# SCANNER

NEWSLETTER OF THE AMERICAN SOCIETY OF HIGHWAY ENGINEERS

May 1998 – 2


## GEORGIA SECTION CHARTERED

By Frances Gallagher, President, Georgia Section

The Georgia Section received its charter at a dinner held in Atlanta in early February this year. Although the majority of the Georgia Section membership is from the Atlanta metropolitan area, there are several members from other areas of the state, including Macon and Savannah. Membership includes a variety of transportation professionals from state and county governments and the construction industry, as well as consulting engineering firms.

*(Left to right) Charlie Flowe, Region 8 Director; Bob Pearson, Second Vice President; Tom Morton, Secretary Georgia Section; Frances Gallagher, President Georgia Section; Dom Saulino, Treasurer Georgia Section; Pat Dougherty, National President; Cooper Curtis, Region 9 Director*

ASHE is the only organization in Atlanta that offers programs specifically for individuals in all areas of the highway and transportation industry. ASHE has been particularly well received by the consulting engineering community in and around Atlanta. Thirty -three consulting engineering firms supported the Georgia Section with monetary donations as we worked toward chartering.

Over 70 members and guests attended the charter dinner. It was a privilege to have presentations from four guest speakers from ASHE National including Pat Dougherty, National President; Bob Pearson, Second Vice President; Cooper Curtis, Region 9 Director; and Charlie Flowe, Region 8 Director. The guest presentations were followed by the installation of officers and charter members, with the remainder of the evening devoted to signing the charter and socializing.

The evening was a culmination of a two year effort by a dedicated organizing committee. Congratulations to the new Goergia Section of ASHE! The Board of Directors of the Georgia Section are: Frances Gallagher, President; Tom Ziegler, Vice President; Dom Saulino, Treasurer; Tom Morton, Secretary; Dan Moses, Director Membership; and Bruce Schmith, Director Programs. ■

## GIS USED TO PARTNER WITH COUNTY GOVERNMENT

By Thomas W. Brado, P.E.,
Assistant Highway District Engineer
Patrick B. Richter, P.E.,
GIS Coordinator, District 12-0

Two members of the Southwestern Pennsylvania Section of ASHE, Thomas W. Brado, P.E. and Patrick B. Richter, P.E. had been selected to present a paper at the GIS-T '98 Symposium held in Salt Lake City Utah April 20 through 22, 1998. The subject of the presentation was "District 12's GIS Agility Project with Local Planning Commissions"

District 12 of the Pennsylvania Department of Transportation recently finalized an agreement with County Planning Commissions in Southwestern Pennsylvania to exchange services and data that will enable both parties to provide more responsive and cost effective services. The agreements are part of the Department's new Agility Program which focuses on an open exchange of products and services of equal value that benefit both parties without a monetary exchange.

This particular Agility Agreement stipulates, the District 12 provide various Geographic Information Systems (GIS) products to the Counties in exchange for copies of County Courthouse information (tax maps, deeds, etc.), required for proposed highway and bridge projects. The Agree-

*(continued on page 9)*

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# NATIONAL BOARD NEWS

The National Board met for a regular board meeting on April 17, 1998 in the Ramada Inn at New Stanton, Pennsylvania, with President Pasquale A. Dougherty, P.E., presiding over the meeting. The following are highlights of the committee reports and actions:

## Membership

There have been 121 new members since January 1998, Secretary Conner reported. Total membership in ASHE now stands at 4,832.

A standard membership application form on disc was given to the officers for distribution to all ASHE Sections. All Sections are asked to only use this form when submitting new individuals for membership.

## Membership Awards

The Annual Membership Awards for 1997-98 are as follows:

| George K. Hart Award | (percent) |
|---|---|
| N. Central New Jersey | 40.9% |
| N.E. Florida | 34.5% |
| Triko Valley | 21.0% |

| Gene G. Smith Award | (numerical) |
|---|---|
| Delaware Valley | 48 |
| N. Central New Jersey | 47 |
| Tampa Bay | 30 |

## President's Report

President Dougherty reported he recently attended ASHE functions held by the Altoona, Harrisburg, North Central New Jersey and Carolina-Piedmont Sections.

