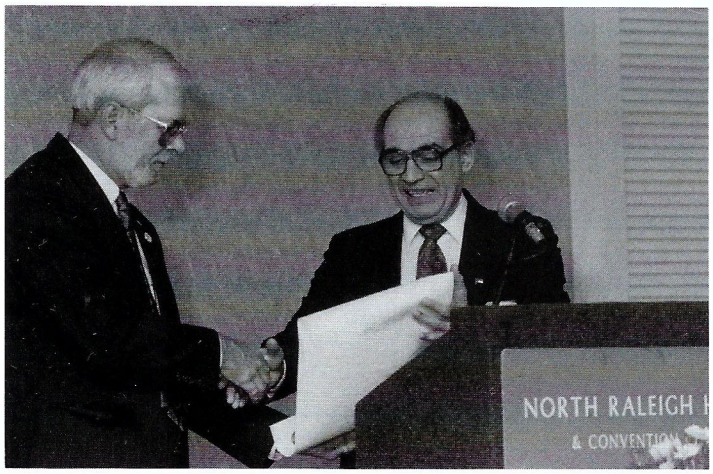
SCANNER

NEWSLETTER OF THE AMERICAN SOCIETY OF HIGHWAY ENGINEERS

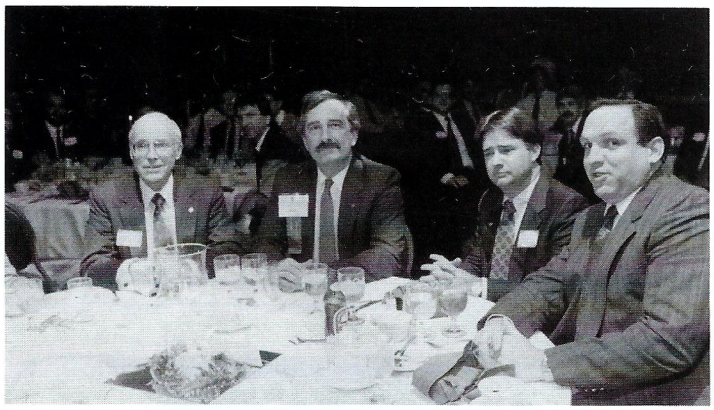
2-1992

30th ASHE Charter Presented to Carolina Triangle Section Congratulations and Welcome



Bob Pearson, President Carolina Triangle Section; Sam Callisto, National President

Bruce Leonard, Section 2nd V. P.; Jimmy Beckom, Section 1st V. P.; Bill Butler, Section Secretary; Ron Fitzula, Section Board of Directors; Jim Graham, Section Treasurer; Bob Lee, Section Board of Directors; Bob Pearson, Section President; Henry Clegg, Section Board of Directors; Jim Anglin, Section Board of Directors; Charlie Flowe, Section Board of Directors



Individuals From Left to Right: Roland Nesslinger, National 2nd V.P.; Mike Martin, National Board of Directors; Ray Petrucci, National Board of Directors; Dave Greenwood, National Board of Directors

January 23, 1992 marked a historic milestone in the annals of ASHE. The Carolina Triangle Section, located in Raleigh, N. C., chartered on this date with a record 186 members. This was a monumental accomplishment considering that North Carolina was only introduced to the National Organization in April of 1991. Much of the credit is due to the efforts of National Directors Mike Martin, Ray Petrucci, Dave Greenwood and others who fostered expansion of ASHE into the South.

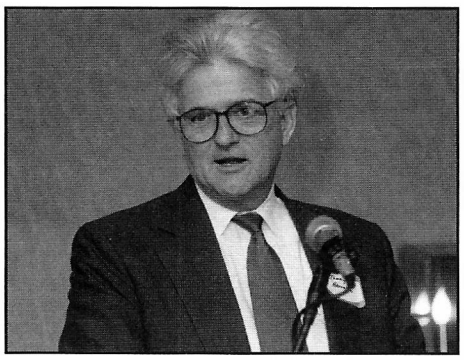
Charter night featured an agenda which included comments from National President Sam Callisto who presented the charter and installed officers. Speaking on the recently passed Surface Transportation Bill were FHWA Regional Administrator, Leon Larsen; and North Carolina Secretary of Transportation, Tommy Harrelson. Other dig-

Continued on next page

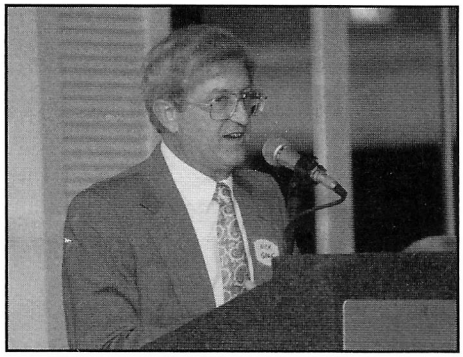
ASHE 30th Annual Convention Schedule & Registration Forms Enclosed

