TECHNICAL ACTIVITIES COUNCIL NEWS

The 1995 PCI Committee Days, held on April 27 through 30, was a time of accomplishment and camaraderie. As is always the case, those in attendance not only contributed their time and hard work, but they also benefited from the interaction with their peers and the stimulating exchange of ideas and new information. During the four-day meeting, 14 of the standing committees that report to the Technical Activities Council (**Thomas J. D'Arcy,** chairman) met and worked diligently on their various projects and missions. In addition, two special task groups met to discuss the topics of shear wall design recommendations and seismic connections.

- The Bridges Committee (**Reid W. Castrodale,** chairman) is one of the largest TAC committees. During the meeting, 43 members and guests were in attendance. **Roy L. Eriksson** has agreed to serve as the new vice-chairman of the committee. An update was given on the status of the *PCI Bridge Design Manual* (see related story on page 140). The Manual Steering Committee met and selected a team, headed by **Maher K. Tadros,** to develop Phase I of the bridge manual. The target date for publication of this first phase is December 1996. As has been the practice, a portion of the Bridges Committee meeting was set aside to allow the subcommittees to meet. The following is a brief report on each of the subcommittees:
  - Integral Bridges – Work is progressing on a report on integral bridges. Although one chapter has been delayed, a first draft of that chapter is expected to be finished in approximately 2 months. The goal is to have a draft of the whole report ready for the full committee to review prior to the next meeting at the PCI Annual Convention in October.
  - Adjacent Boxes – A draft report was submitted to the subcommittee for review. Two new sections will be added to the report: a section dealing with details and a summary of the two surveys conducted on this subject to date. A second draft including the new sections will be reissued by the time of the convention. The subcommittee is considering generating one or more articles dealing with the subject of adjacent boxes. A main conclusion of the work of the subcommittee to date is that the joints in these types of structures are structural and, as such, need to be designed.
  - PCI Standards Review – A draft set of 11 x 17 in. metric standards for standard AASHTO slabs, AASHTO Types I through VI girders and AASHTO box

New Appointments to PCI Committees

These individuals have recently accepted appointments to PCI committees. We appreciate their interest and voluntary participation.

- *PCI Ad Hoc Committee on ATLSS and PRESSS*

  Greg Force
  Tindall Concrete Virginia, Inc.
  Petersburg, Virginia

  Suzanne D. Nakaki
  Englekirk & Nakaki, Inc.
  Irvine, California

- *PCI Committee on Building Code*

  Michael G. Oliva
  University of Wisconsin
  Madison, Wisconsin

- *PCI Committee on Connection Details*

  Gordon Samuelson
  Coreslab Structures
  Cedar Park, Texas

- *PCI Committee of Hollow-Core Slab Producers*

  Pat Hynes
  Morse Bros. Inc.
  Clackamas, Oregon

  William C. Richardson, Jr.
  Stresscon Corporation
  Colorado Springs, Colorado

- *PCI Committee on Research and Development*

  John Nanna
  J. W. Peters & Sons, Inc.
  Burlington, Wisconsin

  Sami H. Rizkalla
  University of Manitoba
  Winnipeg, Manitoba, Canada

  Helmuth Wilden
  H. Wilden & Associates, Inc.
  Macungie, Pennsylvania

- *PCI Committee on Precast Sandwich Wall Panels*

  Pat Hynes
  Morse Bros. Inc.
  Clackamas, Oregon

  William C. Richardson, Jr.
  Stresscon Corporation
  Colorado Springs, Colorado

- *PCI Committee on Student Education*

  Gajanan M. Sabnis
  Howard University
  Washington, D.C.

LISHAMER JOINS PCI STAFF AS CERTIFICATION PROGRAMS MANAGER

John A. Lishamer recently joined the PCI staff as Manager of the Certification Programs. Among Mr. Lishamer's duties are administration of the PCI Plant Certification and Technician/Inspector Certification Programs as well as oversight of the PCI Plant Safety Program and work with several PCI technical committees.

Mr. Lishamer has a 33-year construction background with an emphasis on precast and prestressed concrete. Many will remember him from his tenure as Production Programs Manager for PCI from 1975 to 1980. In this capacity he administered and marketed the Plant Certification Program during its formative years. He was active in Washington, D.C., promoting inclusion of the Certification Program in the specifications of the Corps of Engineers, the Pentagon, the American Institute of Architects and other agencies. In addition, he was active with the U.S. Department of Labor (OSHA) where he worked on safety standards for the precast concrete industry.

With an extensive background in concrete encompassing production, marketing, sales and management, Mr. Lishamer has held positions with numerous companies. He was plant manager for American Marietta in Hodgkins, Illinois, and sales engineer at FMC Corporation of Lakeland, Florida, where he worked to develop steel forms for specific job requirements. Mr. Lishamer also served as division manager for two companies, LaBarge Corporation, Centralia, Illinois, and Evansville, Indiana, and Jackson Redi-Mix Company, Jackson, Mississippi.

After his initial work with PCI in the late 1970s, Mr. Lishamer served as vice president of National Filigree, Countryside, Illinois, where his responsibilities included administration, production, quality control, purchasing, safety, traffic and field erection. From 1982 to 1992, he was territory sales manager covering the greater midwest region for Exposaic Wire Co., Mt. Airy, North Carolina.

Welcome back!

beams was distributed to the committee. Section properties reported are based on actual section dimensions while the dimensions themselves are rounded to the nearest 5 mm. Bulb-tee sections are also being prepared. The metric standards are expected to be submitted to the full committee by mid summer.

- Prestress Losses – A first draft of this report has been submitted. It is titled "Summary of Methods for Estimating Loss of Prestress." The purpose of this subcommittee is to review and summarize the methods available to compute prestress losses. Some clarification is also needed of the method given in the AASHTO-LRFD specification. Once these issues have been resolved, the goal is to have the report published.
- Partial Prestressing – This subcommittee is preparing a paper that compares and contrasts full and partial prestressed girder options. Design examples and discussions will be provided for a two- and a three-span bridge. The paper will be broken into two parts: superstructure and substructure. Two design examples are included as guides. The intent of the paper is to reintroduce the concept of partial prestressing to bridge designers and to show how the method can be used in practice.

The Alabama DOT presented a report at the Bridges Committee meeting. A large bridge project containing bulb-tee girders showed hairline cracks in the end region of the girders shortly after completion of the project in 1991. The bridge was designed for live load continuity. A temperature gradient between the top of the slab and the bottom of the girder caused a daily upward deflection of approximately 0.4 in. (10 mm). It was concluded that the cracking was largely caused by thermal effects. As a result, the Alabama DOT has stopped making bulb-tee bridges continuous for live loads.

Reports were heard on new metric bulb-tee girders being developed in the New England region and on a test program underway in Texas, in cooperation with the Texas DOT, to assess the benefits of high performance concrete. The strand transfer and development length research taking place at the Federal Highway Administration's research laboratory was also discussed.

- The Building Code Committee (**Leslie D. Martin,** chairman) has been making good progress on its major activity, i.e., the development of a document of standard practice. Worksheets have been developed for Chapters 18 and 11 of the ACI Building Code. This document is intended to elaborate on sections of the ACI Code that are different from current precast concrete standard practice, and also to comment on areas of the ACI 318 Building Code that do not codify design procedures that are used commonly in the precast concrete industry. It is anticipated that this document will help the Building Code Committee in its other major activity, namely, the coordination of the code activities of PCI. As a part of its mission, the Building Code Committee will make specific recommendations to the Program

Planning Committee (**Richard R. Imper** and **Thomas B. Battles,** co-chairmen) for funding of these activities during 1996.

