Court Hotel, Cleveland, Ohio

Gregory P. Chacos, President, Chacos & Associates, Inc., Cleveland, Ohio

Deterioration Repairs to Prestressed Parking Ramp Deck Members

John D. Reins, Senior Engineer, Wiss, Janney, Elstner Associates, Littleton, Colorado; Donald F. Meinheit, Consultant, Wiss, Janney, Elstner Associates, Northbrook, Illinois

Repair of Monostrand Tendons

Morris Schupack, President, Schupack Suarez Engineers, Inc., South Norwalk, Connecticut; Mario G. Suarez, Vice President, Schupack Suarez Engineers, Inc., South Norwalk, Connecticut

Cathodic Protection of Prestressed Concrete Structures

Gee Kin Chou, Marketing Manager, AnodeFlex Cathodic Protection Systems, Menlo Park, California

Repair of a Precast Parking Structure

Robert G. Tracy, President, Tracy Materials Consultants, Kalamazoo, Michigan

Performance of Sliding Bearing Connections in Prestressed Concrete Construction

Eduardo A.B. Salse, Director, Construction Technology Laboratories, Skokie, Illinois; S. G. Pinjarkar, Raths, Raths & Johnson, Inc., Willowbrook, Illinois

Discussion

WEDNESDAY, March 27, 1985

9:00 am-12:00 pm

Room: Colorado E

PHILOSOPHY OF STRUCTURAL SAFETY

Sponsored by Committee 348

Session Chairman: Robert G. Sexsmith
Buckland & Taylor, Ltd.
West Vancouver, B.C., Canada

Intelligent Use of Sensitivity Studies in Structural Safety Problems

Dan Frangopol, Associate Professor, University of Colorado, Boulder, Colorado

The Ethics of Structural Safety

Luis Esteva, Ciudad University, Mexico City, Mexico; Emilio Rosenblueth, Ciudad University, Mexico City, Mexico

Choice of Code Design Formats

Carl Turkstra, Professor, Polytechnic Institute of New York, Brooklyn, New York

Safety of Members in Structural Systems

Andrzej Novak, Associate Professor, University of Michigan, Ann Arbor, Michigan

WEDNESDAY, March 27, 1985

9:00 am-12:00 pm

Room: Colorado F

WALL PANELS - WHY DENVER IS THE #1 PRECAST CITY

Sponsored by Committee 533

Session Chairman: Muriel Burns
Vice President
Preco Industries, Ltd.
Plainview, New York

Introduction

Muriel Burns, Vice President, Preco Industries, Ltd., Plainview, New York

Evolution of Architectural & Structural Precast In Denver

William C. Richardson, Jr., Vice President, Stresscon Corp., Colorado Springs, Colorado

Total Systems, The Competitive Edge

Ronald R. Fossett, Vice President, Rocky Mountain Prestress, Inc., Englewood, Colorado

From the Contractor's Point of View

Jim Simmons, Manager, Al Cohen Construction Company, Denver, Colorado

From the Architect's Point of View

Jim Bradburn, Partner, C. W. Fentress, Architects, Denver, Colorado

From the Engineer's Point of View

O'Dell Johnson, Partner, KKBNA Engineering, Wheatridge, Colorado

From the Precaster's Point of View

Robert M. Reed, Sales Manager, Stanley Structures, Denver, Colorado

WEDNESDAY, March 27, 1985

9:00 am-12:00 pm

Room: Colorado G,H,I,J

PRECAST BRIDGES (PART I)

Sponsored by Committee 343

Session Chairman: Harold R. Sandberg
Alfred Benesch & Company
Chicago, Illinois

A New Approach to Highway Bridges: Curved, Precast Prestressed Concrete Box Girders

Mario G. Suarez, Vice President, Schupack Suarez Engineers, Inc., Norwalk, Connecticut; Gordon Nagle, President, Schuylkill Products, Inc., Cressona, Pennsylvania

Segmental Concrete Bridge Construction

Allan C. Harwood, Region Operations Engineer, Oregon Department of Transportation, Milwaukie, Oregon

Testing of Match-Cast Segmental Girders

Khosrow Sowlat, Structural Engineer, Construction Technology Laboratories, Skokie, Illinois; Basile G. Rabbat, Manager, Portland Cement Association, Skokie, Illinois; James M. Barker, Assistant Vice President, Figg and Muller Engineers, Inc., Tallahassee, Florida