Carolina Triangle Section Continued from page 1

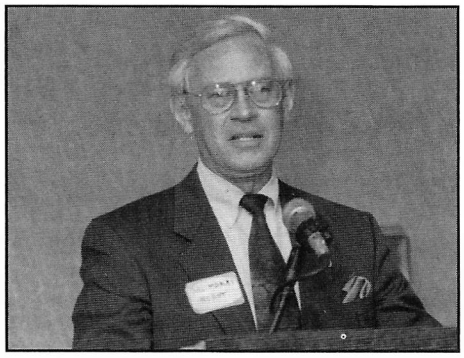
Leon Larsen, FHWA Regional Administrator



Tommy Harrelson, N. C. Secretary of Transportation



Nick Garf, FHWA Division Administrator



Bill Marley, N. C. Highway Administrator

nitaries in attendance included ASHE National 2nd Vice President, Roland Nesslinger; National Directors mentioned above; FHWA Division Administrator, Nick Graf; and North Carolina Highway Administrator, Bill Marley.

Site selection for this historic event was the North Raleigh Hilton where excellent food and facilities were provided. Members and guests present were not disappointed as they heard details for distribution of the $150 Billion Transportation Bill. North Carolina has been very aggressive in its attempt to ensure getting a "Fair Share" of available funds, and highway construction would be a key element in leading the Nation and State out of the recession. General enthusiasm prevailed as attendees listened to positive and encouraging remarks indicating an end to the recent highway industry slump.

Section leaders who were installed at the meeting accepted responsibility to uphold the principles of the organization and foster its purpose. Individual officers and directors installed are: President, Bob Pearson; 1st V. P., Jimmy Beckom; 2nd V. P., Bruce Leonard; Secretary, Bill Butler; Treasurer, Jim Graham; Board of Directors, Henry Clegg, Ron Fitzula, Jim Anglin, Bob Lee, and Charlie Flowe. Other members in attendance pledged their support to the Section and its leaders. All members of the Carolina Triangle Section look forward to a long and prosperous relationship with ASHE and its affiliates. ■

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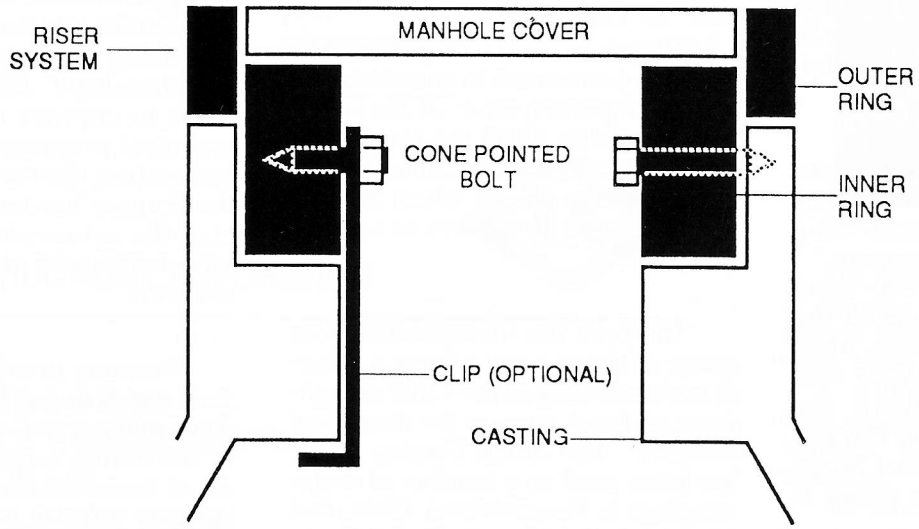

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Long Range Plan 1989-1992 Progress Report

In 1989, your National Board approved our first LONG RANGE PLAN, revised our Mission Statement and established seven goals for 1989-1992. I am pleased to report that significant progress has been made in many areas. A brief overview is as follows:

Goal 1 - Society Organization

"Provide for the effective and efficient management of the Society which will best serve the membership and fulfill the Mission Statement." I have been very impressed with dedication and professionalism of the national directors and officers. They ceaselessly strive to provide cost effective leadership toward the improvement of the Society. The size and structure of the National Board both near term and long range is being evaluated.

Goal 2 - Membership

"Increase the membership to expand the influence of the Society through communications that will promote and improve all segments of the highway industry, and facilitate the ethics, leadership, and career growth of the membership." We have had a very active New Sections Committee that met the objectives of bringing in one new state and two new sections each year. They developed a dynamic "New Sections Manual" and emphasized membership retention in the established Sections.

Goal 3 - National Convention

"Promote and improve the National Convention to encourage the collective participation of the membership and to fulfill the purpose of the Society." President Callisto recently completed a survey which is being used to focus the efforts to achieve this goal.

Goal 4 - Public Awareness

"Improve the identification and image of the Society to foster a general understanding of the value of highways and seek support for their fiscal viability." The ASHE Display Board has been used at a number of major meetings in Pennsylvania, Ohio, and Maryland. We have financially supported local Sections who co-sponsored technical seminars in Virginia, the Ohio Transportation Engineering Conference and membership in the Construction Legislative Council in Pittsburgh. Our national president has presented ASHE positions at the public forum for setting 21st century transportation strategies.