Pat, along with Second Vice President, Robert Pearson and Directors Charles Flowe and Cooper Curtis, attended the Georgia Section Charter Night in Atlanta in February. There will be over 100 members in this new Section which will join with the two North Carolina Sections to form Region 8.

Pat was a judge for the Pennsylvania Quality Initiative Awards in February, and plans to attend the West Virginia "Man of the Year" banquet and the CLC Conference in Pittsburgh in May.

## New Sections

Director Curtis of Region 9 reported that the Gold Coast Section (Fort Lauderdale, Florida) hopes to charter sometime in 1998. Other areas expressing interest in forming ASHE Sections include Dayton, OH; Fargo, ND; South Carolina; Lexington, KY; Texas; Missouri and Louisiana.

## Conferences

Conference 1998 - Conference planning is in it's final stages with the committee members busy putting the loose ends together.

Conference 1999 - Director Flowe of Region 8 said the agenda is set and the booth highlighting the ASHEville, NC, Conference will be setup at the Lancaster Conference.

## Scanner

Director Ivory of Region 4 said many of the articles from assigned Sections are not being sent for publication. The lack of articles causes two problems- a multitude of blank space and a bland SCANNER. All Sections are asked to make sure articles are sent in when they are due and anytime there is an interesting project or highway-related "happening". Sections are requested to do an article whether or not it's that Sections' scheduled turn. Section articles scheduled for the August SCANNER issue (July 1 deadline) are: First State, Mid- Allegheny, Western Reserve, Triko Valley, North Central West VA, Old Dominion and Central Florida.

## Nominations

Past President Greenwood has completed a draft copy of ASHE Nominating Guidelines for National Second Vice President, National Directors and Man/Woman of the Year. This draft copy will be sent to all Sections for comments and input before adoption by the National Board at a future meeting. All Sections are asked to review, discuss and comment on the Guidelines.

## ASHE Web Site

Several requests have been made for links from the ASHE Web site to other highway-related web sites. These links will be developed by the web site designer in the near future and will be available on the ASHE site as soon as possible. Links will include those to state DOTs, highway-related agencies and the 1999 Conference web page. ■


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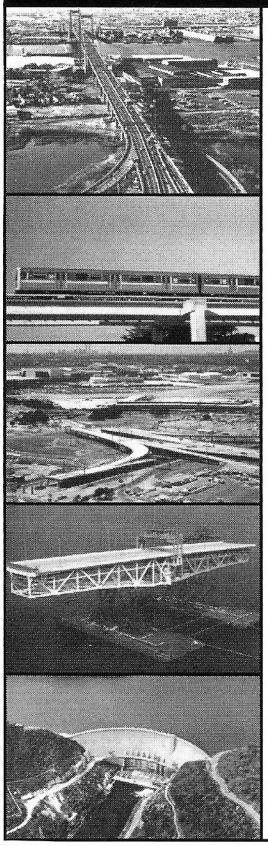

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## Legal Corner

# ARE YOUR PUBLIC BIDS "RESPONSIVE"?

By Travis L. Kreiser, Esquire

The last few moments before the submission of an important bid are often hectic as you scramble to obtain final quotations from your subcontractors and incorporate those quotes into your final bid package. These moments may be even more hectic if the project is a public project. Public owners routinely issue voluminous bid specifications which impose technical requirements on the form of the bid, mandate what must be included with the bid, and detail how and when the bid must be submitted. Unlike private project owners, which are permitted to negotiate with prospective bidders and overlook variances in the form of a particular bid, public owners are required by statute to strictly enforce all of the bid specifications, and must accept the "lowest responsible bidder," without clarification from or any discussion with the bidders. These public bidding statutes are theoretically designed to promote free and open "competition" by guarding against favoritism, extravagant spending and corruption. Of course, the ultimate goal is a finished product (construction) at the lowest possible price.