Fatigue Reliability of Prestressed Concrete Girder Bridges

Rajeh Zaid Al-Zaid, PhD Candidate, University of Michigan, Ann Arbor, Michigan; Andrzej S. Nowak, Assistant Professor, University of Michigan, Ann Arbor, Michigan

Thermal Stresses and Deformations of Concrete Bridges

Amin Ghali, Professor, University of Calgary, Calgary, Alberta, Canada; Mamdouh Elbadry, PhD Candidate, University of Calgary, Calgary, Alberta, Canada

Cracking of Precast, Post-tensioned Floorbeam Due to Improper Grouting of the Duct

Vikas P. Wagh, Senior Designer, Michael Baker Jr., Inc., Beaver, Pennsylvania

WEDNESDAY, March 27, 1985

2:00 pm- 5:00 pm

Room: **Colorado A,B,C,D**

PRECAST CONCRETE

Sponsored by Committee 550

Session Chairman: Harold J. Jobse
Director of Engineering Services
Concrete Technology Corporation
Tacoma, Washington

Status of Revision Chapter 16, ACI 318

Harold J. Jobse, Director of Engineering Services, Concrete Technology Corporation, Tacoma, Washington

Distribution of Vertical Load in Precast Concrete Floors

John F. Stanton, Professor, University of Washington, Seattle, Washington

Load Bearing Hollow Core Wall Panels

Donald R. Buettner, President, Computerized Structural Design, Inc., Milwaukee, Wisconsin; Roger J. Becker, Vice President, Computerized Structural Design, Inc., Milwaukee, Wisconsin

Adapting Revised Chapter 16 to a Precast Project

Johan Oye, Manager, Precast Systems Sales, Concrete Technology Corporation, Tacoma, Washington

WEDNESDAY, March 27, 1985

2:00 pm- 5:00 pm

Room: **Colorado E**

ADHESIVES FOR CONCRETE

Sponsored by Committee 503

Session Chairman: Jack J. Fontana
Brookhaven National Lab
Upton, New York

Structural Adhesives, Their Properties, Advantages and Limitations

Peter Mendis, Vice President, Dural International, Deer Park, New York

Behavior of Epoxy Repaired Beams Under Elevated Temperatures and Fire

Joseph M. Plecnik, Associate Professor, North Carolina State University, Raleigh, North Carolina; John H. Fogarty, Research Assistant, North Carolina State University, Raleigh, North Carolina; John Kurfees, Research Assistant, North Carolina State University, Raleigh, North Carolina

Epoxy Bonding Agents for Precast Segmental Concrete Bridges

James M. Barker, Assistant Vice President, Figg & Muller Engineering, Inc., Tallahassee, Florida; Jean M. Muller

Epoxy Bonding of Concrete in Kansas

F. Wayne Stratton, Research Engineer, Kansas Department of Transportation, Topeka, Kansas; Carl F. Crumpton

Epoxy Adhesive Injection - a 25 Year History

Robert W. Gaul, President, Adhesives Engineering Company, San Carlos, California; Herb Grubb, Manager - Field Service, Adhesives Engineering Co., San Carlos, California

Epoxy - Hydraulic Pile Splice

Frank Constantino, Vice President/Sales, Dural International Corporation, Deer Park, New York

WEDNESDAY, March 27, 1985

2:00 pm- 5:00 pm

Room: **Colorado G,H,I,J**

PRECAST BRIDGES (PART II)

Sponsored by Committee 343

Session Chairman: Harold R. Sandberg
Alfred Benesch & Company
Chicago, Illinois

Site Precast Construction of Short-Span Concrete Bridges

Theodore L. Neff, Transportation Engineer, Concrete Reinforcing Steel Institute, Schaumburg, Illinois

Designing and Detailing for Minimum Maintenance in a Corrosive Environment - Lake Ponchartrain Railroad Trestle

John L. Carrato, Project Engineer, Alfred Benesch & Co., Chicago, Illinois; Jack R. Williams, Senior Bridge Engineer, Alfred Benesch & Co., Chicago, Illinois

Constructing a Precast Box Girder Railroad Bridge Under Traffic - Lake Ponchartrain Railroad Trestle

John Allen, Assistant to Chief Engineer - Bridges, Southern Railway System, Atlanta, Georgia; R. A. Tallent, Process Engineer Structures, Southern Railway System, Atlanta, Georgia

