



ASHE

SCANNER

Summer 2010

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US Route 1 at Park Road

TMI Steam Generator Transport 10

Two replacement steam generators were delivered to Three Mile Island Nuclear Generating Station (TMI). The delivery represented more than a year and half of planning to support a 75-mile, 15-day, Superload convoy from Port Deposit, MD to Middletown, PA.

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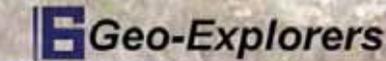


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Provide a forum for members and partners of the highway industry to promote a safe, efficient and sustainable highway system through education, innovation and fellowship.

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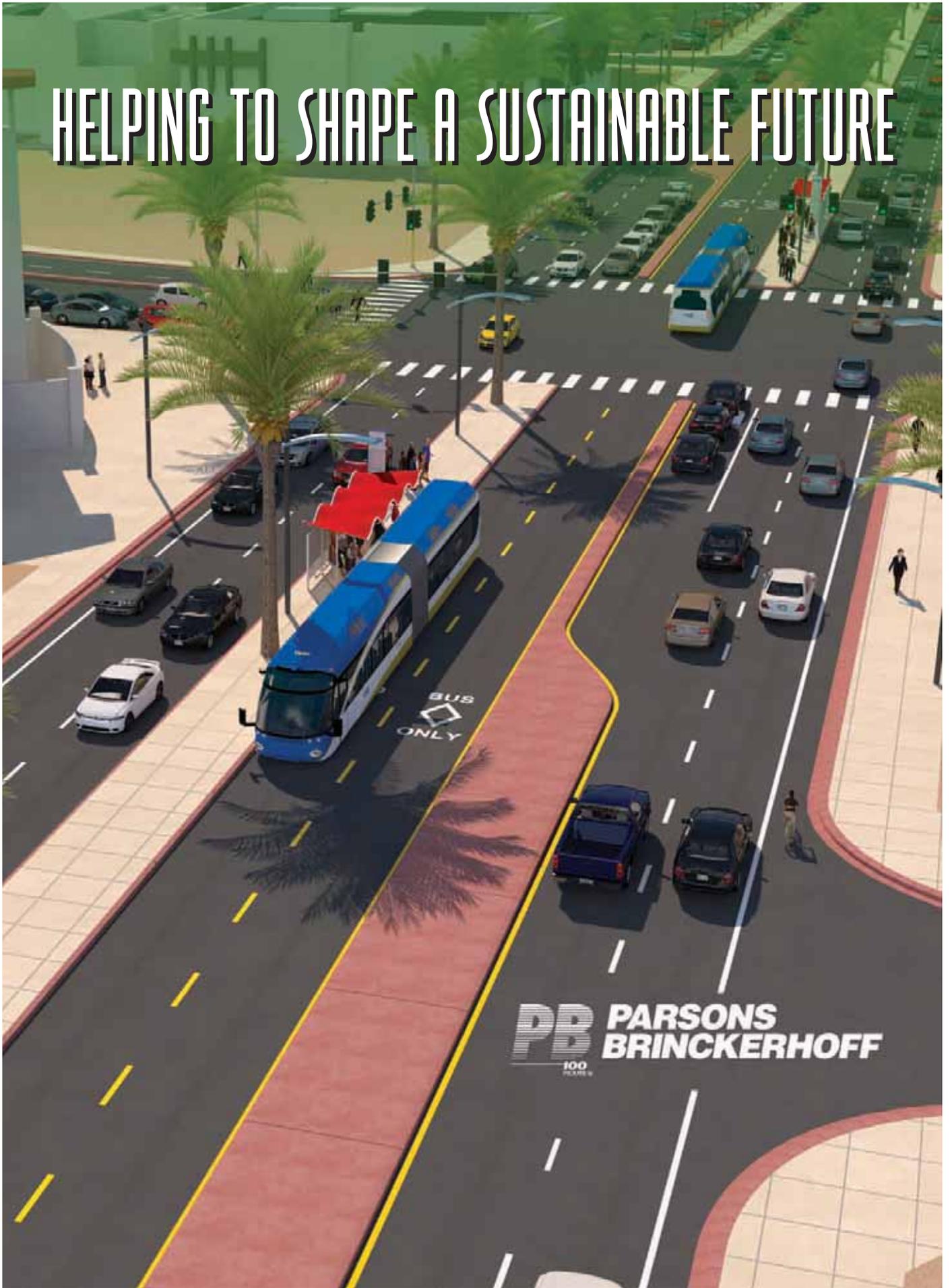
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President's Message