- Results of the 1994 Computer Survey of Producer and Professional Members are being compiled for publication by the Computer Software Committee (**Edward Losch,** chairman). Along with the results of this survey, the committee intends to publish a listing of precast and prestressed concrete software available. The concept is to have vendors fill out a one-page informational sheet for each of their relevant products and to then publish a summary of the types of software available to PCI members, along with the computer survey report, in the PCI JOURNAL. The committee discussed setting up a PCI forum on the CompuServe Network or setting up a "Home Page" on the Internet's Worldwide Web. Most members of the committee felt that the Internet would be the most likely alternative because CompuServe would not be interested in paying the up-front cost for setting up a forum on their network. Although no final decision was made, the committee intends to continue to discuss this Internet "bulletin board" concept. At the request of the Industry Handbook Committee (**A. Fattah Shaikh,** chairman), the Computer Software Committee is also reviewing certain sections of the fourth edition of the *PCI Design Handbook* with the objective of recommending changes to those sections.
- The Connection Details Committee (**Jagdish C. Nijhawan,** chairman) held a lengthy full-day meeting and discussed the progress of its three subcommittees: new design concepts, stan-

High Strength Concrete Committee Calls for Papers

The PCI High Strength Concrete Committee (**Shuaib H. Ahmad,** chairman) is soliciting abstracts for a session at the 1995 PCI Annual Convention, October 15-18 in Reno, Nevada. The title of the session is "High Strength Concrete and its Application for Precast/Prestressed Concrete." All speakers will be required to submit a paper with a view towards publication in a future issue of the PCI JOURNAL. Please mail or fax a 300-word abstract by July 31 to: Professor Shuaib H. Ahmad, Department of Civil Engineering, Box 7908, North Carolina State University, Raleigh, North Carolina 27695-7908. Tel.: (919) 515-7738; fax: (919) 515-7908. Speakers will be notified by August 15 and their manuscripts will be due by September 15.

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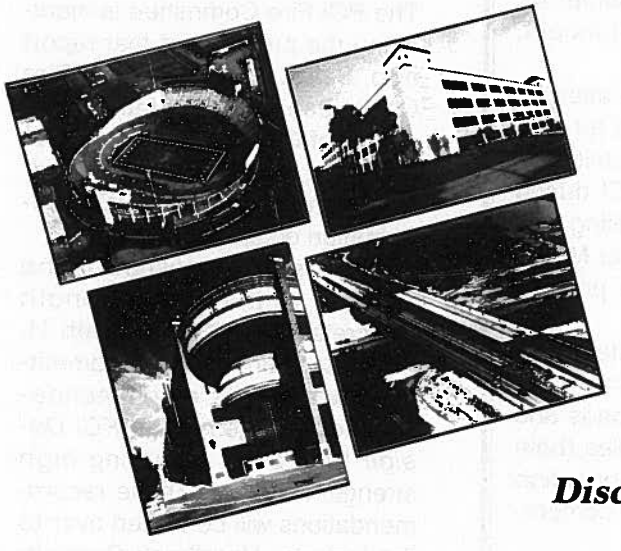

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TADROS RECEIVES DISTINGUISHED EDUCATOR AWARD

Maher K. Tadros, Cheryl Prewett Professor of Civil Engineering and Director of the Center for Infrastructure Research at the University of Nebraska-Lincoln, Omaha, Nebraska, will be conferred with the inaugural PCI Distinguished Educator Award for 1995. The award, developed by the Student Education Committee (**Charles E. Hilgeman,** chairman) recognizes distinguished educators in the fields of engineering, architecture, and construction technology who have made significant contributions to the precast/prestressed concrete industry.

Dr. Tadros has been very active with PCI committee work for many years and is a member of several scientific and professional organizations. He has authored more than 80 articles and publications and has won several awards for distinguished teaching and research, including PCI's Martin P. Korn Award and the American Society of Civil Engineers' (ASCE) T.Y. Lin Award. The Distinguished Educator Award will be presented at the PCI Annual Convention in October in Reno, Nevada.

PHASE 1 OF PCI BRIDGE MANUAL IS UNDERWAY

Contracts are being signed with authors to begin production of the new *PCI Bridge Design Manual.* Phase 1, encompassing the first eight chapters of the manual, has begun and is expected to be completed and ready for sale by December 1996. A team of 18 experts is being coordinated by principal author **Maher K. Tadros,** Cheryl Prewett Professor of Civil Engineering and Director of the Center for Infrastructure Research at the University of Nebraska-Lincoln, Omaha, Nebraska.

Authors were selected by the Manual Steering Committee after review of six proposals submitted in response to PCI's request for proposals issued in April 1995. The authors are expected to submit their initial material — a comprehensive contents outline — to PCI during June 1995. Following an extensive period of writing and editing, the first draft of the manual is expected to be ready for review in March 1996. This will be followed by second and third reviews prior to scheduled printing of the manual in November 1996.

Phase 1 of the project will contain nearly 400 pages of material, including chapters on Promotion of Precast Concrete Bridges; Strategies for Economical Precast Bridges; Preliminary Design; Loads and Load Distribution; Design Theory Procedure; Design Examples (both standard specifications and LRFD specifications); and Fabrication and Construction. In its entirety, the manual will provide a comprehensive treatment of bridge design, fabrication, and erection.

The second, final phase of the project will begin in 1996 and be completed at the end of 1997.

An important aspect of the project will be industry and peer review. Two separate review panels are being formed. Anyone wishing to participate in the review process should contact **John Dick,** Director of Member Services, at PCI.

dardized details, and review of current information. The committee agreed that the PCI Connections Manual, *Design and Typical Details of Connections for Precast and Prestressed Concrete* (MNL-123-88), presents too many connection detail options, many of which are not used on a regular basis. The goal of the committee is to dramatically reduce the number of connections presented. This should help to eventually standardize typical connections for our industry. TAC is presently balloting an addendum to the Connections Manual. This addendum clarifies the differences between the fourth edition of the *PCI Design Handbook* and the Connections Manual. This document is projected for publication later this year.

- The Fire Committee (**Walter J. Prebis,** chairman) reviewed the status of the ACI 216 Fire Standard being prepared by that ACI committee. This standard is in the final stages of balloting within the ACI committee report procedures. ASCE is also writing a Fire Standard that will cover all materials, including concrete. The PCI Fire Committee is monitoring the progress of that report also. Select members of the Fire Committee are completing their review of Chapter 9 of the fourth edition of the *PCI Design Handbook.* This chapter contains information on fire resistance.
- Much was accomplished at the meeting of the High Strength Concrete Committee (**Shuaib H. Ahmad,** chairman). The committee reviewed its recommendations for changes to the *PCI Design Handbook* regarding high strength concrete. These recommendations will be turned over to the Industry Handbook Committee during the summer of 1995. Currently, the committee is beginning work on a state-of-the-art report and is also making plans for a session on high strength concrete at the PCI Convention in October.

- As has been discussed in this report, the Industry Handbook Committee (**A. Fattah Shaikh,** chairman) is involved in updating and revising the fourth edition of the *PCI Design Handbook*. The committee has been divided into chapter review groups and ACI Code change task groups. Many of these review groups and task groups made formal reports and several of their recommendations will be balloted in the near future. It is the intent of the committee to bring a consultant on board as editor-in-chief during the summer of 1995. Requests for proposals from selected consultants will be mailed out shortly. With the new ACI 318 Building Code being published during late 1995, it is the intent of the Industry Handbook Committee to have the fifth edition of the *PCI Design Handbook* ready for publication during the summer of 1997. Chairman Shaikh has asked all the technical subcommittees to review those sections of the handbook that address their particular subject areas and to make recommendations for revisions or additions to the committee immediately.
- The JOURNAL Advisory Committee (**Donald C. Raths,** chairman) had a stimulating meeting in which the highlight was an exciting presentation by the James O. Ahtes Inc. firm, PCI's marketing agency, on initiatives to increase circulation of the JOURNAL. The committee also reviewed Document 2, the detailed author guidelines, and the status of the spreadsheet program for monitoring prospective manuscripts for the JOURNAL. In order to facilitate the production layout of the JOURNAL, the committee urged the purchase of necessary computer hardware.
- The Parking Structures Committee (**Charles Magnesio,** chairman) devoted most of their meeting to discussion of updating the manual *Parking Structures: Recommended Practice for Design and Construction* (MNL-129-88). Chapter assignments have been made to individual members with a very tight schedule in mind. Additional topics to be included in the second edition of the manual are: lighting, drainage, ADA Code, tolerances, deck warping, expansion joints, and cable railings. A first draft of the entire document should be ready for review prior to the convention. The tight schedule will require that a consultant be brought on board sometime this year.
- The Precast Sandwich Wall Panels Committee (**Kim E. Seeber,** chairman) reports that the final draft of its state-of-the-art report is presently being reviewed and balloted by TAC. After the revisions have been incorporated