Precast I-beams Carry Super-heavy Loads

Robert J. McFarlin, Director of Transportation Division, Bakke, Kopp, Ballou & McFarlin, Inc., Minneapolis, Minnesota

Design & Construction of Post-Tensioned Concrete Bridge Over an Arizona Wash

Jerry Cannon, Cannon & Associates, Inc., Tucson, Arizona

Precast Concrete Trusses

Marius B. Wechsler, Senior Engineer, Bechtel Power Corporation, Norwalk, California

WEDNESDAY, March 27, 1985

2:00 pm- 5:00 pm

Room: **Colorado F****RESEARCH IN PROGRESS**

Sponsored by Committee 123

Session Chairman: Charles F. Scholer
Purdue University
West Lafayette, Indiana

Failure of Reinforced Concrete Beams at Early Ages

Surendra P. Shah, Professor of Civil Engineering, Northwestern University, Evanston, Illinois; Richard A. Miller, Research Assistant, Northwestern University, Evanston, Illinois

Partially Prestressed Beams Under Cyclic Loading

Antoine E. Naaman, Professor, University of Michigan, Ann Arbor, Michigan; M. H. Harajli, Research Assistant, University of Michigan, Ann Arbor, Michigan

Compaction Concrete Utilizing Phosphogypsum

Antonio Nanni, PhD Candidate, University of Miami, Coral Gables, Florida; Wen F. Chang, Professor, University of Miami, Coral Gables, Florida; K. T. Lin, PhD Candidate, University of Miami, Coral Gables, Florida

Confinement Effectiveness of Crossties in R/C Compression Members

Jack Moehle, Assistant Professor, University of California, Berkeley, California

Application of Neutron Radiography to the Study of Concrete

Walid S. Najjar, Graduate Research Assistant, Cornell University, Ithaca, New York; Kenneth C. Hover, Associate Professor, Cornell University, Ithaca, New York; Howard C. Aderhold, Supervisor, Ward Nuclear Lab, Cornell University, Ithaca, New York

Investigation of Tiltup Simplified Design

James T. Julien, Structural Engineer, Portland Cement Association, Skokie, Illinois; Eric D. Anderson, Associate Structural Engineer, Portland Cement Association, Skokie, Illinois

Maturity-Optimization of the Datum Temperature

Thomas J. Parsons, Assistant Professor of Civil Engineering, Arkansas State University, State University, Arkansas

Confined Concrete Columns

Shamin A. Sheikh, Assistant Professor, University of Houston, Houston, Texas; S. T. Mau, Visiting Professor, University of Houston, Houston, Texas; David Menzies, Graduate Student, University of Houston, Houston, Texas

Effect of Repeated Retempering on Properties of Fresh and Hardened Concrete Mixed at Higher Ambient Temperatures

M. A. Samarai, Director General, National Centre for Construction Lab., Baghdad, Iraq; V. Ramakrishnan, Professor, South Dakota School of Mines & Technology, Rapid City, South Dakota; V. M. Malhotra, Head, Construction Materials Section, Department of Energy, Mines and Resources, Ottawa, Canada

Ultrasonic Measurement of Microcracking in Uniaxial Compression of Concrete

Wimal Suaris, Professor, University of Miami, Coral Gables, Florida

AWARDS BREAKFAST

THURSDAY, March 28, 1985

8:00 am-10:00 am

Room: **Colorado A,B,C,D,E**

AWARDS BREAKFAST

Cost: **\$10.00**

Come meet the awardees. Have fun, enjoy a good breakfast, and watch the multi-media awards presentations.

AWARDS

Honorary Membership

Paul Klieger

Shu-T'ien Li

Katharine Mather

Alfred L. Parme

Arthur R. Anderson Award

William L. Dolch

Joe W. Kelly Award

Paul Zia

Henry C. Turner Medal

Material Service Corporation

Alfred E. Lindau Award

John A. Martin

Henry L. Kennedy Award

Loring A. Wyllie, Jr.