John Hetrick, PE, ASHE President 2010-2011

First I want to thank ASHE for the opportunity to be your President. It is an honor and a challenge that I look forward to. I joined ASHE in 1987, looking for an organization to help develop my professional career. What I found was an organization which has certainly delivered that and much more. It was never in my wildest dreams to be as active a member as

I became and I owe that to the Mid-Allegheny Section. I held the positions of Treasurer, Second Vice President, First Vice President and President for the Section. I also served on the Board of Directors for two terms as the Region Representative until Shirley Stuttler called and said that we had to officially form a Region board. (Anyone who knows Shirley knows you can't say NO. After two years as the Region 2 President/ Representative on the National Board, I was tapped for ASHE National Second Vice President and as they say, the rest is history.

I am a retired Civil Engineer from the Pennsylvania Department of Transportation, District 10, Indiana, PA, with 32 years of service. After PennDOT, I went to work for SAI Consulting Engineers in Pittsburgh, going from a 10-minute commute to the PennDOT office to a one and one-half hour one-way commute. It is a great firm with great people who have supported my ASHE endeavors.

This promises to be a busy year as we are in the second year of our Strategic Plan which is the road map for the future of the organization. My intentions are to focus on one or two goals in each of my four articles for the *SCANNER*.

With respect to the *SCANNER*, I had the privilege of being the Managing Editor for three years. This has been a growing experience for me and I thank Jennifer Summers of Wanner Associates, the publisher, who really does all the work each quarter to make this a great magazine.

Our national web site is ASHE's second communications tool. You can find anything that you need to know about the organization on the site. It contains Regional information, Section officers, Section web site URL's, and the ASHE Operations Manual, which contains everything a member needs to know, and is updated routinely by Shirley. The National web site web master is Craig Rock, employed by Keller Engineers, who does an excellent job of keeping the site updated. For the past three years he has been working diligently to review all Section web sites and to have them linked to the National site, a Strategic Plan goal to be accomplished by

January 2011.

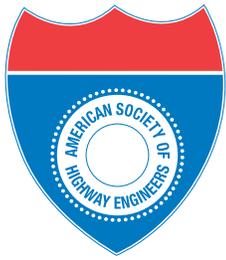
The next thing that I want to touch on is the Regional reorganization. Hats off to Rich Clifton who got the ball rolling during his Presidency, and to Rod Pello, Past National President, who has kept the plan moving forward. There is much to do in the newly formed Regions but all of the Regions are moving forward since the June rollout. Recently I attended a reorganization meeting for the new North East Region in Mechanicsburg, PA. This Region is a combination of four and one half old Regions (2, 4, 5, 6 and ½ of 3), 18 Sections (counting Albany, NY which will charter this October) and 52% of the current membership. This was an excellent display of 18 Section representatives and four National board members working out their differences for the future of the organization.

As previously mentioned, Albany will become ASHE's 42nd Section this October if everything continues to develop under their new interim board. There is a good possibility for Portland/Salem, Oregon, to charter early next spring. There are other areas of the country which continue to spark interest, and our New Sections Committee, under the leadership of Samir Mody, has been busy this past year and will continue to talk to potential new Section champions this year.

Retention of existing members must continue to be a major concern of all Sections. Since June of 2009 ASHE has lost 685 members or 11% of the total membership. The good news is that these same Sections that lost 685 members gained 436 new members and the two newly chartered Sections registered 93 members for a net decrease of 156 members. By the time this issue of the *SCANNER* is printed most, if not all, of the 156 will be erased with new members.