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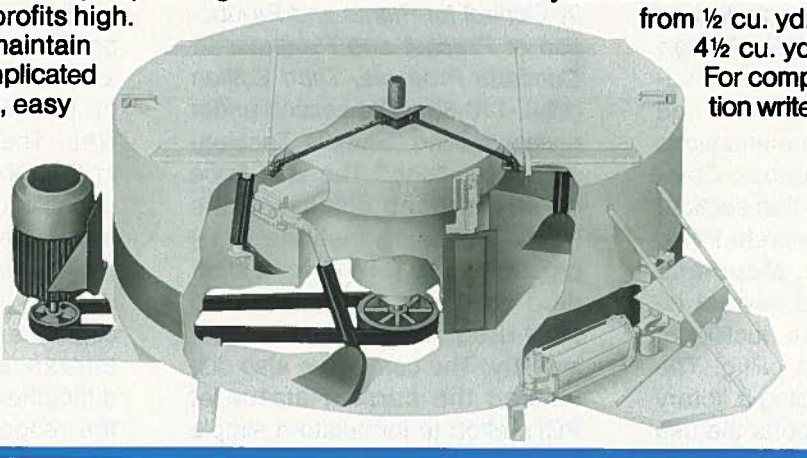

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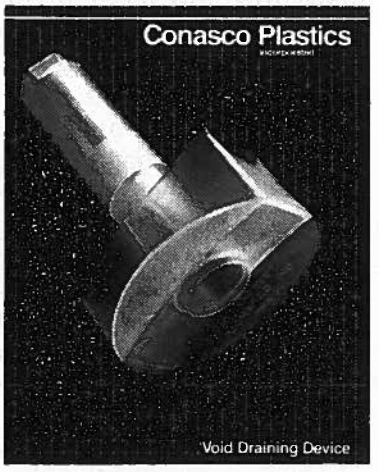

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into the document, the report will be published in the PCI JOURNAL. As a new project, the committee is formalizing plans to create a technical marketing brochure that will illustrate the benefits of precast concrete insulated sandwich wall panels. The committee is also reviewing the section in the *PCI Design Handbook* that addresses insulated sandwich wall panels and will be making recommendations to the Industry Handbook Committee for changes to that section.

- The Prestressed Concrete Piling Committee (**Saad E. Moustafa,** chairman) discussed several issues pertaining to the ductility of prestressed concrete piling. The committee is developing a library of research that supports the use of high tensile steel as shear reinforcing and confinement steel in prestressed concrete piling. The obvious goal is to reduce congestion while maintaining adequate ductility for seismic designs. A second issue related to the seismic design of prestressed concrete piling that was discussed is the impact that the spalling of cover concrete during an earthquake might have on the performance of prestressed concrete piling in the event of another earthquake.
- The newly re-organized Prestressed Concrete Poles Committee (**Fouad H. Fouad,** chairman) had a productive meeting with several prospective members in attendance. The committee is currently revising the "Guide for the Design of Prestressed Concrete Poles," in response to TAC's comments. At the same time, the committee is embarking on the development of several new reports: (1) Guide specifications for lighting and transmission poles; (2) Guide for handling and erecting poles; (3) Lighting poles — design and specifications; (4) Concrete pole foundations; and (5) Data on life cycle costing.
- The Prestressing Steel Committee (**Don Pellow,** chairman) met to discuss progress on its various projects. The committee is sending proposed revisions to the Industry Handbook Committee for those sections of the handbook that address prestressing steel. The committee is also reviewing a section of the *Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products, Third Edition* (MNL-116-85). The section under review is titled "Sample Tensioning Calculations." The task force on strand bond discussed the Post-Tensioning Institute (PTI) proposal to ASTM 416 for a standard bond test for prestressing steel used in the ground anchor industry. The committee also discussed the current status of PCI's effort to formulate a simple bond test that could be used to predict adequate transfer and development length for pretensioned applications.
- With the growing importance of seismic issues, the Seismic Committee (**Suzanne D. Nakaki,** chairperson) had a full agenda to deliberate. Of immediate concern were three major topics: (1) Organization of an educational seminar on seismic design to be given in four cities across the United States; (2) Preparation of an updated section on seismic design for the fifth edition of the *PCI Design Handbook;* and (3) Development of a state-of-the-art report, in concert with the Connection Details Committee, on emulation design and jointed connection design.
- The Tolerances Committee (**Kim Sorenson,** chairman), although small in numbers, has several projects underway. They are presently reviewing a first draft of a position paper on tolerances to be published in the PCI JOURNAL. The main issue discussed in this position paper is the responsibility for specifying tolerances. It is not uncommon for the published tolerances to be used as a tool for rejection or acceptance after a project has had tolerance related construction difficulties. The goal is to have the responsibility for tolerances defined prior to the purchase contract for the precast concrete. The committee is also reviewing the tolerances chapter of the *Manual for Quality Control for*

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Plants and Production of Architectural Precast Concrete Products (MNL-117-77). A second draft of a new tolerances chapter has been written and is presently being reviewed. The committee is also monitoring the progress of ACI Committee 117, Standard Tolerances for Concrete Construction and Materials. This committee is preparing a new ACI document on concrete tolerances and has requested that the PCI Tolerances Committee review and comment on this document.

Other PCI projects that the Technical Activities Council is monitoring are as follows:

- The Shear Wall Recommended Practice Task Group (**Ned M. Cleland,** chairman) is making significant progress and several reviews of their draft document on recommendations for shear wall structures have taken place. The document being prepared presents a design example for a six-story parking structure using precast concrete shear walls as the lateral load resisting system in three locations in the United States. The locations are Baltimore, Maryland, Albany, New York, and Salt Lake City, Utah. The intent of this work is to give the designer guidelines for the development of building systems based on precast shear walls for wind loads and for seismic loads in low, moderate, and high seismic risk areas under both eastern and western codes. It is also the intent of the Ad Hoc Committee on Earthquake Resistance of Shear Wall Structures to develop an article that will present the historical performance of shear wall structures during past seismic events. History and experience point to the fact that shear wall structures have performed satisfactorily in many major earthquakes throughout the world (see the related article by Mark Fintel titled "Performance of Buildings With Shear Walls in Earthquakes of the Last Thirty Years" starting on page 62 of this issue of the JOURNAL).
- The Ad Hoc Task Group on Anchorage to Concrete (**Irwin J. Speyer,** chairman) is presently reviewing the article published in the January-February *ACI Structural Journal* titled "Concrete Capacity Design Approach to Concrete." This article will be the basis for a future ACI 318 Building Code change proposal that will present design guidelines for headed studs and other types of anchorages to concrete.

R&D COUNCIL NEWS

Daniel P. Jenny Research Fellowships Awarded for 1995-96

Earlier this year, PCI solicited proposals for Daniel P. Jenny Research Fellowships from the civil engineering departments of universities in the United States and Canada. Out of 21 high quality proposals received on topics pertinent to our interests, the R&D Committee (**John M. Hanson,** chairman) selected three fellowships at the PCI Committee Days meeting in Chicago.

The selection process was based on the timeliness of the proposed research and its potential benefit to the precast/prestressed concrete industry as well as on the research capabilities of the investigator and additional industry support available from the producers or state associations. The following three fellowships have been approved for an award of $10,000 each:

- "Achieving Ductility in Headed Stud Connections Anchored Near Concrete Member Boundaries," at the University of Wisconsin-Milwaukee, Milwaukee, Wisconsin. The research will be conducted by **David Kuhn** under the direction of **Professor A. Fattah Shaikh.** The scope of work includes analysis and testing of steel plates with headed studs embedded in thick concrete panels at various distances from the members' edges. The plates will be subjected to direct tension

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and shear loads using both reinforced and unreinforced panel specimens. The test specimens for this program will be provided by the Wisconsin Precast Prestressed Concrete Association .