Construction Practice Award

Cameron Kemp

Gerry Weiler

Roger H. Corbetta Concrete Constructor Award

Richard E. Kasler

Wason Medal for the Most Meritorious Paper

Robert B. Johnson

Wason Medal for Materials Research

George C. Hoff

Alan D. Buck

Chapter Activities Award

Kenneth D. Cummins

Delmar L. Bloem Awards for Distinguished Service

Ralph L. Duncan

David W. Fowler

Timothy J. Fowler

Mete A. Sozen

Raymond C. Reese Structural Research Award

Frank J. Heger

Mehdi S. Zarghamee

Arthur J. Boase Award

(a presentation of the Reinforced Concrete Research Council)

James G. MacGregor

GENERAL SESSION

THURSDAY, March 28, 1985

10:00 am-12:00 pm

Room: **Colorado F,G,H,I,J**

GENERAL SESSION

Session Chairman: Robert T. Bates
President
Rocky Mountain Chapter ACI
Meurer & Associates
Lakewood, Colorado

Welcome to Denver

Robert T. Bates, Meurer & Associates, Lakewood, Colorado

Presidential Address

Ignacio Martin, Partner, Capacete, Martin & Associates, San Juan,
Puerto Rico

Certificates of Appreciation for the 1985 Annual Convention

Introduction of Foreign Visitors

Petitions for New Chapters

Recognition of Chapters Present

Recognition of Retiring Officers

Recognition of Past Presidents Present

Tellers Report

Presentation of Memento to Retiring President

Keynote Speaker

Leonard M. Perlmutter, Chairman of the Board, Stanley Structures,
Denver, Colorado



THURSDAY, March 28, 1985

2:00 pm- 5:00 pm

Room: **Colorado A,B,C,D**

PRECAST FIBER REINFORCED CONCRETE

Sponsored by Committee 544

Symposium Chairman: George C. Hoff
Mobile Research & Development Corp.
Dallas, Texas

Session Moderator: Ben L. Tilsen
Plant Manager
Concast, Inc.
Rosemount, Minnesota

High Tenacity Polypropylene Concrete

Surendra P. Shah, Professor, Northwestern University, Evanston, Illinois; Herbert Krenchel, Assistant Professor, Technical University of Denmark, Lyngby, Denmark

GFRC Use in Electrical Transmission and Distribution, Control and Communication

Art N. Ojala, President, Concast, Inc., Rosemount, Minnesota; Ben L. Tilsen, Research and Development, Concast, Inc., Rosemount, Minnesota

Development of Non-Returnable Steel Fiber Reinforced Concrete Cable Reels

Morris Schupack, President, Schupack Suarez Engineers, Inc., South Norwalk, Connecticut

Fiber-Reinforced Cement Products Using Organic Fibers Derived From Industrial Wastes

Craig O. Thomas, Civil Engineering Student, Cornell University, Ithaca, New York; Kenneth C. Hover, Associate Professor, Cornell University, Ithaca, New York

Architectural Applications of GFRC

Ralph C. Robinson, President, Olympian Stone Company, Redmond, Washington

Applications of Slurry-Infiltrated Fiber Concrete (SIFCON) in Precast Products

Bruce Schneider, Senior Research Engineer, New Mexico Engineering Research Institute, Albuquerque, New Mexico

THURSDAY, March 28, 1985

2:00 pm- 5:00 pm

Room: **Colorado E**

NON-CHLORIDE ACCELERATORS

Sponsored by Committee 212

Session Chairman: William J. Perenchio
Wiss, Janney, Elstner & Associates
Northbrook, Illinois

A Calcium Nitrite-Based, Non-Corrosive, Non-Chloride Accelerator

David Chin, Senior Research Associate, W. R. Grace & Co., Cambridge, Massachusetts

A New Generation of Liquid Setting Accelerators for Guniting

H. Hass, Chemist, Dynamit Nobel, Troisdorf, West Germany

Effects of Non-Chloride Accelerators on the Physical Properties of Portland Cement/Slag Concrete

Fred Kinney, Manager Materials Research, Master Builders, Cleveland, Ohio

Comparison of the Corrosion Potentials of Calcium Chloride and a Calcium Nitrate Based Non-Chloride Accelerator

Jens Holm, Project Engineer, Wiss, Janney, Elstner & Associates, Northbrook, Illinois

Strength-Increasing Effects of a Chloride-Free Accelerator

Sandor Popovics, Professor, Drexel University, Philadelphia, Pennsylvania

The Effects of Non-Chloride Accelerating Admixtures on the Setting Characteristics of Portland Cement Concrete

Philip A. Smith, Chief Engineer, Gifford-Hill & Co., Charlotte, North Carolina

Comparison of Various Types of Non-Corrosive and Inhibited Accelerators for Concrete