The last item I want to discuss is the ASHE Scholarship Program. In the spring issue the Regions/ Sections were listed and the dollar amount for each. ASHE members should be proud a combined total of \$912,530 has been awarded to students pursuing careers in the highway industry. This is a story we are all proud of and I personally thank everyone involved in this program.

In closing, I am proud and honored to be your President for the 2010/2011 year. I look forward to working with the officers and National board, as well as visiting as many Sections as my schedule will allow and meeting many of you. If you have suggestions or concerns that I can bring before the National board, please email me at jlhetrick@u2bwest.com. ■



ASHE

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Introducing the ASHE Online Apparel & Merchandise Store

As a member of ASHE, you now have access to an amazing online resource: The new ASHE Online Apparel & Merchandise Store.

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Past President's Message

Kevin Duris, ASHE President 2009-10

As the construction season winds up, my term as President winds down. Time flies when you are having fun. My recent travels have been to the Altoona Section's Distinguished Service and Scholarship Awards Night and ASHE/PennDOT 9-0 Workshop, the Phoenix Sonoran Section's 1st Annual Scholarship Classic Golf Tournament, First State Section's Hall

of Fame Banquet and National Conference in Cincinnati, Ohio. I hope to make it to North East Penn Section's Golf Classic on June 17 as ASHE National Past President.

Many of you have heard of the ASHE National Reorganization plan that is effective June 1, 2010. It might be better described as a realignment plan. The National Board will continue to have nine Regional Directors, along with the six executive officers - President, First Vice President, Second Vice President, Secretary, Treasurer and Past President. The nine Regional Directors will represent membership based on population. Since our vision to expand new Sections to west of the Mississippi, our realignment plan encompasses the entire United States. Therefore, the nine Regions are split geographically. At this time, four Regions will have the nine Regional Directors. Each October, a snapshot of the membership will be taken to determine how the nine directors will be assigned to the Regions. It may be difficult to keep the three-year rotation that we have experienced, but we want to have each Director serve at least a three-year minimum.

We continue to search for dropped members. In this search, we are trying to find those who have relocated into an area that does not have an existing Section. Just recently, we discovered a former ASHE member in the Portland, Oregon area who will be instrumental in starting a new Section there. During our visit to Portland in March, we also spurred some interest in Seattle. During the last quarter, we received 70 requests on our National website to join ASHE. This is the largest number of inquiries received to-date. Areas of interest outside existing Sections include Alabama, California, Colorado, Minnesota, New Mexico and Texas. In these areas, people have never heard of ASHE. We remind them we do not compete with the ASCE, ACEC and ITE's of the world. Our membership is a blend of consultants, contractors, government employees and suppliers that

does not require a professional engineering registration and dues are inexpensive. Our Section grant program received five out of 17 requests to fund the purchase of exhibit booths. We have decided to promote the use of our current National display booth with these funds to ship to Section events in order to gain exposure.

Our New Sections Committee needs your help. If interested, please contact the chair Sam Mody at smody@hntb.com. Thanks to Stacy Ginkel, we recently recruited a new committee member at the North East Region organization meeting. We look forward to chartering the Albany Section at our National Board meeting this October.

And now on to another subject. How many times do we have to hear this quote from politicians during their campaign "...and I approve this message"? I wonder how many are going to approve an increase in our revenue stream for surface transportation. Unfortunately, it doesn't look like it will happen until after the November election. On the Federal side, House Transportation and Infrastructure Committee Chairman James Oberstar, D-MN, is considering a plan that calls for \$130M in US Treasury Department bonds to the Highway Trust Fund to increase spending on highway and transit projects over the next few years. The money would be paid back to the Treasury from an increased gas tax or other transportation-specific revenue source beginning after four years. The chairman has been exploring ways to pay for a \$500B draft six-year Surface Transportation Reauthorization Bill his committee approved last summer. President Obama opposes increasing taxes during a period of high unemployment. To support the \$500B bill, fuel taxes would need to go up by 15 to 19 cents a gallon. With our alliances with ARTBA and TCC, we will keep you current on calls our members have to make to support legislation to benefit our industry. The topic of lobbying is being researched so ASHE does not lose its tax exempt status.