In order to ensure fair and equal competition, the courts have always recognized that there are certain "material" bid defects, which cannot be waived by the public owner. Thus, if a bid contains a "material" defect, the public owner must reject the bid. On the other hand, a public owner is permitted, but not required to reject a bid if it contains a non-material defect. As you might expect, many courts have interpreted the public bidding statutes in favor of public owners, providing them with discretion to accept or reject bids. You may, however, be surprised to learn just how much discretion public owners actually possess when deciding whether to reject a bid, even a bid which contains only "minor defects." In addition, in these days of increased competition, the second lowest bidder is often looking for a basis to challenge the low bid and secure the project for itself. As a result, it is extremely important for bidders to strictly comply with each and every requirement of the bid specifications, no matter how minor the requirement may seem. Indeed, one recent opinion issued by the New Jersey State Court of Appeals demonstrates that even a minor variance in the form of a bid may allow the public owner to completely reject that bid.

In Serenity Contracting Group, Inc. v. The Borough of Fort Lee, the New Jersey State Appellate Court allowed a public owner to reject the low bid for several seemingly minor and non-material deviations from the bid specifications. In that case, Serenity Contracting Group, Inc. ("Serenity") submitted a bid to the Borough of Fort Lee, offering to construct the new police headquarters for nearly $4,000,000.00. Serenity's bid was the lowest, but the second lowest bidder, Raimondo & Sons Construction Company ("Raimondo"), argued that Fort Lee should reject Serenity's bid as non-responsive. Fort Lee agreed and awarded the contract to Raimondo.

In the litigation which followed, Serenity sought an injunction to prevent Fort Lee from awarding Raimondo the contract, claiming that any defects in its bid package were "non-material" and did not justify Fort Lee's rejection of its bid. However, both the trial court and the appellate court agreed with the public owner and concluded that, because Serenity's bid violated several requirements of the bid specifications, Fort Lee was within the bounds of its discretion to reject Serenity's bid.

First, the bid specifications required that all "alterations by erasure or interlineation must be explained or noted in the bid over signature of the bidder." Serenity's bid admittedly contained several alterations which were made by crossing out typewritten prices and replacing them with handwritten prices; while other changes were made with "white out." The Court noted that even though some of the changes were initialed, none of the alterations were "explained or noted" as required by the bid specifications. The Court explained that without the required written explanation, the public owner could not be sure that the modifications were authorized, regular and binding on Serenity. As a result, the Court concluded that Serenity's failure to explain its alterations rendered Serenity's bid defective and non-responsive.

The Court also noted that the bid specifications required each bidder to identify its intended subcontractors for certain categories of work. Serenity attempted to comply with this requirement, but identified two subcontractors (instead of one) for the plumbing/fire work (one subcontractor was typewritten and the other subcontractor was handwritten). The Court reasoned that the identification of multiple subcontractors for the single category of work raised numerous unanswered and significant questions such as: Were there going to be two subcontractors performing the same work? And if so, how was the work to be divided between the two subcontractors? Again, the Court concluded that this irregularity rendered Serenity's bid defective and non-responsive.

The Appellate Court declined to decide whether the errors in Serenity's bid were material or non-material, but concluded that in either event, the public owner's rejection of Serenity's bid was justified as a "valid effort to discourage bidders from playing fast and loose with the public bidding processes and requirements."

As the Court's decision in Serenity illustrates, bid mistakes can be extremely costly. Serenity's unexplained alterations and irregularities cost it a $4,000,000.00 project. In order to avoid these costly errors, contractors must carefully read and strictly comply with each and every requirement of the bid specifications, no matter how minor the requirement may seem at bid time. Furthermore, on important projects, contractors should consider implementing a procedure where all bids are reviewed for completeness, compliance and accuracy by at least one person other than the person who actually prepared the take-offs and bid package. In the end, the benefits obtained by securing a substantial public project may easily outweigh the time and expense incurred to carefully prepare and review bid packages before submission.