Valery Tokar, Vice President, Euclid Chemical, Cleveland, Ohio

THURSDAY, March 28, 1985

2:00 pm- 5:00 pm

Room: Colorado F

PRECAST PARKING STRUCTURES

Sponsored by Committee 362

Session Chairman: Carl A. Peterson
Wiss, Janney, Elstner & Associates
Northbrook, Illinois

Precast - A Designer's View

Howard R. May, President, Conrad Associates East, Chicago, Illinois

Precast - A Precast Producer's View

Mario J. Bertolini, President, Blankeslee Prestress, Inc., Branford, Connecticut

Precast - a General Contractor's View

Dean E. Stephan, Jr., Charles Pankow Inc., Altadena, California

Common Design and Construction Problems

Charles H. Raths, President, Raths, Raths & Johnson, Inc., Willowbrook, Illinois

Study of Performance of Precast Parking Structures

Armand H. Gustaferro, Consulting Engineer, The Consulting Engineers Group, Inc., Glenview, Illinois

THURSDAY, March 28, 1985

7:30 pm-10:00 pm

Room: **Colorado E****FORUM: THE CHLORIDE ISSUE -
THE NEW LIMITS**

Sponsored by Committee 123

Forum Chairman: Robert L. Henry
Wiss, Janney, Elstner & Associates
Arlington, Texas

Moderator: Arthur L. Walitt
W. R. Grace & Co.
Cambridge, Massachusetts

Panelists: John M. Albinger
Manager, Quality Control
Materials Service Corp.
Chicago, Illinois

Kenneth C. Clear
President
Kenneth C. Clear, Inc.
Sterling, Virginia

Ted Webster
President
Webster Engineering Association, Inc.
Cleveland, Ohio

As the chloride content permitted in concrete is restricted in applications susceptible to corrosion, a new set of problems are presented to engineers, concrete producers, contractors and test labs. Questions on chlorides in aggregates, differences in test procedures, non-chloride versus non-corrosive admixtures and liability need to be answered with solid technical evidence. A panel of industry experts will discuss the problems, the existing technology and the research that is needed to support groundrules for the construction industry. This open discussion forum should provide an opportunity to tie together field problems and the technology that will be presented at Thursday's session on Non-Chloride Accelerators sponsored by ACI Committee 212 and Friday's session on Chloride-Induced Corrosion of Steel in Concrete sponsored by ACI Committees 201 and 222.

FRIDAY, March 29, 1985

9:00 am-12:00 pm

Room: Colorado A,B,C,D

CHLORIDE-INDUCED CORROSION OF STEEL IN CONCRETE

Sponsored by Committees 201 and 222

Session Chairman: Bernard Erlin
Erlin, Hime Associates Division
Wiss, Janney, Elstner Associates, Inc.
Northbrook, Illinois

Basic Differences and Similarities Between Background, Admixed and Alien Chloride Ions in Reinforced Concrete

Ted E. Webster, President, Webster Engineering Associates, Inc.,
Cleveland, Ohio

Chloride Penetration in Prestressed Concrete Specimens Subjected to an Aggressive Deicing Salt Exposure

Randall W. Poston, Research Engineer Associate, University of Texas,
Austin, Texas; John E. Breen, Nasser I. Al-Rashid Chair in Civil
Engineering, University of Texas, Austin, Texas; Ramon L. Carrasquillo,
Associate Professor of Civil Engineering, University of Texas, Austin,
Texas

Chlorides in Parking Structures

Carl A. Peterson, Senior Consultant, Wiss, Janney, Elstner and Asso-
ciates, Inc., Northbrook, Illinois; Philip J. LeClaire, Project Engineer,
Wiss, Janney, Elstner and Associates, Inc., Northbrook, Illinois

The Penetration of Chlorides Into the Concrete of Road Bridges

G. Neroth, Director, Institute for Buildings, Aachen, West Germany

The Effects of Cementitious Blast-Furnace Slag in Concrete on Chloride Permeability

Jere H. Rose, Manager-Technical Services, Atlantic Cement Company,
Inc., Stamford, Connecticut

Cathodic Protection of Rebar in Concrete Using Conductive Coatings

Joseph A. Lehmann, President, Porter Corrosion Control Services,
Inc., Houston, Texas

Some Chemical and Physical Aspects About Phenomena of Chloride-Induced Corrosion

Harold Roper, Professor, University of Sydney, Sydney, Australia;
William G. Hime, Principal, Erlin, Hime Associates Division of Wiss,
Janney, Elstner Associates, Northbrook, Illinois; Bernard Erlin, Erlin,
Hime Associates Division of Wiss, Janney, Elstner Associates, North-
brook, Illinois