Congratulations to our Section and individual award winners presented at the National Conference. Look forward to the ASHE Company Store and website membership database. I will not be fading into the sunset. As National Past President, I will chair the Nominating Committee and be a member of the New Sections, Website and Executive Committees. While, "I approve this message", no, I will not be running for any political office. ■



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ASHE Region Reorganization

As many of you may already know, ASHE's Regional structure was reorganized June 1, 2010. Both the President's Message and the Past President's Message in the summer SCANNER issue refer to the reorganization.

This was a several-year endeavor to comply with ASHE's Strategic Plan and to accommodate the expansion of Sections throughout the United States. The reorganization effort was led by Rod Pello, former ASHE National President, 2004-2005, and committee members Robert Peda, Robert Hochevar and Roland Nesslinger.

An article on the 'hows' and 'whys' of the ASHE reorganization will be part of the Fall SCANNER issue and included on the ASHE website, www.highwayengineers.org. The new Regions, including the Sections, are as follows:

Great Lakes Region

- Central Ohio
- Circle City
- Cuyahoga Valley
- Derby City
- Lake Erie
- Northwest Ohio
- Triko Valley

Mid-Atlantic Region

- Blue Ridge
- Carolina Piedmont
- Carolina Triangle
- Chesapeake
- Greater Hampton Roads
- North Central West Virginia
- Old Dominion
- Potomac
- Potomac Highlands

North Central Region

- Central Dacotah

Rocky Mountain Region

- Phoenix Sonoran

Northeast Region

- Altoona
- Central New York
- Clearfield
- Delaware Valley
- East Penn
- First State
- Franklin
- Harrisburg
- Long Island
- Mid-Allegheny
- New York Metro
- North Central New Jersey
- North East Penn
- Pittsburgh
- Southern New Jersey
- Southwest Penn
- Williamsport

Southeast Region

- Central Florida
- Georgia
- Gold Coast
- Northeast Florida
- Middle Tennessee
- Tampa Bay

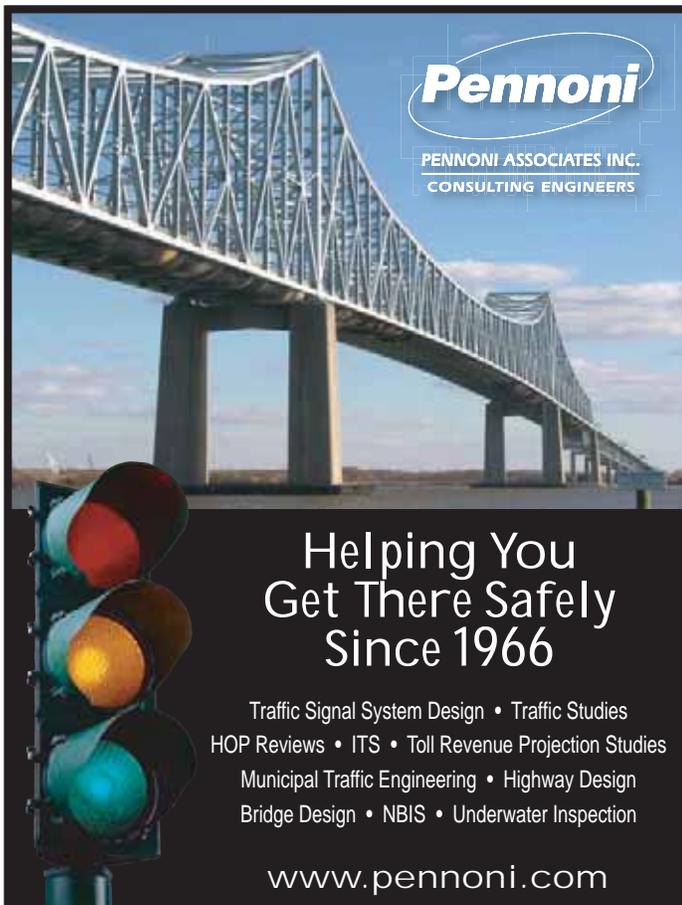
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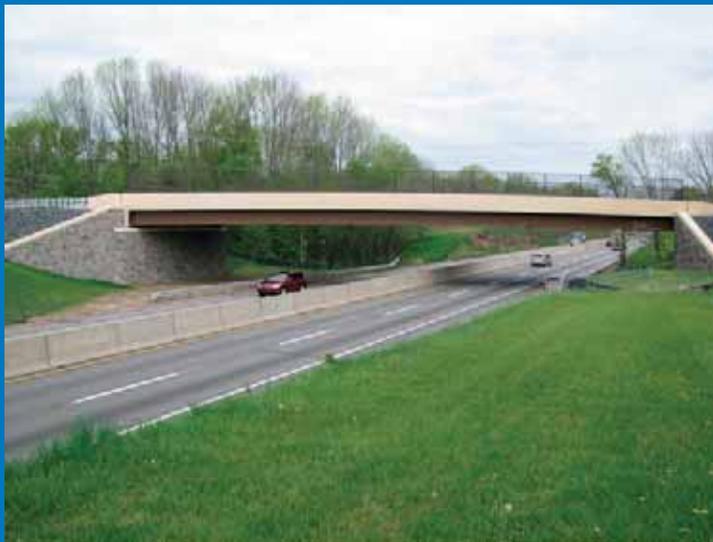
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Design-Build Bridges Over Pennsylvania Turnpike