- "Rational Development of Release Strength Criteria," at Pennsylvania State University at Harrisburg, Middletown, Pennsylvania. The student candidate, **Jerry Frost,** will conduct the research under the supervision of **Professor Alex Aswad.** The main objective of the research program is to develop a rational basis for a recommended change in practice that will allow higher concrete stresses at release than the 0.6 f'_{ci} currently allowed by the ACI Building Code. Additional support in terms of technical guidance, quality control data and review of proposed code changes will be provided by High Concrete Structures, Inc., Denver, Pennsylvania, and Rocky Mountain Prestress, Inc., Denver, Colorado.
- "Precast Replacement Slabs for Airport Pavements," at the University of Illinois at Urbana-Champaign, Urbana, Illinois. The study will be conducted by **Jeffrey Roesler** under the guidance of **Professor Neil M. Hawkins.** The objective of the research is to conduct a feasibility study of using precast concrete slabs for airport pavements, especially for rapid airfield pavement replacement. The Federal Aviation Administration (FAA) has designated the Civil Engineering Department at the University of Illinois as a Center of Excellence for airfield pavement research, with the authorized funding of that Center at the level of $1 million per year for a minimum period of three years and a possible duration of 10 years. Additional funding of $350,000 and $150,000 will be provided by the University of Illinois and Northwestern University, respectively, for a total annual expenditure of $1.5 million.

The PCI Research Fellowship program was established in 1972 to support graduate students in civil engineering interested in research related to precast and prestressed concrete. Fellowships generally conclude with an MS degree thesis and a summary paper published in the PCI JOURNAL. For additional information regarding the PCI Daniel P. Jenny Fellowship program, contact PCI's Research Director, **Paul Johal.**

Architectour Japan '95

Architectour Japan '95, being held September 18 to October 2 in Japan, is a unique program designed to expose engineers and architects to the ancient and modern building techniques of Japan. Sponsored by Architects Abroad Inc., the program includes seminars, presentations and tours with some of Japan's leading engineers and architects. For more information, contact: Oded Golan, president of Architects Abroad, Inc., at 800-272-8808.

Fullerton Retires After 30 Years of Service to the Industry

Wayne Fullerton will retire July 1, completing 30 years of service in the precast/prestressed concrete industry. A former member of PCI's Marketing Committee and a two-term member of the Board of Directors, Mr. Fullerton was active in the industry while employed with Concrete Structures of Maryland, Formigli Corp., Blakeslee Prestress, San-Vel Concrete Corp., and finally as marketing director of Northeast Concrete Products in Plainville, Massachusetts.

Mr. Fullerton and his wife, Mary Alice, hope to see many PCI friends during retirement. They will make their home in Lyndeborough, New Hampshire. The PCI congratulates Mr. Fullerton on his many achievements and thanks him for his significant contributions to the industry. We wish him and his family good health and happiness.

New Position and Promotion at Figg Engineering Group

William E. Waddell has joined Figg Construction Services, Inc., Tallahassee, Florida, as senior vice president responsible for operations management and new business development. Mr. Waddell has 30 years of experience in construction management with the Florida Department of Transportation, holding numerous positions including district secretary of District III. He holds a BS degree in civil engineering from Auburn University and is a registered professional engineer in Florida and Alabama.

In addition, **Thomas A. DeHaven,** a member of the Figg Engineering Group since 1983, has been promoted from director of construction services to chief bridge engineer. Mr. DeHaven has been involved in the design and construction engineering of numerous projects including bridges in Charleston, South Carolina, Mobile, Alabama, and St. Georges,

Wayne Fullerton

William E. Waddell

Thomas DeHaven

Jean E. Muller

Paul Klieger

Paul D. Mack

Delaware. Also, he served as field engineer for the 1200 ft (365 m) span cable-stayed Sunshine Skyway Bridge in Tampa, Florida. Mr. DeHaven holds a BS degree in civil engineering from The Citadel.

Muller Receives Franklin Institute Medal

World renowned bridge engineer **Jean E. Muller** was presented with the Frank P. Brown Medal at the Franklin Institute Awards Convocation, May 2-6 in Philadelphia, Pennsylvania. Mr. Muller received the award for "the development and refinement of the method of match-casting of precast concrete elements, thus enabling the industrialization of the major portion of long-span cable-stayed bridges."

The Franklin Institute has encouraged scientists, inventors, and innovative business leaders through its awards program since 1825, a year after its founding. Since 1990, the awards celebration has also included lectures and symposia, many revolving around disciplines for which the medalists are being honored.

Mr. Muller is known as the creator of the world's first precast concrete segmental bridge in 1952 and also as the designer of more than 22 million sq ft (2 million m²) of dramatic bridges throughout the world. Among the award-winning bridges he has designed are the Sunshine Skyway Bridge in Florida, the Linn Cove Viaduct in North Carolina, and the H-3 Windward Viaduct in Hawaii.

Mr. Muller is the author of numerous technical papers that have been published in the world's literature, including the PCI JOURNAL. Many of his early innovations are summarized in his article titled "Ten Years of Experience in Precast Segmental Construction," published in the January-February 1975 PCI JOURNAL.

Founder of J. Muller International, a design firm with offices around the world, Mr. Muller presented a distinguished lecture as part of the awards ceremonies. Speaking before an audience of about 160, Mr. Muller gave an overview of his 50 years of experience in bridge building, from his earliest bridge to recent bridges in Hong Kong, Australia, and South America. More specifically, he discussed the unique difficulties associated with cable-stayed bridge construction and how creative engineers over the years have successfully overcome these difficulties.

Klieger Receives ACI Honor

PCI Member **Paul Klieger** was honored with the American Concrete Institute's (ACI) Concrete Research Council Robert E. Philleo Award at the ACI Spring Convention March 5-10 in Salt Lake City, Utah. The award was given "in recognition for outstanding contributions to the advancement of concrete technology through application of the results of concrete materials research."

Associated with the Portland Cement Association for more than 45 years before establishing his own practice, Mr. Klieger holds numerous honors including honorary member and fellow of ACI. The author of many technical articles, he has been active on many ACI technical committees and has served on ACI's board of directors. In 1980, he received the Arthur R. Anderson Award for continuing contributions to concrete technology and he received the Delmar L. Bloem Distinguished Service Award in 1970 for his numerous important contributions to ACI technical committees.

Mack Joins Carl Walker

Paul D. Mack was recently appointed regional manager of the Carl Walker, Inc. regional office in Denver, Colorado. As regional manager, Mr. Mack will be responsible for office administration, engineering production, and marketing. He will also coordinate corporate objectives with the Carl Walker offices in Kalamazoo, Dallas, Atlanta, Chicago, and Philadelphia.

Mr. Mack brings to Carl Walker more than 20 years of experience in the precast/prestressed concrete industry, including management of more than 800 projects as a professional engineer. He has also held management level positions in quality control, production, and sales.

Serving on the 1992-93 PCI Board of Directors, Mr. Mack has been active in numerous professional organizations. Currently, he is a member of PCI's Technical Activities Council and serves as director for the Structural Engineers Association of Colorado. Before coming to Carl Walker, Mr. Mack worked with Rocky Mountain Prestress, Inc. in Denver, most recently serving as vice president and chief engineer.

Precast Concrete Proves Best Option for Detroit Parking Structure

Designed for the future construction of a twin-tower luxury hotel or apartment complex, the Monroe Avenue Parking Structure in Detroit, Michigan's Greektown makes use of both structural and architectural precast concrete in a modern structure that blends nicely with its vintage surroundings.

Supplying parking for 1016 cars, this 475,258 sq ft (44150 m²) structure also features 42,186 sq ft (3920 m²) of retail space on the first floor and an enclosed pedestrian bridge spanning 80 ft (24 m) that connects the structure to the nearby International Center. The seven-level structure is the first phase of a planned mixed use building complex, so many features of the garage, including structural capacity and floor framing, are designed to interface easily with future construction.