In addition, most local Sections have established a public relations committee and supply public speakers on highways. Several Sections have actively sought to orient junior and senior high school students to engineering careers.

Goal 5 - Membership Services

"Promote and publicize technological advances and cost saving techniques used in the highway design and construction, stress the value of individuals and facilitate the ethics, leadership, and career growth of the membership." Efforts have been made to improve the quality of the technical programs at the national convention, the technical articles in the Scanner has been used to publicize the achievements and career advancements of our individual members.

Goal 6 - Society Involvement

"Promote involvement in Local, State and National Issues and demonstrate to the membership and the public the Society's concern and support on all issues relating to the highway industry." ASHE was featured in an article in the Highway Builders Magazine and our president presented testimony at a national transportation policy meeting. The individual Sections have been supported in their efforts to promote the highway industry in local and statewide forums. The Scanner has provided information on ASHE policies and concerns in Support of highways.

Goal 7 - Fiscal Viability

"Maintain an effective National Organization that supports the Sections by providing leadership and services while maintaining an equitable dues structure and funding policy for the Society." All national committees have been requested to submit information toward the development of a three year budget. Also, progress has been made in increasing Scanner advertising. Continued emphasis has been placed on maintaining our very reasonable individual dues.

In summary, the Long Range Plan is intended to be a dynamic process with review and enhancements every three years. Much has been accomplished during the initial three years and we have gained valuable experience which will yield improvements in next year's update. ■

Stephen B. Lester, *P.E.*
Chairman
Long Range Planning Committee

Traffic Planning & Design, Inc.

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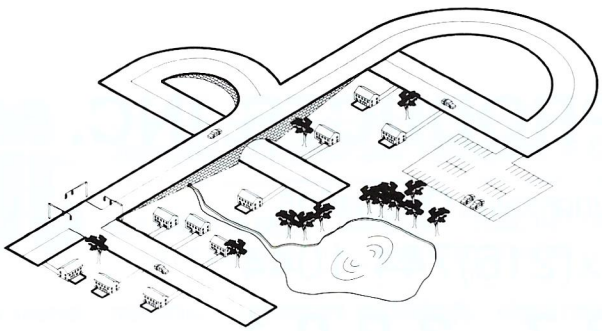
Highway Design
Environmental Impact Analysis



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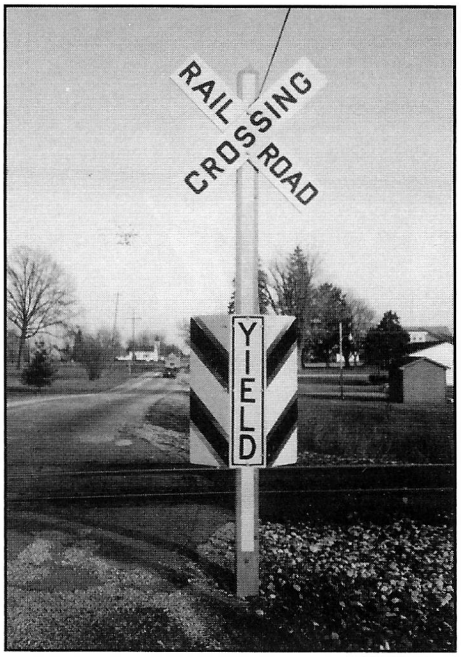
Ohio Governor Unveils New "BUCKEYE CROSSBUCK"



In an innovative effort to increase railroad crossing safety, Governor George V. Voinovich, Ohio Department of Transportation Director Jerry Wray and Public Utilities Commission Chairman Craig Slazer introduced the "Buckeye Crossbuck," a highly reflective, newly-designed sign that will be tested throughout Ohio and may eventually be used nationwide.

The Ohio Department of Transportation will develop a plan to place two of the 11-foot high aluminum signs at each of the 3,741 rail crossings in Ohio which currently do not have electronic warning devices. Under an agreement with the Federal Highway Administration, Ohio will erect and study the results of using the devices.

The Governor stated: "This is an exciting and innovative project. This will be the first change to the basic rail crossing warning sign in more than 100 Years. I'm proud to say that ohioans developed it, cooperated to produce it and convinced Federal officials to let us use it. I'm hopeful that, in just a few years, they are seen across America." He warned, however, that the "Buckeye Crossbucks," by themselves, would not lead to fewer rail/car accidents. "with admirable cooperation from railroad officials, and county, state and federal government, we can install these new signs, but their success depends on Ohio motorists, who must heed them and continue to be especially cautious at crossings."

Traditional railroad crossbucks - first used 109 years ago - used black letters on a white background in the form of two arms which form an "X". The new device uses improved reflective material and has a three sided "yield" sign beneath for added visibility. The new colors for the sign are red and white.