2009 Project of the Year for Under \$10 Million Category

Jeffrey D. Given, P.E., Director of Procurement, Loftus Construction



NB-138 Kriebel Road completed



NB-124 Bethel Road

Replacement of bridges NB-124 Bethel Road and NB-138 Kriebel Road was a project contracted by the Pennsylvania Turnpike Commission to replace two overhead bridges as a part of the 10.5 mile, \$300 million expansion of the Northeast Pennsylvania Turnpike Extension (I476) between the Mid-County and Lansdale Interchanges. This advanced project involved the first two of seven overhead bridge replacements in this corridor.

The NB-124 and NB-138 bridge replacement contract was unique in that this was a design-build project that additionally included quality control and inspection services to be performed by the contractor. This project is one of only a handful of projects that the Pennsylvania Turnpike Commission has let with these contractual obligations. The purpose of this contracting method was to provide quick delivery of these bridge replacements with design and construction occurring in a 12 month time period. This \$7.5 million dollar project contained all facets of a bridge replacement project from procuring erosion and sediment permits at the beginning of construction to full range construction operations and documentation upon project completion.

The uniqueness of this project proved challenging to the project team. The intense level of interaction of the project team indicates the several layers of management involved with this project. The roles of the team members were as follows:

- The Pennsylvania Turnpike Commission was the contracting agent for the project
- McTish Kunkel was the overall construction manager for the expansion project

- Loftus Construction held a single contract with the Commission and further contracted:
 - Design services to Rettew Associates
 - Inspection staffing services to CMC Engineering
 - Subcontracting of specialty construction services
- The Pennsylvania Department of Transportation was the reviewer for the NB-124 structure

Of the multiple firms involved, Loftus Construction was the keystone to coordination. While straightforward on the surface, the coordination proved complex. As the responsible party for the Quality Control on the project, Loftus was responsible for the inspection of their construction work and fully complying with applicable standards and the contract specifications. To expedite the schedule, design and construction portions of the QC plan were submitted and approved separately and then combined upon ultimate concurrence.