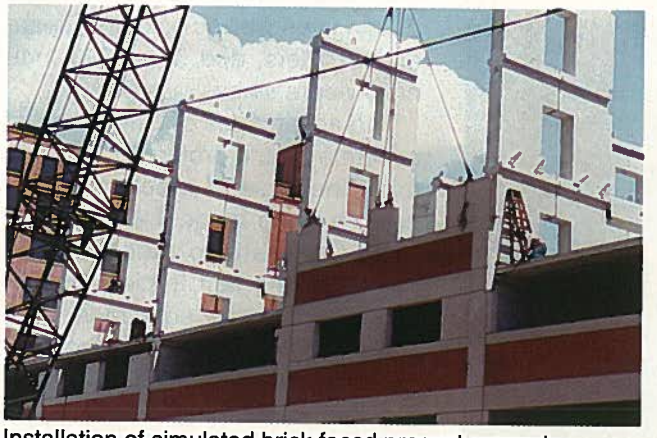
More than 3000 precast concrete components were used in the parking structure, including elements with dimensions up to 38 x 10 ft (11 x 3 m) and weights up to 56,000 lbs (25400 kg) (see Table 1).

The choice of precast, prestressed concrete offered numerous advantages to engineers BEI Associates, Detroit, Michigan, and general contractor 400 Monroe Associates, Detroit, Michigan. The speed of erection associated with precast concrete allowed the structure to be completed in 10 months, instead of the 15 months projected if other materials had been chosen for the project.

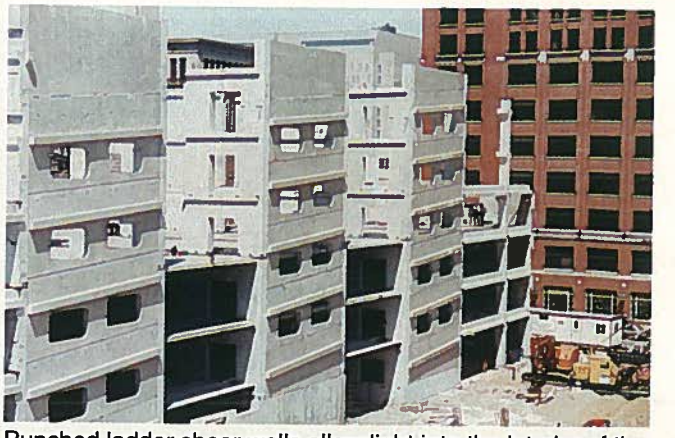
From an economic standpoint, precast concrete eliminated the need for fireproofing, structural painting, and structural steel and is also less expensive to produce than cast-in-place concrete or structural steel. Precast concrete also provided the clear spans that eliminated the need for interior columns in the parking aisles.

The project site covered an entire city block in a congested downtown area, so it was advantageous for precast concrete producer PreCon Corporation, Kalamazoo, Michigan, to fabricate the building components off-site. Site condi-

The Monroe Avenue Garage in downtown Detroit, Michigan, has a capacity of 1016 cars.



Installation of simulated brick faced precast concrete spandrel panels.



Punched ladder shear walls allow light into the interior of the structure, providing greater user safety.

tions required the use of deep foundation caissons to hard pan. More than 90 caissons were needed, with diameters ranging from 4 to 9 ft (1.2 to 2.7 m) with a depth of 120 ft (36 m).

A unique feature of the parking structure is the use of level perimeter floors interconnected with sloping ramps from floor to floor. This differs from the majority of contemporary parking structures, which usually feature continual sloping floors. The level perimeter floors simplify traffic flow, making parking easier.

The exterior of the structure features simulated brick inlay in the architectural precast concrete spandrel panels. All exposed surfaces were treated with a light sandblast finish.

The simulated brick, constructed with a colored concrete face mix in a standard face brick pattern, blends nicely with the surrounding 19th century buildings in style and matches the International Center in color and visual impact. Integration of the new structure into the existing neighborhood was an important consideration in this project.

The structure was completed in December 1993.

For more information on the use of precast concrete in this successful project, contact: Pre-Con Corporation, 3102 E. Cork Street, Kalamazoo, Michigan 49001. Tel.: (616) 381-1550.

CREDITS

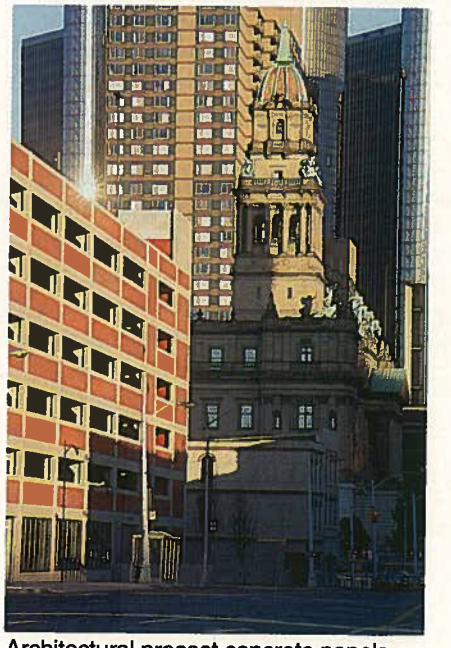
Owner: City of Detroit, Downtown Development Authority, Detroit, Michigan

Engineering firm: BEI Associates, Detroit, Michigan

General Contractor: 400 Monroe Associates, Detroit, Michigan

Precast Concrete Producer: Pre-Con Corporation, Kalamazoo, Michigan

The elevated pedestrian walkway leading to the International Center.



Architectural precast concrete panels with simulated brick help the structure blend with its vintage surroundings.

Table 1. Breakdown of quantities and dimensions of precast components.

Precast component	Quantity	Dimensions
Double tees	396	220,761 sq ft
Hollow-core slabs	1398	156,200 sq ft
Columns	15	1056 linear ft
Spandrels	130	21,476 sq ft
Shear/ladder walls	430	72,460 sq ft
Stair/wall panels	294	55,231 sq ft
Inverted T beams	185	4583 linear ft
Risers/Landing/Roof	156	

Note: 1 ft = 0.3048 m; 1 sq ft = 0.0929 m.^{2}

Consolidated Rail Corp.'s Conrail Technology Center, Philadelphia, Pennsylvania.

High Concrete Wins ACI Awards for Two Structures in Philadelphia

High Concrete Structures Inc., Denver, Pennsylvania, recently received the prestigious 1995 Grand Prize Award from the Delaware Chapter of the American Concrete Institute (ACI), marking the third consecutive year the company received this honor.

High Concrete won the 1995 award for its architectural precast concrete work on the Philadelphia Convention Center Marriott. The new 1200 room, 1 million sq ft (93000 m²) hotel for the Marriott Corporation, which represented a $5 million project for High Concrete, was produced in conjunction with the Philadelphia architectural firm Bower, Lewis and Thrower (BLT).

BLT constructed the hotel's base of limestone and selected High Concrete's precast concrete wall panel system, beginning with the sixth floor, for its durability, aesthetic characteristics, and time and money savings over masonry. Erection of the precast concrete took place over the winter of 1994 and the convention center was opened in January 1995.

High Concrete won the 1994 award from the Delaware ACI for work on Consolidated Rail Corporation's Conrail Technology Center in Philadelphia, Pennsylvania. High Concrete supplied and erected architectural and structural precast concrete for the center. The center merges Conrail's telecommunications and data handling operations into one technologically advanced campus on 25 acres (10.1 ha) of wooded land.

The architect and engineering firm for the project was The Kling Lindquist Partnership of Philadelphia. The firm's design features three major groups of architectural modules. There are two computer modules occupying 40,000 sq ft (3716 m²) of space, a mechanical/electrical module, a command-center module, and an administrative module capable of delivery and printing functions occupying 20,000 sq ft (1858 m²) of space.

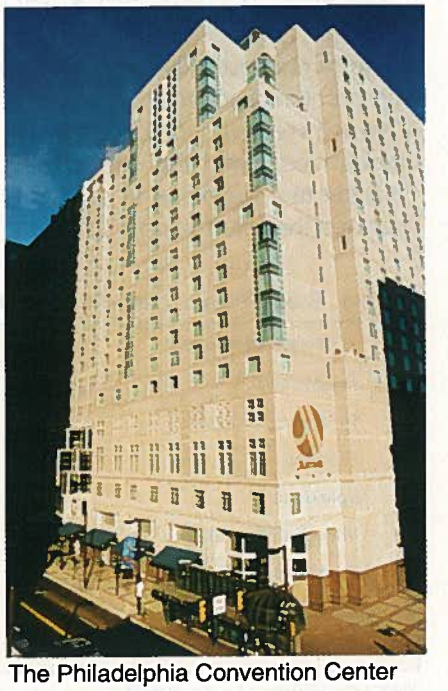
High Concrete supplied 200 insulated wall panels for the computer building and 200 tees for the computer and command center buildings as well as columns, spandrels, girders, and 8 in. (203 mm) hollow-core slabs.