The "Buckeye Crossbuck" was developed in Ohio, through the cooperation of Conrail labor and management and ODOT. Martin Joyce, a Conrail engineer, was recognized for his efforts to refine the device and promote its use.

Director Wray, whose agency shares rail crossing oversight with the PUCO, said that during Ohio's test program of the crossbucks, one-half of the signs would be red and white, while the others would be the traditional black and white. Each crossbuck will cost an estimated $200 to produce.

"The "Buckeye Crossbuck" is a cooperative effort that demonstrates what government agencies can do if they listen for good ideas, then focus on implementing those which best serve the public," said Wray. ■

Taken from Governors News Release (1-13-92)

AUTO-TRAIN ACCIDENTS

Auto-train accidents average 6000 per year in the United states. Texas which has the most train crossings and consistently has the most accidents. Ohio has been second for the past 5 years with an average of 391 accidents, 58 deaths and 150 injuries at railroad crossings. ASHE recognized the efforts of Ohio and the various agencies to address the auto-train accident issue. Keith Hinshaw, ODOT Research Evaluation Engineer and a member of the Central Ohio Section of ASHE will oversee the installation of the new railroad crossing signs in Ohio. ■

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Engineering Conference Focus: Funding

by Paul Staley

More than 1,300 engineers, transportation professionals, and ODOT employees converged on Ohio State University's Fawcett Center for Tomorrow Dec. 3 to attend the 45th annual Ohio Transportation Engineering Conference.

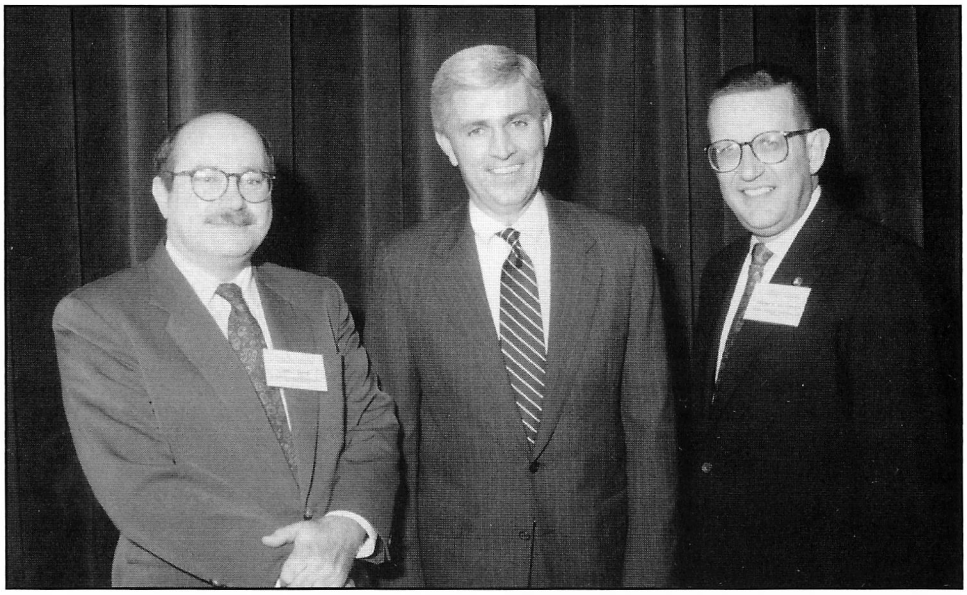
The two-day conference provided an opportunity for individuals to exchange and express ideas concerning various transportation issues.

The recent passage of the Intermodal Surface Transportation Efficiency Act of 1991 was topical at the conference. Eugene McCormick, deputy administrator of the Federal Highway Administration, provided insight into the funding provisions of this legislation. Monies totaling $119 billion have been allocated for repair of our nations highways and $32 billion was earmarked for mass transit systems.

"Ohio will receive $700 million each year for the next 6 years, an increase of 60 percent over previous years," said McCormick.

Ohio will also receive 95 cents of every $1 of federal gas tax money sent to Washington.

"This act focuses on the flexibility and partnership between federal, state and local governments and also increases funding for the nations infrastructure," stated McCormick.



Left to Right: Fred J. Hempel, Division Administrator Federal Highway Administration; Jerry Wray, Director, Ohio Department of Transportation; Eugene McCormick, Deputy Federal Highway Administration

The legislation also increases funding for bridge repair and research and development.

Following McCormick's remarks, Director Wray discussed the positive impact this legislation will have on Ohio's transportation system. "The money from this act will help build a better transportation system, create jobs, and increase economic opportunities for Ohioans," said Wray.

Wray described what changes he would like to see occur at ODOT. "Positive change can only be achieved by the people of ODOT. We must establish a definition of customer, a sense of mission and an understanding of what the goal is. ODOT also needs to declare war on the bureaucracy of memos, directives, policies and red tape," stated Wray.

The remainder of the conference centered around group sessions dealing with such issues as wetlands, historic bridges, economic development, asphalt pavements and the intelligent vehicle highway system. These sessions enabled individuals to more thoroughly examine various transportation related issues.