The conceptual plans provided by the Commission for this project indicated that both structures were to be two span bridges with a center pier located in the median of the mainline turnpike and the superstructures were conceptually shown as spread box beams. Upon review of the contract documents and the project schedule, Loftus and its designer, Rettew, chose an alternate option to these conceptual plans:

- The Kriebel Road (NB-138) structure would be a single span bridge of 148'-6" with a steel superstructure.
- The Bethel Road (NB-124) structure would be a single span bridge of 161' with a bulb tee superstructure.

These alternate proposed designs were within guidelines set

"Design-build" continued p. 31

Three Mile Island Steam Generator Transport

John A. Rorquist, Project Manager, Michael Baker Jr., Inc.

Over the next decade, the market for new nuclear plant construction will grow, as will the need for new facilities using other energy sources. Plant construction will require large, heavy pieces of equipment, often requiring the use of public infrastructure for transport of these Superload components. Successful deliveries will be based on roadway availability, site accessibility, permitting requirements and public acceptance, among other factors.

On September 30, 2009, two replacement steam generators were delivered safely and on-time to Three Mile Island Nuclear Generating Station (TMI), near Harrisburg, PA, by AREVA NP INC. (AREVA). The delivery represented more than a year and half of planning to support a 75-mile, 15-day, Superload convoy from Port Deposit, MD to Middletown, PA. Each generator travelled on a 26-axle, 208-wheel Self Propelled Modular Transporter (SPMT). Each load weighed 825-tons. At 153' long, 24' high and 17.5' wide, these were the largest loads ever transported on Pennsylvania and Maryland roadways. AREVA, a multi-national energy company accustomed to large-scale transports called this "the most challenging large component delivery in AREVA's history".

Michael Baker Jr. Inc. was selected by AREVA to plan and engineer the move. Because of the length, hilly terrain, narrow rural roadways, and water crossings, the route introduced challenges to the many disciplines that comprise a traditional highway or bridge project. Project professionals performed route studies, structural analyses/design, roadway design, environmental permitting, utility coordination, traffic control design, emergency management coordination, logistics planning, permitting and construction management.

Bridge capacities were the prime consideration in highway selection which required fine tuning of the route including studying alternatives and consulting with Pennsylvania (PennDOT) and Maryland (MDSHA) transportation departments. The route crossed 43 steel and concrete structures of varying sizes, ages and conditions. Ratings were performed on more than 30 structures, and if they didn't rate, unique design solutions or mitigations, such as bracing schemes, temporary bridge by-passes and portable over-bridges were utilized.

In one instance, a small, 11-foot stone masonry arch bridge was spanned using an 80-foot over-bridge founded on micro-piles and temporary steel bents to assure the bearing points did not affect the bridge. In another instance, a 293-foot, four span, pre-stressed concrete spread box beam bridge provided another challenge. Analyses indicated the bridge could be crossed only if the SPMTs were widened to 22-feet and engaged the bridge's exterior girders. Four concrete pads, founded on micro-piles, were designed to support the gantry cranes needed for this special widening operation. Once across, the SPMT's were returned to their original configuration. A third example was to erect a traveler beam system using 500-tons of steel beams to support the three center beams of a 221-foot, three-span, pre-stressed concrete I-beam bridge.

Other planning considerations included designs for overnight pullouts, stream by-passes, roadway median crossovers, traffic control and construction equipment access – all requiring states' approval. Additionally, erosion control plans were coordinated with local environmental agencies. Throughout the



Columbia Borough turn



80' Overbridge at Trib to Conestoga

route, the team used GIS data, satellite imagery and field checking to locate and protect 111 drainage pipes, eight underground utilities, 91 manholes, and 66 water/gas valves.

Furthermore, temporary by-passes were designed at two steel bridge sites that could not be braced. Combined, these bypasses used 1,700 feet of 48-inch concrete pipe, covered with stone and geogrid material.

Joint 404/105 waterway permits were required by the US Army Corps of Engineers and Pennsylvania Department of Environmental Protection. Consultations were conducted for animal and plant species and archaeological preservation. Agencies' early executive approval established a cooperative relationship enabling permits to be obtained on schedule.