The advantages of using precast concrete for the project were threefold. The ease of erection of precast concrete made it possible for High Concrete to meet the demands of the fast track construction schedule needed to meet Conrail's goal of moving to the new facility within 16 months of the project's inception.

Another key requirement for Conrail was the ability of completed structures to withstand severe manmade or natural disasters, including storm winds up to 200 miles per hour (322 km/h), long term power outages, and 3 ton (2.7 t) objects falling from the sky.

Finally, Conrail and the designers strove to create a visually pleasing structure that would fit into the wooded setting and provide a desirable working environment. To fulfill this requirement, High Concrete supplied aesthetically pleasing white concrete with a sandblasted finish for the exterior walls and spandrels, and employed horizontal reveals.

High Concrete won the 1993 ACI award for the Poplar and Walnut Street Parking Garage in Reading, Pennsylvania.



The Philadelphia Convention Center Marriott, Philadelphia, Pennsylvania.

The American Concrete Institute's new headquarters, shown here in an architect's model, will incorporate precast concrete structural and architectural components.

Precast Concrete Plays Important Role in New ACI Headquarters

Precast concrete columns, beams, and hollow-core slabs as well as architectural precast concrete panels will play a prominent role in the construction of the American Concrete Institute's (ACI) new headquarters building in Farmington Hills, Michigan.

The building is being erected on a five-acre tract of land in an office park that was once a Farmington Hills public golf course; ACI acquired the land in 1990. The site is near major highways in the Detroit-Ann Arbor corridor, other high technological business areas and is convenient for travelers using the Detroit Metropolitan Airport.

Future home to the ACI office staff and publications inventory, the 47,000 sq ft (4366 m^2) structure is scheduled for completion by October 1995. Architect and contractor The ARGOS Group, Southfield, Michigan, specified the use of precast concrete columns, beams, and hollow-core slabs for the building's structural system. All precast concrete will be fabricated by National Precast, Inc. at their Roseville, Michigan, plant.

The partially below-ground first level of the building will be fabricated from cast-in-place concrete. The top two levels of the three-story building will be faced with precast concrete panels. The end exterior walls on the north and south sides will have a customized split rock finish that was created by **Ned Piccinini,** president of National Precast, Inc. The east and west exposed panels will have a smooth finish. Each of the finishes will contain numerous reveals to minimize panel size appearances.

Ground breaking ceremonies, attended by the mayor and city manager of Farmington Hills as well as members of the ACI executive committee and design/build contractor representatives, were held on April 4, 1995.

"It's a great day for ACI," said **Robert F. Mast,** 1995 president of ACI and one of the main speakers at the event. Mr. Mast also emphasized the Institute's worldwide recognition for its design standards, building code, and authoritative publications about concrete technology.

Also participating in the ceremony were Farmington Hills mayor **Joanne Smith** and city manager **William M. Costick,** along with other city officials and top executives from the project's design team. Both the mayor and city manager welcomed ACI to Farmington Hills, a community of over 60,000 located northwest of Detroit.

Although he was not in attendance, special recognition was given to **Charles J. Pankow,** past president and honorary member of ACI. Mr. Pankow, founder of a leading west coast building construction firm, served as volunteer chairman of the Capital Campaign Committee, the group that successfully raised more than $2 million to help in financing the new headquarters building. The Precast/Prestressed Concrete Institute contributed to the fund.

Construction is currently underway on the new ACI Headquarters. More information on the structure can be found in the June 1995 issue of *Concrete International.*

CREDITS

Owner: American Concrete Institute, Detroit, Michigan

Design Firm and General Contractor: The ARGOS Group, Southfield, Michigan

Engineering Firm: McClurg & Associates Inc./Consulting Engineers, Pontiac, Michigan

Precast Concrete Producer: National Precast, Inc., Roseville, Michigan

Attending the ground breaking ceremonies were (from left to right): **Ben Maibach III,** president and chief operations officer of Barton Malow Co.; **George F. Leyh,** executive vice president of ACI; **Alex Ivanikiw,** vice president and chief operating officer of The ARGOS Group; and **Robert F. Mast,** president of ACI.

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Hamilton Form Announces Expansion

Hamilton Form Company, Inc. plans to expand its manufacturing facility in Fort Worth, Texas. The expansion, scheduled for completion in the fall of 1995, will enable Hamilton Form to meet the needs of the growing precast/prestressed concrete industry into the 21st century.

"The expansion will nearly double our production capacity," said **William F. Daily,** president of Hamilton Form. "It will also allow us to relocate and consolidate our plant production equipment and concrete curing blanket divisions at our steel forms facility and corporate headquarters in Fort Worth."

Hamilton Form, founded in 1967, is one of only four firms in the United States that make steel forms used in the precast/prestressed concrete industry and is the predominant manufacturer in North, Central, and South America as well as the Caribbean.

Western Group Acquires Peterson Company

The Western Group, a collection of waterproofing companies headquartered in St. Louis, Missouri, recently acquired the Harry S. Peterson Contracting Services Division from Master Builders, Inc., Cleveland, Ohio.

The Harry S. Peterson Company has been providing waterproofing materials and contracting services for concrete structures since 1929. Master Builders acquired the Peterson Company in 1988 and will continue to manufacture the ISO-Flex product line in its Berea, Ohio, plant.

With the acquisition of the Peterson Company, the Western Group will have more than 40 branch offices located across the United States.

Rotondo and Weirich Form Contracting Team

Steven J. Weirich and **Mario Rotondo** recently formed Rotondo Weirich, Inc., a specialty contractor of precast concrete modular buildings. Rotondo Weirich's major market is correctional facilities. The company will be based in Schwenksville, Pennsylvania.

"It is our goal to see finished precast concrete modular cells established as the conventional method of constructing medium and maximum security correctional housing facilities," said Mr. Weirich, president of the firm. "We believe that the technology and systems Rotondo Weirich has are of highest quality and cost effectiveness. Every client we've completed a project for has contracted with us for a second project."

The two partners of Rotondo Weirich bring to the company an extensive background in the precast concrete industry. Mr. Weirich worked for more than 12 years at Penn-Cast Products and Rotondo/Penn-Cast, holding sales management, general management and vice president positions. Mr. Rotondo, who will serve as vice president, has been involved in the precast concrete industry for 30 years, serving the last 11 years as president of Rotondo/Penn-Cast.

The core team at Rotondo Weirich will provide modular design development assistance, estimating and bidding services, project management, and production expertise.

AAES Presents Strong Testimony for NSF

Testifying March 2 before the United States House of Representatives Subcommittee on Basic Research, **James E. Sawyer,** chairman of the American Association of Engineering Societies (AAES), demonstrated the engineering profession's firm support for programs at the National Science Foundation (NSF).

"We believe that a sustained merit-based, Federal investment in R&D is a core function of the Federal government and is critical to our nation's productivity and standard of living," Mr. Sawyer said. "NSF is a cornerstone to safeguarding and enhancing our nation's science and engineering enterprise."

The Engineering Public Policy Council (EPPC) of AAES endorsed the administration's budget for NSF of $3.6 billion for fiscal year 1996. NSF is the only agency charged with supporting the entire spectrum of science and engineering research and education. However, the EPPC is concerned by proposals to arbitrarily cap NSF's future growth below the rate of inflation.

Tom Quincey (center) of PBM Concrete Inc. describes his company's operations, including special tunnel castings for Fermi Labs.

PPPI Plant Tour Introduces Students to Precast/Prestressed Concrete

Thirty architecture and engineering graduate students from the University of Illinois at Urbana-Champaign took part in the annual tour of Precast-Prestressed Producers of Illinois (PPPI) concrete manufacturing plants in March of this year. This successful program exposes future designers and engineers to the many benefits of precast/prestressed concrete.