The Ohio Section of ASHE actively participated in the planning and conducting of the conference along with the Ohio Department of Transportation, Ohio State University, Ohio Section, Institute of Transportation Engineers, Federal Highway Administration, County Engineers Association of Ohio, Ohio Transportation Technology Transfer Center and members of student chapters of the Institute of Transportation Engineers and American Society of Civil Engineers.

A special thanks to everyone involved in helping make this years conference a big success. ■

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Central Ohio Field of Dreams Takes Shape

Civil Engineering Associates, founded in 1986 by Jim Olausen and Jim Gabriel, was awarded the Polaris Centers of Commerce infrastructure design contract in June of 1989. The main objective was to successfully complete the first privately funded interchange on I-71 in the State of Ohio. The interchange, located just north of Columbus in Delaware County, officially opened November 21, 1991.

This interchange includes a six-lane bridge over I-71, and the new three-mile Polaris Parkway, which links South Old State/Powell Road on the west with Worthington Road on the east. The State of Ohio and FHWA funded the widening of a two-mile strip of I-71 to six lanes between I-270 and the new interchange.

The contract included the design of the I-71 widening, the diamond interchange with I-71 and related noise walls, access roads and utilities. These facilities will enable the Polaris development, over 1200 acres of commercial property, to be completed in the next 10-15 years.

The following is a timeline illustrating the project's successes. The design began in June of 1989 and the project was completed by November of 1991:

March 1985 - FHA approves interchange in the vicinity of Powell Road.

Spring 1986 - Robert Echele purchases first parcel of land.

February 1987 - NP Limited Partnership forms with the intent of privately funding an interchange.

Fall 1987 - NP Limited Partnership begins preparing documents to add the interchange to Southern Delaware County Thoroughfare Plan.

January 1988 - Delaware County Commissioners adopt Southern Delaware County Thoroughfare Plan including the need for an interchange.

NP Limited Partnership initiates environmental studies.

February 1989 - ODOT approves interchange and formally requests approval from FHA.

June 1989 - CEA begins preparation of construction documents.

August 1989 - FHA approves Polaris Parkway access point for interchange.

March 1990 - ODOT and FHA approve environmental studies.

June 26, 1990 - Bid opened for interchange and I-71 widening. ($10.3 Million)

July 10, 1990 - Groundbreaking. Construction begins concurrently on the widening of I-71 and the interchange.

February 6, 1991 - Bids opened on Polaris Parkway ($3.3 Million).

March 18, 1991 - Construction begins on Polaris Parkway.

October 3, 1991- Preview and dedication of Polaris Parkway and I-71's newest interchange.

November 21, 1991 - Interchange and access road opened to traffic.

When the Polaris Centers of Commerce is completed, it is expected that over 60,000 construction jobs and 27,000 permanent jobs will have been added to the Columbus economy. The development's total build out value will be some $2 billion, which will generate $50-55 million annual tax revenues. The owners of Civil Engineering Associates are members of the Central Ohio Section of ASHE. ■

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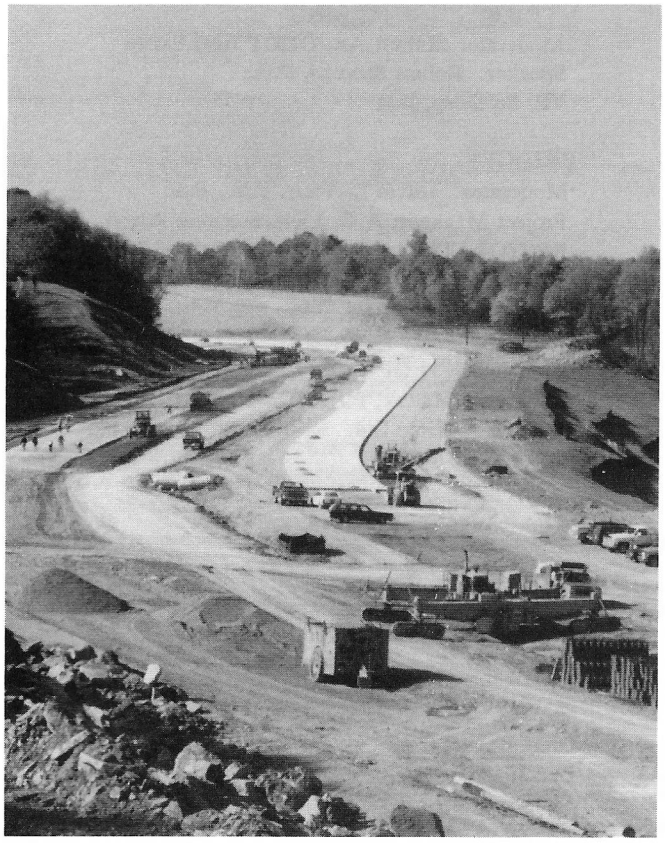

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MAY 14, 15, 16-17, 19

"The Courage To Explore . .