FRIDAY, March 29, 1985

9:00 am-12:00 pm

Room: Colorado E

USE OF COMPUTERS FOR STATISTICAL ANALYSIS OF TEST DATA

Sponsored by Committee 214

Session Chairman: Tarun R. Naik and
V. Ramakrishnan
Department of Civil Engineering
University of Wisconsin
Milwaukee, Wisconsin

Analysis of In-Place Test Data Using Spreadsheet Software

Nicholas J. Carino, Research Engineer, National Bureau of Standards,
Gaithersburg, Maryland

Computerized CUSUM Quality Control for Concrete

Ken W. Day, Managing Director, Concrete Advice Pty. Ltd., Croydon,
Australia

Analysis of Maturity/Pullout Testing Data

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

Analysis of Pachometer Data

Donald E. Dixon, Materials Consultant, Chastain Forensics Corp.,
Tucker, Georgia

Analyzing and Predicting Concrete Cylinder Strengths Using Two Computer Programs (in accordance with ACI 214-77)

Frances M. Kelsi, Civil Engineer, Corps of Engineers, New Orleans,
Louisiana

Development of Prediction Relations from Compression Test Data Using Regression Analysis

Chetan G. Date, Adjunct Faculty, Arizona State University, Chandler,
Arizona; Russell H. Schnormeier, Supervisor, City of Phoenix, Phoenix,
Arizona

Computer Analysis and Plotting of Concrete Data

Bruce A. Suprenant, Associate Professor, University of Wyoming,
Laramie, Wyoming; Kent Barnes, Project Engineer, L. C. Hanson &
Associates, Helena, Montana

FRIDAY, March 29, 1985

9:00 am-12:00 pm

Room: Colorado F

INELASTIC RESPONSE OF CONCRETE STRUCTURES

Sponsored by Committee 442

Session Chairman: Mark Fintel
Consulting Engineer
Glenview, Illinois

Inelastic Approach - Why Do We Need It and What Are The Benefits?

Mark Fintel, Consulting Engineer, Glenview, Illinois

Generalized Procedure for the Inelastic Dynamic Approach

S. K. Ghosh, Professor of Civil Engineering, University of Illinois,
Chicago, Illinois

Earthquake Ground Motions

Stuart D. Werner, Agbabian Associates, El Segundo, California

Analysis Modeling and Computer Programs

W. Schnobrich, Professor of Civil Engineering, University of Illinois,
Urbana, Illinois

Approximate Methods

M. Saiidi, Professor of Civil Engineering, University of Nevada, Reno,
Nevada

Concepts of System Behavior and Design

Peter Mueller, Professor of Civil Engineering, Lehigh University,
Lehigh, Pennsylvania

Proportioning and Detailing of Members

Daniel Abrams, Associate Professor of Civil Engineering, University of
Illinois, Urbana, Illinois

Nonlinear Foundation Effects

Arthur Huckelbridge, Professor of Civil Engineering, Case University,
Cleveland, Ohio

FRIDAY, March 29, 1985

9:00 am-12:00 pm

Room: **Colorado G,H,I,J**

TILT UP CONSTRUCTION

Sponsored by Committee 551

Session Chairman: Donald Musser
Portland Cement Association
Skokie, Illinois

Introduction:

Donald Musser, Portland Cement Association, Skokie, Illinois

Tilt Up Building in the Southeast

Joe Varon, Haskell Company, Jacksonville, Florida

Tilt Up Buildings in Denver

Andre Ciaravola, Contractor, Denver, Colorado

Connections

Gerry Weiler, Bianco Engineering, Vancouver, Canada

Seismic Design Considerations

Ben Schmid, Pasadena, California

Repairing Tilt Up Panels

Alfred Perez, Irving, Texas

SPOUSE PROGRAM

SUNDAY, March 24, 1985

5:30 pm- 7:00 pm **Wine & Cheese** — Denver Marriot-City Center
Sponsored by Rocky Mountain Chapter

MONDAY, March 25, 1985

8:30 am- 2:00 pm **Hospitality Room** — Hostess available
to answer questions. (Coffee & rolls
8:30-10:00 am)

10:00 am-11:00 am **Orientation Program**
Your hostess will give you an overview of the
city of Denver and will share shopping hints,
and information on entertainment and cultural
places to visit.