Overhead utility conflicts provided another significant challenge. More than 400 new utility poles were installed to gain 25' of clearance, and nearly 2,000 phone or cable television connections were dropped during transport operations. The 18 utility companies involved coordinated procedures to assist each other, minimizing impacts to customers and meeting a key objective - no convoy delays due to overhead conflicts.

A quality-based Early Contractor Involvement selection process was implemented due to the required fast-track infrastructure work. York, PA - based Kinsley Construction, Inc. was selected enabling them to provide valuable constructability input during design, reducing the financial and schedule delay risks associated with the design and supply of materials, equipment, and manpower.

Baker's construction inspection staff oversaw all work performed just-in-time within a six-week window that overlapped the transport. All existing roadway, bridge, and traffic signalization items were inventoried to document their pre-move conditions for the permits required removal of improvements immediately after completion of the move. Inspection staff later documented the restoration to pre-move conditions.

Baker worked with AREVA to execute the daily transport plan, provide progress reports to 100 stakeholders, and troubleshoot unexpected issues. Staff coordinated road closings, confirmed steel plating placement and coordinated over-bridge installation at daily meetings. The convoy extended more than a mile or more at any given time and included more than 100 personnel. After each day's move an inspection sweep was done before re-opening the roads to the public.

A pre-move inspection was performed on all bridges and culverts to also document conditions. A second inspection was immediately conducted after the transporters passed, and final inspection reports were submitted to the respective state's bridge department.

Thousands of spectators watched as the convoy made its way to TMI. From the enormous size of the steam generators and the complexity of the route, to the detailed engineering solutions used to prepare the route, the project illustrated successful engineering and problem solving in action. ■



Conestoga Bridge gantry crane



Octararo Creek bridge



On Barge transit

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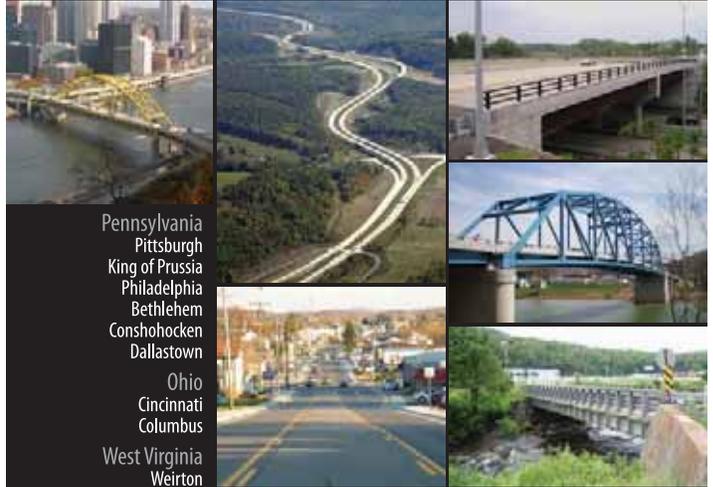
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I-99 Wildlife Crossings Working Well

Marla Fannin, PennDOT/District 2
Marv Klinger, Skelly & Loy

For a little more than a year, District 2 has had I-99 near State College in Centre County, PA open to traffic. As drivers climb I-99, the views are breath taking and impossible to miss whether north or southbound. However, it is easy for drivers to miss a feature close to the heart of the project—protection of the environment, wildlife and habitats along the corridor. This challenge—to address potential impacts to wildlife—was met by incorporating wildlife corridors into the design of the road. PennDOT included five wildlife corridors along natural drainage ways and access roads of I-99, with underpasses and fencing part of the project.

The goal of the crossings is to promote habitat connections and encourage wildlife movement. These corridors consist of bridges and/or oversized culverts, with conservation easements of 10 acres per corridor. The easements enhance passage for wildlife, including large and small mammals, reptiles, and amphibians. The easement on each side of the passageways was enhanced with landscaping to provide natural cover. Ten-foot high fencing was integrated along the right-of-way to help direct wildlife into these corridors beneath the highway.