TECHNICAL PROGRAMS

Friday, May 15, 1992

9:00 - 10:00 GENERAL SESSION
Welcome
Keynote Speaker: Dean Carlson
Exec. Dir. FHWA

10:30 - 12:00 RISK MANAGEMENT a.k.a. TORT LIABILITY a.k.a. C.Y.A. - A MOCK TRIAL
Moderator: Glen Sprowls, Exec. Dir.
County Engineers Association of Ohio

1:45 - 2:45

Session 1 RECENT DEVELOPMENTS IN SUBSURFACE UTILITY ENGINEERING
Moderator: Robert Art, ODOT Real Estate
Speaker: Robert Stevens, P.E.,
VP, So Deep, Inc.

Session 2 BRIDGES
Moderator: David L. Weir, P.E., P.S.
Project Manager, A.G. Lichtenstein & Assoc., Inc.
RESTORATION OF THE ASHBROOK ROAD COVERED BRIDGE
Speaker: John Circle, P.E., P.S.
Franklin County Engineer
THE DESIGN OF THE DISCOVERY BRIDGE
Ronald K. Mattox, P.E.
Burgess & Niple Ltd.

3:15 - 4:15

Session 3 CONCEPTS OF PARTNERING
Moderator: William Clark, Exec. Dir.
US Arbitration & Mediation of OH & WV
Panelists: Dan Compston, Kokosing Const. Co.
Mike Currie, Arter & Hadden Attorneys;
Mark Kelsey, Contract Sales, ODOT;
John Tornes, Labor Relations, ODOT

Session 4 COMPUTERIZED TRAFFIC MANAGEMENT
Moderator: Steven Jewell, P.E., Traffic Eng., City of Columbus
Speakers: Steve Bailey, P.E.
Traffic Eng., City of Cincinnati
Eagan Foster, P.E., Traffic Eng., City of Columbus

Saturday, May 16, 1992

9:15 - 10:30 GENERAL SESSION - A PANEL DISCUSSION
ADVOCACY a.k.a. LOBBYING a.k.a. P.R. ENGINEERING
Moderator: C.Clark Street, Exec. VP
The Ohio Contractors Association
Panelists: State & Municipal Officials

SEE DIRECT MAIL PACKET FROM YOUR HOST COMMITTEE FOR FULL PROGRAM AND MORE INFORMATION.

SPOUSES' PROGRAM

Friday, May 15, 1992

9:15 - 4:00 Ohio Theatre Tour
Lunch
Shopping & Browsing - City Centre

Saturday, May 16, 1992

8:00 - 10:30 Breakfast and Fashion Show - Casual Corner

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AIRLINE INFORMATION

- US Air will offer 40% discount on full coach fare (no penalty) and 5% off discounted fares (restrictions apply). Discounts from the Continental United States, Bahamas and San Juan, PR. Travel valid for round trip US Air only May 11-20, 1992
- ASHE members may call Fifth Third Travel at (800) 793-3600 or (614) 885-3616 to make reservations. (If less than ten fares are booked, regular prices will apply).
- Holiday Inn has courtesy phone near center exit from baggage claim area for courtesy van to the Hotel (20 minute trip).

GOLF TOURNAMENT INFORMATION

The annual golf tournament will be held at the Shamrock Golf Club. Tee times will be reserved beginning at 12:00 Noon on **Thursday, May 14, 1992.** The tournament fee includes green fee, cart and prizes. A sign-up sheet will be provided at the registration desk if you have preferred partners or want to be placed with a foursome.

COME EARLY

SIGN UP

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☐ GUARANTEE CREDIT CARDS ACCEPTED AX DC MC VS DS CB HI ESTIMATED TIME OF ARRIVAL _____ A.M. P.M.

GROUP: AMERICAN SOCIETY OF HIGHWAY ENGINEERS DATE: MAY 14-16, 1992 RATE: $71.00 + TAX

Please print or type name as you want it to appear on your badge. Please complete the form below.

Member name _____ **Nickname for Badge** _____

Guest: _____ **Nickname for Badge** _____

Address: _____ **City** _____ **State** _____ **Zip** _____

Telephone Number _____ **ASHE Section** _____

EVENTS	Fee (per person)	Number Attending	Total Fee
Convention Registration **(No additional fee for one guest)** **If paid before April 16** **If paid after April 16**	 **$50.00** **$60.00**		
THURSDAY, MAY 14			
Honda Assembly Plant & TRC Field Trip (includes box lunch)*	$16.00		
Golf Tournament (includes green fee, cart and prizes)	$40.00		
Ice Breaker Reception (includes drinks, hors d'oeuvres and live entertainment)	$ 8.00		
FRIDAY, MAY 15			
Continental Breakfast	-0-		-0-
General Session: Mock Trial & Keynote Speaker	-0-		-0-
Spouses' Program (includes lunch)*	$20.00		
Luncheon	$12.00		-0-
Technical Sessions	-0-		
Scioto Downs Harness Racing (admission & dinner)*	$28.00	**fish: beef:	
SATURDAY, MAY 16			
Continental Breakfast	-0-		-0-
Spouses' Breakfast & Casual Corner Show	-0-		-0-
General Session: "Dealing with the Legislature"	-0-		-0-
Ameriflora '92 - International Exposition*	$23.00		
Annual Reception/Banquet (Includes live entertainment)	$30.00	**beef: chicken:	
Sunday, May 17			
Continental Breakfast	-0-		-0-
Make checks payable to "1992 ASHE Convention Committee" for a total of: Cancellations will be accepted until May 8, 1992			