11:00 am
and 2:00 pm **Guided Walking Tour** (Cost \$6.00)
The two-hour walking tour features Union
Station, the interior of the Oxford Hotel and
the nationally renowned Larimer Square.

Non-Guided Walking Tour (without charge)
Maps will be provided so that you can either
walk or ride the "free shuttle service" to
explore the 16th Street Mall and Tabor Center
shops.

3:00 pm- 5:00 pm **Spouse Wine & Cheese Open House**
Hosted by ACI President & Mrs. Martin

TUESDAY, March 26, 1985

8:30 am- 2:00 pm **Hospitality Room** — Hostess available to
answer questions. (Coffee & rolls
8:30-10:00 am)

10:00 am-11:00 am **Historic Denver Orientation**
Your hostess, representing the Historic Denver
Society, will open a door to the past with
information on historic Denver.

11:30 am- 4:15 pm **Historic Denver Tour/Luncheon at Buckhorn
Exchange** (cost \$30.00)
On this historic tour, you will visit the
landmark where the Unsinkable Molly Brown
once lived and then continue on to see
Denver's oldest house built in 1859 made of
handhewn logs in the Four Mile Historic Park.
Lunch will be at the Buckhorn Exchange,
originally built as a stagecoach inn in 1886.
After lunch you will conclude your day with a
tour of the city of Denver before returning to
the hotel.

WEDNESDAY, March 27, 1985

8:30 am- 2:00 pm Hospitality Room — Hostess available to answer questions. (Coffee & rolls 8:30-10:00 am)

8:30 am-11:00 am Champagne Breakfast/Color & Fashion Seminar (cost \$20.00)
Enjoy a champagne breakfast at Craig Morton's Restaurant in the heart of the leading shopping district in Denver, which includes a fashion show and a slide presentation on guidelines for great clothing choices and coordination.

1:30 pm- 4:45 pm Natural History Museum and I-MAX Theatre/Tea at the Oxford (cost \$15.00)
You will begin with a tour of the Natural History Museum, the 7th largest in the U.S. featuring three floors of dioramas, prehistoric fossils and minerals and the Gates Planetarium. For your viewing pleasure there will be the movie "Grand Canyon" on a 5-story high screen in the I-MAX Theatre.
Before your return to the hotel at 4:45 pm, you will stop at the Oxford Hotel for an "English Style" tea with pastries.

THURSDAY, March 28, 1985

8:30 am- 2:00 pm Hospitality Room — Hostess available to answer questions. (Coffee & rolls 8:30-10:00 am)

9:00 am-12:00 pm General Session (all are invited)

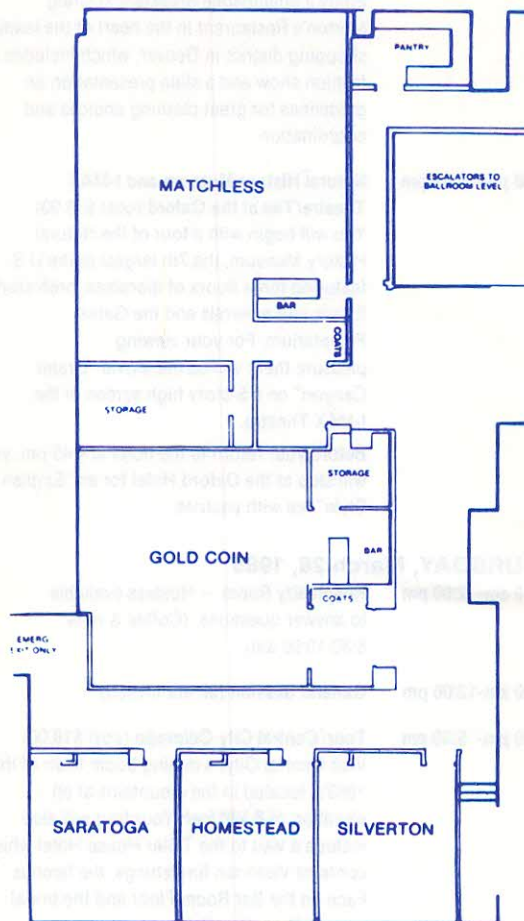
1:30 pm- 5:30 pm Tour/Central City Colorado (cost \$18.00)
Visit Central City, a mining boom town of the 1860's, located in the mountains at an elevation of 8,500 feet. Your tour will also include a visit to the Teller House Hotel which contains Victorian furnishings, the famous Face on the Bar Room Floor and the bridal suite of Baby Doe Tabor.
To end your afternoon in the mountains, a wine and cheese snack at the Teller House will be served at 3:45 pm prior to your 4:30 pm departure.