*Travis L. Kreiser is an attorney associated with the law firm of Korn & Cohn, P.C., which focuses its practice in the areas of construction law and litigation. Questions or comments concerning this article may be directed to Mr. Kreiser at 620 West Germantown Pike, Suite 450, Plymouth Meeting, PA 19462 (610-825-7070).*

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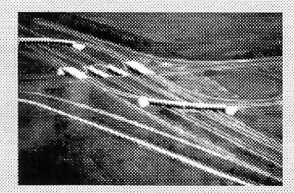

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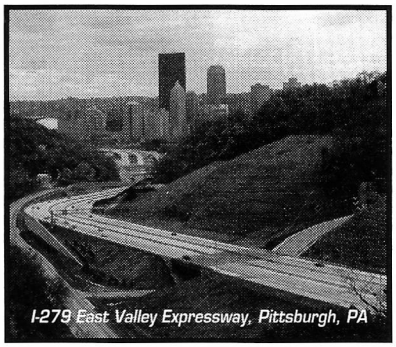

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# THE BUNKER HILL BRIDGE

**Structure:** I-81 over Roaring Brook, etc.

**Owner:** PennDOT, Engineering District 4-0

**Designer:** Gannett Fleming

**Contractor:** G.A. & F.C. Wagman

**Alternate Designer:** Patel Chen Associates

**Prestressed Concrete Supplier:** Schuylkill Products, Inc.

**Erector:** Marikina Engineers and Constructors

**Configuration:**

| | Northbound | Southbound |
|---|---|---|
| Span 1 | 7 I-beams 28/96 x 95 feet | 8 I-beams 28/96 x 145 feet |
| Span 2 | 7 I-beams 28/96 x 95 feet | 8 I-beams 28/96 x 144 feet |
| Span 3 | 7 I-beams 28/96 x 145 feet | 8 I-beams 28/96 x 144 feet |
| Span 4 | 7 I-beams 28/96 x 145 feet | 8 I-beams 28/96 x 91 feet |
| Span 5 | 7 I-beams 28/96 x 145 feet | 8 I-beams 28/96 x 116 feet |
| Span 6 | 7 I-beams 28/96 x 95 feet | 8 I-beams 28/96 x 116 feet |
| Span 7 | 7 I-beams 28/96 x 145 feet | 8 I-beams 28/96 x 94 feet |
| Span 8 | 7 I-beams 28/96 x 145 feet | 8 I-beams 28/96 x 144 feet |
| Span 9 | 7 I-beams 28/96 x 95 feet | 8 I-beams 28/96 x 91 feet |
| Span 10 | 7 I-beams 28/96 x 95 feet | 8 I-beams 28/96 x 91 feet |

**Prestressed Concrete Was the Way to Go**

Spanning 1,200 feet across a deep ravine, the Bunker Hill Bridge stretched the range of prestressed concrete beams and pushed the envelope of constructability 100 feet above the city of Scranton.

With a web of activity below -- the Roaring Brook, a city neighborhood, a concrete arch bridge, high voltage transmission cables, and an active line of the Pocono and Northeast Railroad -- 150 prestressed concrete beams were erected under traffic on Interstate 81. At $48 million, the twin prestressed concrete bridges replaced two 33-year old steel girder spans that were rapidly approaching the end of their useful life. The project also increased the capacity on the interstate by adding shoulder lanes to the four lanes as part of the region's massive Lackawanna Valley Industrial Highway project.

The first challenge was to design a southbound bridge that could be built and put into service in half-width. This half-width bridge then carried two lanes of northbound traffic while the old northbound bridge was being replaced. On completion, northbound traffic was returned to the new northbound bridge. The two lanes of southbound vehicles were then placed on the southbound half-width bridge and the remaining structure was dismantled. Pier caps were then modified and the second half-width bridge was connected with the first half-width southbound bridge and completed. Because of this staged, half-width construction the southbound structure ended up having an additional line of girders.

The bridges took two years to build. PennDOT's safety mandate for interstate construction -- maintain full, two lane capacity on each bridge during replacement -- posed significant construction and engineering challenges.

One seasoned construction engineer called it "as tough a job as had ever been done". But in the beginning, the decision to build the Bunker Hill Bridges using prestressed concrete beams was easy.