Coordinated by **Edward J. Gregory** of PPPI and **Michael K. Kim,** chairman of the Practice and Technology Division of the University of Illinois School of Architecture — Building Research Council, the day long trip consisted of visits to Calumet Flexicore Corp., Hammond, Indiana, J.W. Peters & Sons, Lockport, Illinois, and PBM Concrete Inc., Rochelle, Illinois.

After traveling up from the University of Illinois, the group arrived at Calumet Flexicore, where they were given an in-depth tour of the expansive, wet cast, hollow-core slab production facility. A film on the Flexicore process was viewed along with a question and answer session. Next, the group moved on to J.W. Peters & Sons for a tour of their large extrusion plant where Dynacore hollow-core slabs are produced. The students also observed modern computerized shop drawing methods.

The last stop on the trip was PBM Concrete for a hands-on tour of operations including the bulb tee bed, double tee casting, special tunnel castings for Fermi Labs, insulated wall panel production, and column, beam, and box beam production. This was followed by a 45 minute slide and literature presentation by Mr. Gregory on "The Applications and Advantages of Precast Prestressed Concrete."

The PPPI tours are designed to put the graduate students in touch with the local industry as soon as they start their careers. PPPI Producer Members report that past students who toured their plants are specifying and buying precast concrete products within one or two years of graduation.

The students examine the textures produced with form liners.

Engineering research supported by NSF makes vital contributions to the nation's well-being by maintaining a strong academic and research base, educating a competitive work force, emphasizing multi-disciplinary research and partnerships, and developing knowledge to help meet national needs.

The EPPC believes that NSF has generally achieved an appropriate balance between curiosity-driven research and research in areas of strategic importance to the nation. Mr. Sawyer also said that NSF alone cannot cover the $10 billion cost estimated to modernize facilities and equipment at academic institutions around the country. "Only a coordinated interagency effort could tackle this problem in a realistic effort."

In closing, Mr. Sawyer requested that Congress change NSF's name to the National Science and Engineering Foundation to reflect the emphasis on engineering education and research that Congress mandated in the 1985 NSF Organic Act. "Changing the name of NSF will recognize the significant growth of the engineering profes-

Leslie D. Martin

Michael J. Malsom

Gerald Goettsche

Kenneth Kowall

Walter Korkosz

Thomas J. D'Arcy

sion not only in size, but also in importance to America's education and research base and to the nation's continued technological and economic well-being."

Transportation Design Awards

The United States Department of Transportation and the National Endowment for the Arts are calling for entries for the Design for Transportation National Awards Program. The awards will showcase the best work of the U.S. transportation system by honoring facilities and activities that exemplify the highest standards of design.

Anyone may enter a transportation or transportation-related project built in the United States, or its possessions, between January 1, 1988 and March 1, 1995. Entry categories include passenger and freight terminals, stations, ports, and other structures as well as bridges, tunnels, and overpasses.

The deadline for entries is July 20, 1995. For more information on the awards program, contact **Thomas Grooms** at (202) 682-5437.

CEG Announces Four New Vice Presidents

The Consulting Engineers Group, Inc. (CEG) has announced several management changes, including the appointment of four new vice presidents. In addition, **Leslie D. Martin** will retire as president of CEG-Illinois on July 1, 1995. He will stay on as a CEG director and will open a CEG office in Bella Vista, Arkansas (see the following story).

The CEG-Illinois office will be managed by **Michael J. Malsom,** executive vice president and managing principal. **Gerald E. Goettsche** and **Kenneth R. Kowall** were appointed vice presidents. Mr. Goettsche will continue as secretary-treasurer of CEG-Illinois and CEG-Texas.

Walter J. Korkosz was named vice president of CEG-Texas. **Thomas J. D'Arcy** will continue as president of CEG-Texas.

CEG is well known as an innovator in the use of precast/prestressed concrete and for the design of many distinctive stadiums, parking structures, and justice facilities throughout the United States.

Martin To Establish CEG Office in Arkansas

Leslie D. Martin will retire from his position as president of the Illinois office of The Consulting Engineers Group, Inc. (CEG) and will establish a new CEG office in Bella Vista, Arkansas.

Beginning his career as a field engineer with the Portland Cement Association, Mr. Martin has made many significant contributions to the precast/prestressed concrete industry. Serving on the PCI Board of Directors as a Professional Member from 1980 to 1984, Mr. Martin is also a past chairman of the Technical Activities Council. He was the editor for the 1st, 2nd and 3rd editions of the *PCI Design Handbook* and has been a member or chairman of numerous PCI committees. Currently, he is chairman of the JOURNAL Awards Committee. Mr. Martin is a frequent author of papers in the PCI JOURNAL, receiving the Robert J. Lyman Award in 1992. He is a fellow of PCI, ACI, and ASCE.

Mr. Martin will continue with part-time consulting work for the new CEG office he establishes in Arkansas. We wish him the best of luck with his new endeavor.

ASW Makes Organizational Changes

American Spring Wire Corporation (ASW), Cleveland, Ohio, recently made several organizational changes directed towards continued long term development.

James McDonald has been appointed vice president of advanced wire technologies. Mr. McDonald's 27 years of service to ASW will provide growth and direction for the research and development department. He will be responsible for product enhancement, new product development, and future planning for the R&D team.

Michael Caranna will take the position of corporate technical manager. He will oversee the quality control, quality assurance systems, raw material technical development, and technical services disciplines. Prior to this new position, Mr. Caranna served for more than 10 years as plant manager of ASW's Bedford Heights, Ohio, operations.

Ralph Friedel will take over as plant manager in Bedford Heights. Mr. Friedel has been with ASW for 15 years, working directly with process and operational management and as assistant plant manager.

ASCE Seminar on Bridge Rehabilitation

The American Society of Civil Engineers (ASCE) is sponsoring a seminar on Bridge Rehabilitation: Evaluation and Upgrading, September 22-23 at the Holiday Inn Crowne Plaza in Las Vegas, Nevada.

The seminar focuses on effective identification of problems and the most practical solutions for bridge rehabilitation and/or strengthening. Serving as instructors for the seminar are **David Moskowitz,** a professional engineer with over 30 years of experience in inspection, evaluation, rating and rehabilitation of both fixed and movable bridges, and **Joseph J. Pullaro,** a professional engineer with over 30 years of experience in the inspection, design and construction of highway and railroad bridges, including new and rehabilitated projects.

For more information on the seminar, contact: Continuing Education Services, American Society of Civil Engineers, 345 E. 47th Street, New York, New York 10017. Tel.: 1-800-548-2723; fax: (212) 421-1826.

High Concrete Erects Children's Hospital

High Concrete Structures, Inc., Denver, Pennsylvania, supplied and erected architectural precast concrete for the construction of the Janet Weis Children's Hospital at Geisinger Medical Center. The 125,000 sq ft (11615 m²), five-story Children's Hospital adjoins the eastern end of the main hospital on the Danville, Pennsylvania, campus and is home to state-of-the-art facilities and technology for the highest level of pediatric care.

Although the other buildings on the medical campus are faced with brick, precast concrete was chosen for the architectural cladding for a number of reasons. First, the designers felt that the flexibility offered by precast concrete would best suit the special contours and fine corner features of the complex, octagonally shaped structure. Second, precast concrete was chosen for its aesthetic value. The quality color and texture of the precast concrete cladding helped the hospital blend with the neighboring buildings and preserve the beauty of the campus. Finally, the environmentally-controlled prefabrication of the 170 spandrels, 32 column covers and miscellaneous pieces used to clad the structure assisted in meeting the designers' tight construction timeframe.

Construction of this $26 million project began in 1992 with the final touches of landscaping put in place in May 1995.

Virlogeux Named "Man of the Year" by ENR

Michel Virlogeux has been named "Man of the Year" and presented with the 1995 Award of Excellence by *Engineering News-Record*. The weekly construction magazine cited Mr. Virlogeux for "overcoming industry skepticism" in the design and construction of the new Normandy Bridge across the River Seine in northern France.