*** Bus transportation will be provided for this event.**

****Please indicate the number of each entree.**

RETURN THIS FORM TO:

Kathy L. Vogt, P.E., Treas. ASHE Convention Comm.
Burgess & Niple Limited
5085 Reed Road
Columbus, Ohio 43220

Flowable Fill

Dana Burns - Manager
GAI Consultants-Charleston, West Virginia

Flowable fill is typically a mixture of Portland cement, fly ash, and water. However, it can also include aggregate and admixtures or alternatively the Portland cement may be deleted. Flowable fill is a low strength backfill which may be less expensive than conventional soil backfill in locales where fly ash is readily available.

Advantages

Among the advantages of flowable fill are:

- Non-consolidating after cure
- Self-compacting
- Self-leveling
- Less labor intensive
- Quick set
- Easily placed in inaccessible places
- Uniform material
- Low unit weight

Flowable fills derive their strength from the pozzalanic reaction of the fly ash as well as cementitious reactions if cement is used. Depending upon the particular mix design used a wide range of strength, durability, and permeability are achievable. If the slump is maintained in the 4 to 6 inch range the flowable fill will typically remain in place. If the slump is increased to 7 to 10 inches, then the material will flow long distances and penetrate fine cracks. Experience indicates that low strength, high water content mixes may bleed water and shrink 1/8-1/4 inch per foot of material placed. However, once cured no additional shrinkage occurs. Generally a cement content of 3% -6% yields a strength of 70-200 psi. It should be pointed out that strength continues to develop with time. In order to allow for future excavation of this material, the maximum unconfined compressive strength should be limited to 150 psi.

Other advantages are that placement is possible during wet weather, at low temperature (around 0°F), and the material can displace free-standing water. Also flowable fill can be poured in layers thus reducing heat of hydration and potential for microcracks.

Disadvantages

Flowable fill disadvantages include:

- Formwork required in some cases
- Pipes may float (require anchoring or weighting)
- Low strength mixes have decreased freeze-thaw durability; should be capped above frost line

It should be noted that Class F fly ash (typically from anthracite or bituminous coals) and Class C fly ash (typically from subbituminous or lignite coals) may produce different results due to different chemical/physical properties. Therefore, the type of fly ash used and its properties must be considered during mix design.

Potential Uses

Based on the advantages listed above flowable fill may be used as utility trench backfill, bridge abutment backfill, backfilling of abandoned sewer lines and other conduits, filling hard to reach areas under buildings and around foundations, and in conjunction with corrugated metal culverts for small bridge replacements. The fact that this material is non-consolidating after curing helps eliminate the "bump" which often develops at bridge abutments at the interface between the compacted soil backfill and the road base. Flowable fill also eliminates the "dip" in roadways caused by open-cutting for utility trench/culvert installation. Many states now prohibit open-cutting of highways for this reason which has resulted in the more expensive alternative of boring and jacking being required. In many cases, particularly on lesser traveled secondary highways, the use of flowable fill may allow the return of open-cutting.

Summary

In summary, flowable fill offers many technical as well as economic advantages when compared to conventional soil backfill. This is particularly true in areas near power stations where fly ash is normally readily available. Two of the most promising applications for flowable fill are as utility trench backfill and for bridge abutment backfill.

Acknowledgement

The author would like to acknowledge the efforts of Mr. James Burnell of Monongahela Power Company in Fairmont, West Virginia for his assistance in compiling information relative to flowable fill material. ■