The project hit the street designed as a steel I-beam bridge. The prestressed concrete beam alternate design provided by PennDOT was sketchy at best, conceptual TS&L (type, size & location) rather than a fully developed set of plans. PennDOT did, however allow prospective contractors to bid a contractor alternate design of their own. This enlightened contracting method, of allowing value engineering by the contractors as the basis of their bids, won, during 1997, an AASHTO National Value Engineering Award for the Pennsylvania Department of Transportation and for the contractor.

At that point, the prestressed concrete industry, under the leadership of Schuylkill Products, took the lead. Interested bidders were provided complete plans for a prestressed concrete alternate design that would capitalize on the industry's ability to deliver its products quickly and efficiently.

The challenging terrain guaranteed that the bridges would be difficult to build regardless of whatever design, in the end, won the job. But the site's constricted environment gave the prestressed concrete alternate design an opening: Shorter beams would be somewhat easier to maneuver. As it was, field technicians faced the task of erecting prestressed concrete beams that were eight feet deep, 91- to 145 feet long, and weighed between 80 and 104 tons each. Beams were set across nine piers for each structure. Most would be picked from below by massive, 150 and 220 ton-capacity cranes squeezed in and around the site's many natural and man-made obstacles.

"Sometimes the original design...does not take maximum benefit of the material costs...the site and the circumstances, and how aggressive (the competing industries) want to be," said Leonard C. Bellanca, PE, Senior Vice President at G.A. &F.C. Wagman, Inc., eventual low bidder on the project. "In this case, steel delivered and erected cost a lot more than prestressed (concrete beams) delivered and erected." Through this window of opportunity, prestressed concrete demonstrated its economies of fabrication: lower labor costs, readily available and cheaper raw materials (cement, sand and stone, and reinforcing steel) and none of the extra costs required for steel beam fabrication -- welding, testing, x-raying, sandblasting and painting. Wagman's estimators did the math and found more than one million reasons to embrace the prestressed concrete industry's alternate design. At the bid opening, the York-based contractor's $48.8 million estimate was $3.6 million less than the closest steel bridge bid. In spite of the additional design and review fees, the need for four additional piers, and higher field labor costs, prestressed concrete won the race to the bottom line.

"When you add it all up, and we did this very dispassionately, the delivered beam cost for prestressed concrete was significantly less," Bellanca said. "Obviously, prestressed concrete was the way to go." ■

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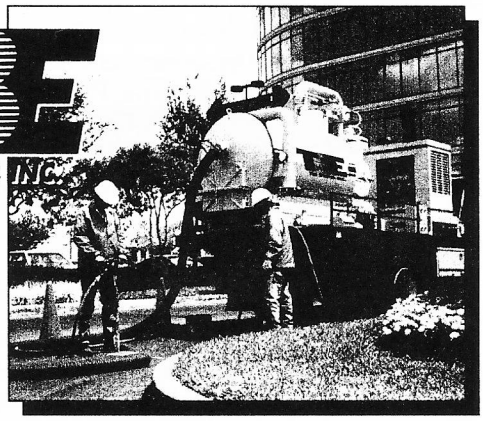

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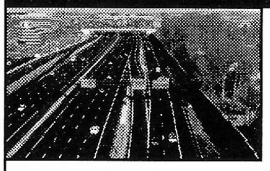

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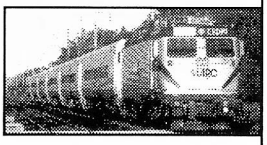

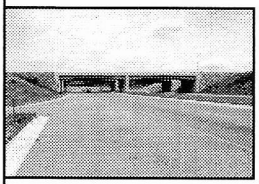

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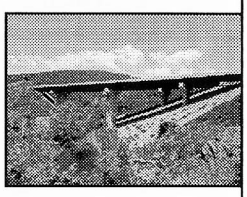

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# PENNDOT'S DISTRICT 10 RECEIVES PENNSYLVANIA'S "QUALITY ACHIEVEMENT"

Submitted by ASHE's Mid Allegheny Section

## Introduction

On Friday, July 19, 1996, portions of Clarion, Indiana, and Jefferson Counties, Pennsylvania, experienced severe flooding. In some watersheds, in the storm magnitude reached as high as a 500 year frequency event. Tremendous damage and devastation were done by the flood waters to many communities and the highway system along rivers and streams.