The 856 m (2800 ft) span is the world's longest cable-stayed bridge, representing a 60 percent increase in length over other cable-stayed bridges. This feat was made possible by adopting aerodynamic deck sections similar to those used in suspension bridge decks. But it was Mr. Virlogeux's strong character and personality that made the bridge a reality. "I think we would never have built the bridge without him. Very few people have such a capacity to imagine solutions to new problems," said **Bertrand Deroubaix,** project manager for the bridge's owner, Le Havre Chamber of Commerce.

Formerly with Service d'Etudes Techniques des Routes de Autoroutes, France's bridge design agency, Mr. Virlogeux started a new career as an independent consultant the day after the Normandy Bridge was opened to traffic in January 1995. He also teaches at the Ecole Nationale des Ponts et Chaussées in Paris where he attended college.

Mr. Virlogeux is very active in the administrative and technical committee work of the Fédération Internationale de la Précontrainte (FIP).

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Eby to Head Barton-Aschman

Clifford C. Eby was named president of Barton-Aschman Associates, Inc., a subsidiary of The Parsons Corporation. Prior to this appointment, Mr. Eby was executive vice president and chief operating officer of Barton-Aschman.

Mr. Eby began his career at De Leuw, Cather & Company, another Parsons subsidiary, in 1973. After working at the Association of American Railroads from 1980 to 1985, he returned to De Leuw, Cather as vice president of corporate services. From 1990 to 1994, he held the position of vice president of finance and treasurer of De Leuw, Cather. Mr. Eby has been with Barton-Aschman since 1994.

Turkish Colloquium on Semi-Rigid Connections

A call for papers has been issued for the International Colloquium on Semi-Rigid Structural Connections, scheduled for September 25-27, 1996 in Istanbul,

Turkey. The colloquium is organized by the Turkish Group for the International Association for Bridge and Structural Engineering. Concentrating on semi-rigid connections as they apply to a variety of building materials, the colloquium will examine the themes of experimental results, local/global analysis, design guidelines, research and development needs, and data base organization.

Those interested in presenting papers for the colloquium should submit an abstract, not more than two single-spaced typed pages, in triplicate no later than November 1, 1995. Direct all abstracts and correspondence to the Turkish Association for Bridge and Structural Engineering, Atatürk Blv. 151/507, TR-06640 Ankara, Turkey. Tel.: 90-312-210-1324 or 90-312-418-0702; fax: 90-312-210-1262.

Symposium on FRP Materials

The Second International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures will be held August 23-25 in Ghent, Belgium. In the last decade there has been a considerable increase in interest in the use of non-metallic reinforcement for concrete structures. As research, development, and successful applications demonstrate, FRP elements can serve as a viable alternative to reinforcing and prestressing steel, offering the advantage, among others, of imperviousness to many types of corrosion.

The aim of this symposium is to provide a forum for those already involved in the use of FRP elements and those interested in learning more about the materials. For more information, contact: Magnel Laboratory for Concrete Research, University of Ghent, Technologiepark-Zwijnaarde 9, 9052 Ghent (Zwijnaarde)/Belgium. Tel.: 32-9-264-55-18; fax: 32-9-264-58-45; e-mail: ltaerwe@mecanic.rug.ac.be.

GOSH! THOSE MIRRORS SURE MAKE A PERSON LOOK OUT OF SHAPE.

New York City Adopts Seismic Regulations

Starting in 1996, buildings constructed in New York City will, for the first time, be designed to resist seismic loads. **Mayor Rudolph Giuliani** signed the measure adopting earthquake provisions into the New York City Building Code on February 21, 1995.

The seismic requirements were produced by the New York City Seismic Code Committee, chaired by **Guy Nordenson** of Ove Arup & Partners, and including Earthquake Engineering Research Institute (EERI) members **Peter Edinger, Jacob Grossman,** and **Klaus Jacob.** The 31-member committee examined the seismic provisions of the major model building codes and the National Earthquake Hazards Reduction Program (NEHRP) Recommended Provisions, and concluded that none met the particular needs of New York City.

The committee, using the Uniform Building Code (UBC) as a starting point, attempted to tailor a seismic code that specifically addressed the problems of designing buildings in moderate seismic zones in intraplate regions.

Some of the specific requirements that have been used to custom fit a seismic code to New York City are:

- Minimum required building separations are decreased to $^1/_{600}$ of the total building height, rather than the $^1/_{100}$ as used in the UBC and the Building Officials and Code Administrators (BOCA) Code.
- A soil factor for New York City's extremely hard rock was established that reduces design forces by 33 percent.

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We have a **LIFETIME** of **OPPORTUNITY** to offer you! Talk to the most progressive company in this industry.

Apply in complete confidence to:

George Southworth, President

P.O. Box 21298
Denver, CO 80221
(303) 426-0222

LEAP ASSOCIATES International, Inc.

PRODUCT MANAGER POSITION

Grace Construction Products, a leading worldwide manufacturer of concrete admixtures, is looking to fill a position of Product Manager. This position will be responsible for a variety of products which have a broad application in the concrete construction industry as well as those developed for specific market segments. Direct customer contact which identifies customer needs leading to the development of marketing programs will be an important part of this position.

Experience required: 5+ years of successful industry experience, undergraduate degree, MBA preferred.

Send resume and salary history to:

Judith G. Tolan
Grace Construction Products
62 Whittemore Avenue
Cambridge, MA 02140

EMPLOYMENT SERVICE

Career advancement. Higher satisfaction. Better positions. Different locations. Confidential treatment. No employee fee. Goals, needs and skills evaluated. Let's talk:

MILLARD PEIRCE
P.O. Box 2844
Ormond Beach, Florida 32175
(904) 677-5570

HOLLOW-CORE DRAFTSPERSON

- Experienced in this area of the precast concrete business
- AutoCAD Release 12 background
- Good work history
- Job location — Lockport, Illinois

Send updated resume with salary requirements to:

Human Resources
J.W. Peters & Sons Inc.
P.O. Box 160
Burlington, Wisconsin 53105
EOE

- A soil factor of 2.5 for extremely soft soil was added.
- Checks on liquefaction potential are included.
- Ordinary moment frames of reinforced concrete are permitted.
- R_w factors for reinforced masonry are lower than in the UBC.
- Many seismic design requirements for nonstructural portions of buildings apply only to areas of public assembly and exit routes.
- Schools and daycare centers are classified as essential facilities.

The committee began its effort in 1989. The final draft was issued two years later in April 1991. It took nearly four years to bring the document through the political process that ultimately led to formal adoption in April 1995.

ICBO Annual Education and Code Development Conference

The International Conference of Building Officials (ICBO) will meet in Clark County, Nevada, September 10-15 for the 73rd Annual Education and Code Development Conference. Over 1000 building officials, building department personnel, architects, engineers and industry representatives from across the United States and representatives from several other countries are expected to attend. ICBO Expo '95, the 1995 Building Safety and Code Enforcement Products Exhibit, will showcase more than 75 exhibits displaying new products and state-of-the-art technology from manufacturers, service companies, and trade associations.

For more information, contact ICBO at 5360 Workman Mill Road, Whittier, California 90601 or call the new ICBO Fax-on-Demand system at (310) 699-4253, code number 4226.

Conference on Computing and Information Technology

The First International Conference on Computing and Information Technology for Architecture, Engineering and Construction will take place in Singapore on May 16-17, 1996. The conference will serve as a forum for sharing ideas on the effective use of information technology on an industry-wide basis, deployment of information technology and computers to gain a competitive edge, and strategic planning in research for better utilization of information technology, among others. For more information, contact: **John S Y Tan,** 150 Orchard Road #07-14, Orchard Plaza, Singapore 0923. Tel.: 065-7332922; fax: 065-2353530.

Underground Space and Urban Planning Conference

Scheduled for September 26-29, 1995, the Sixth International Conference on Underground Space and Urban Planning will take place in Paris, France. The conference addresses the renewed interest in underground urban planning and how designers and engineers can approach the complex relationships it brings to the urban environment. For more information, contact: Laboratoire Théorie des Mutations Urbaines, "Conférence EUS 95," Institut Français d'Urbanisme, Cité Descartes, 4, rue Alfred Nobel, F. 77420 Champs-sur-Marne, France.