FRIDAY, March 29, 1985

8:30 am-10:00 am Hospitality Room — Coffee & rolls and time to say "Good-Bye" to our friends.

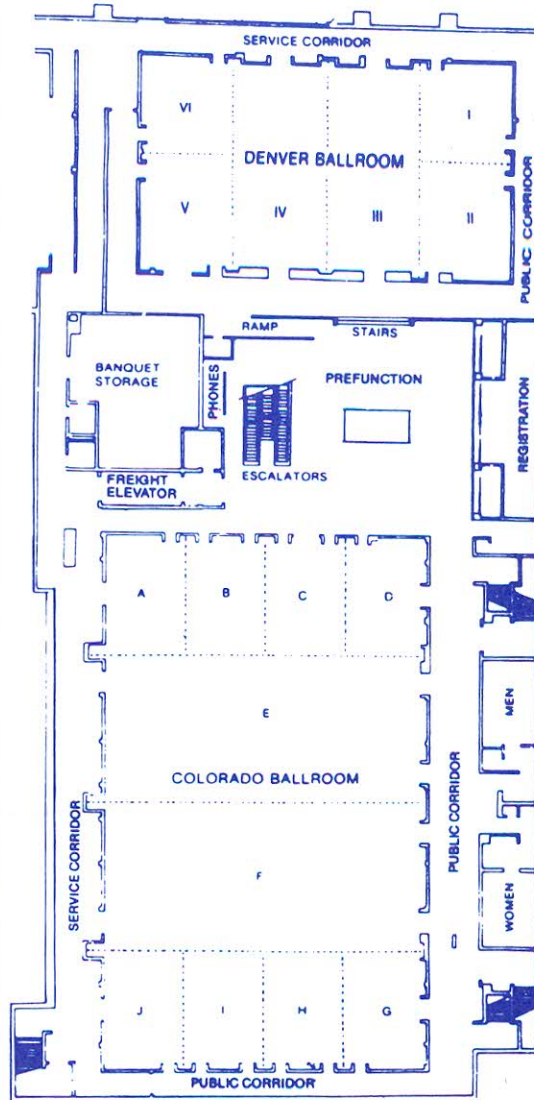
Lower Level I

NOTE: In addition to these conference rooms ACI is utilizing a number of suites in the hotel for committee meetings. Please refer to the program for suite room numbers.



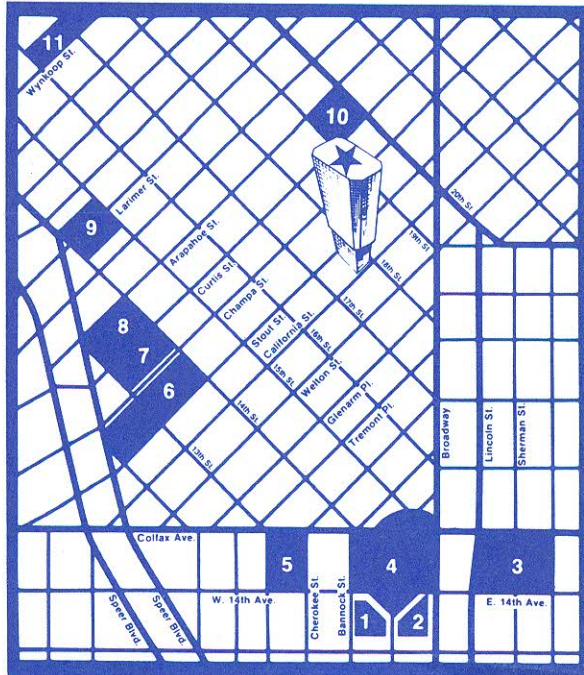
DENVER
Marriott Hotel.
CITY CENTER

Lower Level II



DENVER
Marriott Hotel.
CITY CENTER

CITY OF DENVER HOTEL & SURROUNDINGS



1. Denver Art Museum
2. Civic Center
3. State Capitol
4. Denver Public Library
5. U.S. Denver Mint
6. Currigan Exhibition Hall
7. City Auditorium
8. Denver Center for the Performing Arts
9. Larimer Square
10. Bus Terminal
11. Union Station

DENVER

CITY CENTER