The Pennsylvania Department of Transportation's Engineering District 10, located in Indiana, PA provided a high level of quality performance in the following flood recovery effort and received Pennsylvania's Quality Initiative "Quality Achievement" Award. This article describes the effort.

## Initial Response

The District staff reacted immediately as a seamless team to develop strategies to alleviate the needs of the motoring public as quickly as possible. A "Flood Command Center" was established in the District Office and as the flooding developed.

Within hours, preliminary flood assessment teams were assembled and in the field documenting flood damages. These assessments provided the information necessary to determine the magnitude of the damage and to obtain monetary estimates.

County maintenance forces immediately provided traffic control, barricaded closed bridges, established detours, and performed emergency clean up and repairs. A strategy was established to supplement the Department force efforts with emergency contacts.

The first debris removal contract was let at 6 p.m. on the evening of the flood and three additional debris removal contracts were let on July 21, only two days after the flood. Remaining debris removal was included under the subsequent roadway and bridge repair contracts. All contracts were developed using competitive bidding procedures.

District personnel assisted in the coordination of activities between the Pennsylvania Emergency Management Agency (PEMA), Federal Emergency Management Agency (FEMA), Federal Highway Administration (FHWA), PA Department of Transportation (Central Office), and other government agencies. This effort included establishing field review priorities and dispersing "teams" to perform in-depth damage reviews of non-Federal, State, and local road and public facilities.

More than 20 teams were actively engaged in completing this task on both Federal and non-federal routes. The results of these reviews, which were completed in early September, indicated that the total financial impact in District 10 could reach $17 million.

## Temporary Bridges

Three of the seven bridges that were destroyed during the flood were on high-volume truck routes in Clarion County (SR 66 over Piney Creek, SR 66 over Little Piney Creek, and SR 68 over Brush Run). District management established a goal of reopening these bridges to traffic within one week after the contracts were awarded. This ambitious schedule required an extraordinary effort by both Department personnel and the contractors. All three bridges were reopened within two and one-half weeks of the flood.

## Emergency Road and Bridge Repair Contracts

In addition to the seven previously mentioned debris removal and temporary bridge contacts, nine additional contracts were let in the District using emergency procedures during a period between three weeks to two and one-half months following the flood. These contracts for roadway repairs, bridge repairs, and debris removal were developed by geographical areas. Most of the actual repairs were completed by the end of 1996.

The total cost of all construction contracts to repair flood damage on the State system alone totaled approximately $12.3 million and involved 25 projects. District 10's rapid flood recovery could not have been possible without the high level of cooperation and responsiveness received from the contracting industry.

## Assistance to Local Government

The District conducted two public workshops, one in Clarion County on August 1 and one in Jefferson County on August 5 to provide local municipalities with information on funding, permitting, design replacements, and other topics related to replacing structures using the Bridge Bill Program.

Also, because Clarion County was particularly hard hit, with 20 municipal owned bridges badly damaged or destroyed by the flooding, an additional meeting was held with the Clarion County Commissioners on August 26.

Support was provided to the local municipalities by District personnel in estimating quantities for materials; preparing contracts and specifications for repairs; and providing technical assistance for repairs done by municipal forces. The District also worked with the municipalities in expediting the design of their flood damaged bridges in order to meet scheduled mid-1997 lettings.

## Quality in Operational Results

The primary focus of the flood recovery effort was directed at serving the motoring public's needs. However, District 10 management not only emphasized the need to quickly restore the State system, but also accepted responsibility of ensuring that local governments' flood recovery efforts were also successful.

In addition, the District reinforced quality commitment and customer advocacy through customer surveys and by measuring the promptness of the District's response to their needs. Positive suggestions for improvement were considered and implemented when possible.

The speed with which District 10 recovered from the flood, particularly regarding the installation of three temporary bridges within two and one-half weeks, has continued the trend of organized agility and reduction of the disruption period to the motoring public in the District after major flood events.