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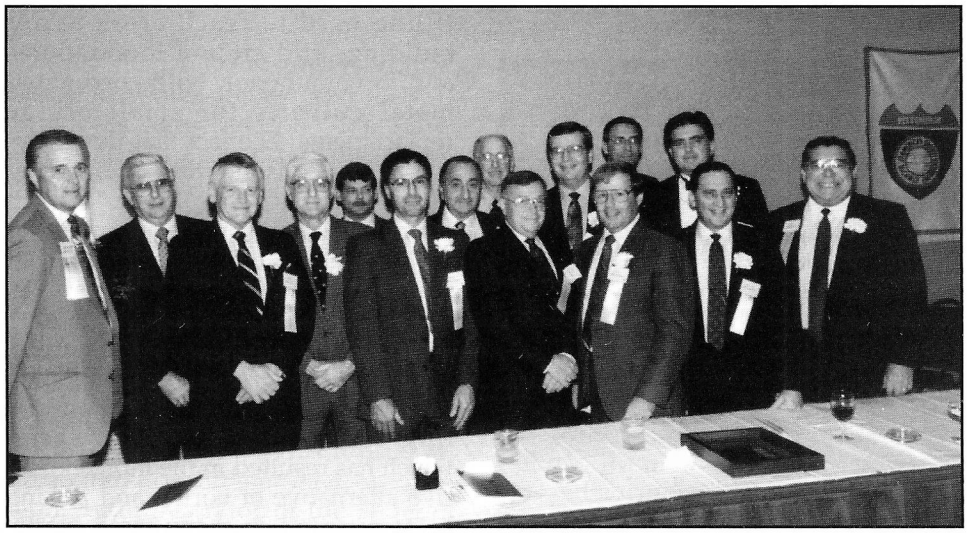
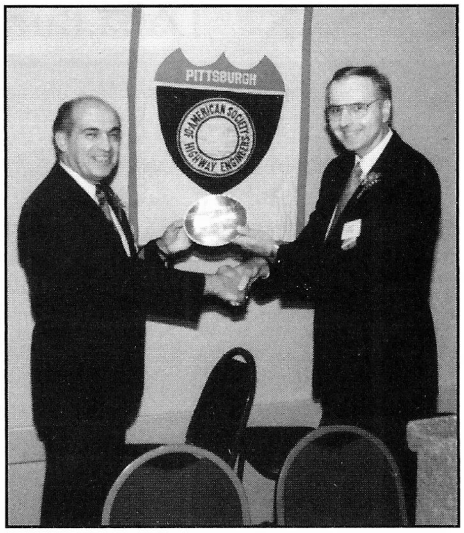


Pittsburgh Section Past Presidents (left to right) Al Kozel, Rudy Mclani, Bill Becker, Norm Cochran, Mike Tiani, Don Gennuso, Joe Bianco, Dick Wright, Bud Schubel, Bob Balkovec, Lisle Williams, Tom O'Brien, Bill Arnold, Marty Milinarich, John DeRoss.



Pittsburgh Section President William J. Bury presenting 25th Anniversary plate to National President Sam Callisto

The American Society of Highway Engineers, Pittsburgh Section, was chartered on October 16, 1966 and will celebrate its Silver Anniversary throughout the year with a variety of programs and activities.

The Past President's Silver Anniversary Dinner was held at the Greentree Marriott Hotel, Pittsburgh, and was attended by over 220 members and guests. The program included the introduction and recognition of the Past Presidents in attendance, the presentation of the Past President's Award to Mr. Orville Richmond of Russell Industries; the trip to sunny Orlando, Florida was won by James Lombardi, SAI Consulting Engineers, Inc. Our National President, Samuel Callisto, was keynote speaker and was presented with a limited-edition commemorative plate as a memento of his trip to Pittsburgh. In addition, each member attending was presented a limited-edition 25th Anniversary Commemorative Plate made especially for A.S.H.E. by August Wendell Forge of Grove City, PA. The Ken Hill Dance provided the music and live stage show. Mr. John DeRoss, P.E., Past National and Section President, was Master of Ceremonies. Mr. A. William Arnold, our Section's 25th Past President, was presented his Past President's Pin and Plaque by President William J. Burry. ■

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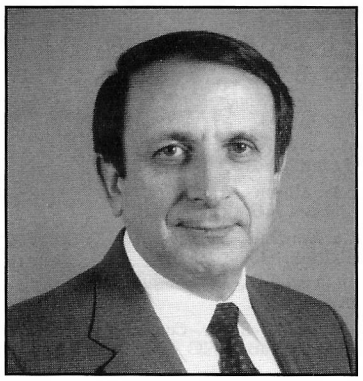
Retirement

R. Stanton Over, P.E. has retired as the Chairman of the Board and President of The EADS Group following more than 34 years of service. He had served more than 20 years in his current position. His involvement in the transportation industry has served many related organizations over the years. Stan is a member of the Altoona Section. ■

The EADS Group Reorganizes



George Roman, P.E.

The EADS Group, headquartered in Altoona, recently reorganized following the retirement of R. Stanton Over, P.E., Chairman.

J. Thomas Reilly is the new Chairman and also President of the Neilan Engineers Division in Somerset.

As part of the reorganization George Roman, P.E., is the new President of the EADS Division Office in Altoona. Mr. Roman has been with the firm for 20 years advancing from a project manager to a director of the firm in 1979. Mr. Roman will continue to be responsible for all of the professional and technical functions of the EADS Division. George is a member of the Altoona Section ■

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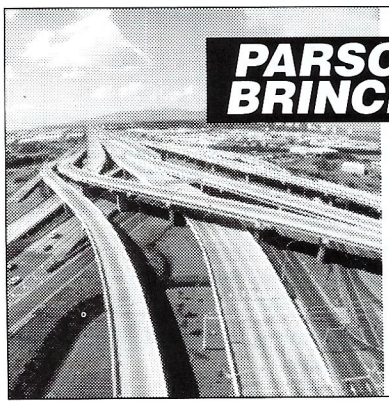

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