The success of District 10's efforts were measured by bench marking with other Districts and staying in continuous communication with all project stakeholders and by sharing resources with other agencies and external partners, and encouraging public and private partnerships, which improved the delivery of our products and services without compromising safety. ■

# INTERNET MAY EXPAND PUBLIC INVOLVEMENT TOOLBOX

By Cecil W. Sowell, P.E.

For many years, highway engineers tasked with presenting improvement options for new and rehabilitated transportation facilities to the public have been faced with multiple challenges. These include development of understandable displays, effective presentations, and getting reasonable public turnout at meetings. Without successful programs it is not possible to gather meaningful input from interested individuals and groups to assist the sponsoring agencies in decision-making.

We have improved our tools over the years and now use color map displays, aerial photos, slides, videos, and design plans at formal, and informal, meetings. Presenters are more polished and have learned to speak to the level of their audience. Presentations are supplemented by the development of a mailing list for project newsletters and questionnaires. A strong effort to maximize participation is made by scheduling public meetings at a time and place of perceived maximum conveniences to the public. The unpredictability of weather, personal schedules, and priorities all work to limit meaningful attendance at scheduled meetings.

A new tool showing promise as a public involvement technique is looming. With the advent of personal computers and their availability in the home and the workplace, the Pennsylvania Department of Transportation is experimenting with Web sites on the Internet as a supplemental means of gathering input. The Web site can be designed to display background information, project need, details on alternatives being considered, schedules, or virtually any type of project data. The Web page is intended to complement the traditional public involvement techniques and, as a minimum, should increase project exposure.

An up-to-date Web page allows access to fresh information at any time as well as the opportunity to provide immediate input. It is not dependent on a convenient meeting place and time, and eliminates the variables of weather and schedule convenience for interested individuals and groups with computer access. The Department will evaluate the concept for its effectiveness in gathering public input. The results will be interesting, and, the possibilities are exciting! ■

*(GIS continued from page 1)*

ment itself is a very concise and simple document that legalizes the formal partnership arrangement.

In May 1996, District 12 was chosen at the Department of Transportation's Pilot District to begin the expansion of GIS statewide. As a result, District 12 was provided with a fully functional GIS work station that included the software, hardware and printer, as well as training to perform database queries on the state route system. The current GIS is a stand alone PC that operates from a local database.

Through general meetings with the public, local agencies and local legislators the ability to produce quality maps was established, and requests for GIS products has steadily increased. Meetings were held with County Planning Commissions in District 12 to exchange ideas on the GIS and its capabilities. The counties immediately expressed an interest in obtaining various GIS maps such as proposed bridge and roadway projects, intermodal facilities, posted and closed bridges, etc.

Rather than charge the counties for the Department's GIS products, the idea of a Partnership to exchange information was initiated in 1997.

Currently, District 12 spends 3,000 to 4,000 dollars per year to obtain copies of tax maps and deeds. The counties are very interested in having GIS capabilities of their own, but are hesitant to purchase a system due to the cost of equipment and personnel requirements for operating and maintaining a GIS.

To date, the partnership has been successful. When the District initiates project development on a highway or bridge project, a location map and a proposed scope of work is sent to the County Planning Commission. Normally, within (5) days, the County supplies the District with the Tax Assessment Map, names and addresses of property owners and copies of deeds in the project area. This March, the procedure was initiated on three District projects and accurate, timely information was provided.

District 12 provided each of the County Planning Commissions with GIS produced maps that indicated all programmed highway and bridge projects specific to the county. These maps were utilized by the county as a planning tool at public forums, to develop candidate projects for the 1998 update of the 12 Year Improvement Program.

Early indications are that this "Agility Project" will be a stepping stone for additional County/District partnerships. In Fayette County, District personnel involved in GIS have been requested to serve on a Steering Committee for Long Range Planning in the County. In Greene County, the idea of the County collecting field data with a Global Positioning System (GPS) that will be loaded into the Department's GIS Database is being explored. In Washington County, the Planning Commission is investigating the possibility of expanding the data sharing partnership to include the California University of Pennsylvania. These are just a few examples of the many opportunities to develop cooperative relationships with external partners that will lead to increase productivity and improved customer service. ■

## Pennsylvania Quality Initiative Structure Award (150 ft. or less) S.R. 2019, Section A10, Cucumber Run Bridge

*(left to right) Thomas Brado, P.E., Assistant District Engineer for Design, Dist. 12-0; Michael Dufalla, P.E., District Engineer, District 12-0; Domenic Piccolomini, P.L.S., SPK Engineering Inc.; Bradley L. Mallory, Secretary of Transportation; Anthony Dzurko, P.E., Assistant District Engineer for Construction 12-0; George Tanner, P.E., Design Services Engineer, 12-0.*

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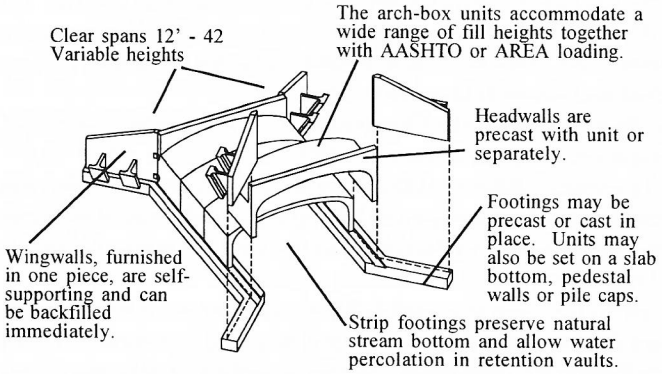


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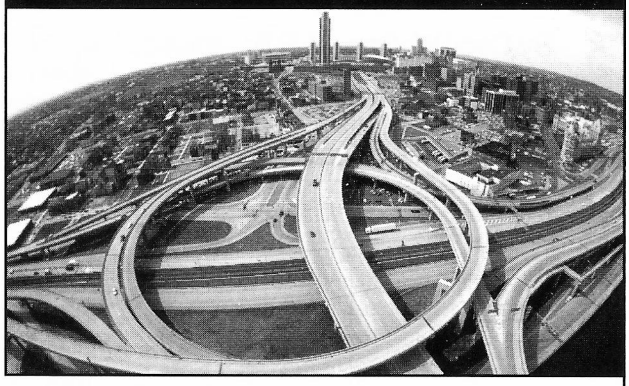

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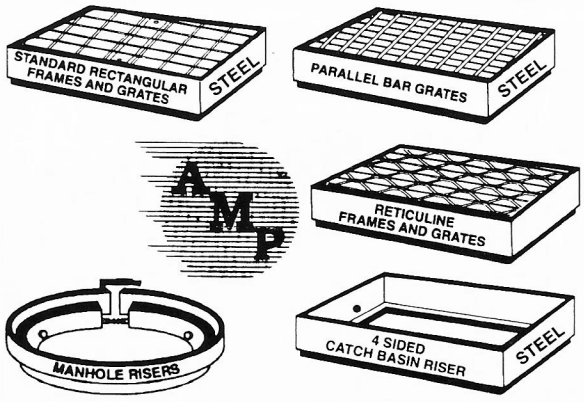


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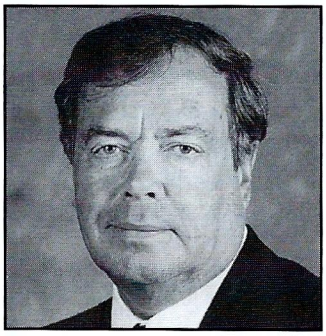

LeRoy D. (Bud) Loy, P.E. has been honored by the Consulting Engineers Council of Pennsylvania (CEC/PA) with the 1997 Distinguished Award of Merit. This is an annual award given to an individual who has made an outstanding contribution to the advancement of the consulting engineering profession and who has provided exemplary service.

Mr. Loy is a co-founder of Skelly and Loy, Inc. He retired in 1997 as President of Skelly and Loy , Inc. but remains as Chairman of the Board.

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