I-99 wildlife corridors include:

- A single span, pre-stressed concrete I-beam bridge that allows a private access road and wildlife passage beneath U.S. Route 220.
- A bridge underpass for access underneath U.S. Route 220.
- A bridge underpass that provides access underneath U.S. Route 220 surrounding the Blue Spring Hollow stream valley. The corridor was planted with native species of white pine and Canada hemlock for winter and thermal cover. Shrub species of arrowwood viburnums,

winterberries, common elderberry, downy shadblow and silky dogwood provide food and cover to wildlife.

- An underpass consisting of a 14-foot high by 14-foot wide concrete box culvert with an open median that allows light to penetrate. The habitat surrounding the corridor consists of a clear-cut forested patch.
- A 60-foot high bridge structure over an unnamed tributary to Oliver Run in the Oliver Run/Laurel Run watershed. An additional bridge structure spanning the floodplain of Oliver Run also provides opportunities for wildlife passage and habitat continuity.

Post-construction monitoring is taking place to study the effects of the roadway on habitat connectivity. This monitoring will go on for a minimum of three years and will include studying habitat data, animal movement, road mortality and culvert surveying (including study of amphibians and reptiles). Stealth cameras have been useful in providing pictorial proof that wildlife is using the corridors.

Other project features enhance and support wildlife along I-99. Sedimentation ponds along the corridor provide refuge for wildlife and help promote wildlife populations. As part of the project, PennDOT also created 53 acres of new wetlands—another valuable asset in supporting and promoting wildlife populations.

Next time you have the chance to ride I-99 in Centre County, please enjoy the views. They are among the most beautiful in Pennsylvania. Also, take a moment to think about what goes largely unseen, the efforts to protect the environment along the roadway. These efforts help to ensure that those beautiful vistas can be enjoyed for many years to come. ■

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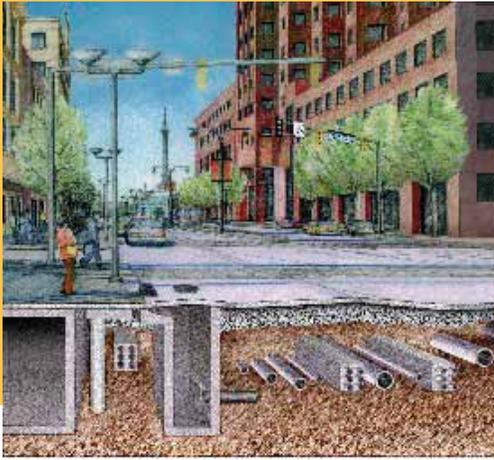


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Artist rendering of WSA design

Euclid Corridor Transportation Project

Transportation Engineers in Transit

Bill Crowley, PE, Wilbur Smith Associates

Engineers find themselves looking to the cookbooks of published standard drawings and design criteria for design aids. As transit authorities gain funding and expand urban systems, engineers need to be creative in writing new recipes to meet the new functional transit requirements within the constraints of good transportation design practices. There are no cookbook solutions in multidisciplinary, multi-agency, intense urban projects. The Euclid Corridor Transportation Project (ECTP) in Cleveland, OH, is an example of an intense urban project.

Known as “Millionaires’ Row” in the late 1800’s and Cleveland’s “Sophisticated Lady” through the mid 1900’s, Euclid Avenue was Cleveland’s heart of wealth, commerce, and transportation. Unfortunately, the late 20th century saw a decline in urban areas such as Euclid Avenue.

Exceptional public transportation can reverse that trend and the ECTP is exceptional. ECTP established Cleveland as one of the first cities in America to have genuine Bus Rapid Transit (BRT).

The \$200 million investment required complete reconstruction of more than 5.5 miles of Euclid Avenue and three miles of other downtown streets. New buses could board on either side, allowing median and curbside boarding. However, median platforms were generally offset to allow standard bus boarding. Midblock crosswalks allowed greater pedestrian access to the median stations. The project stimulated \$4 billion of new outside investment, improved streetscapes, increased pedestrian safety, improved access and provides more efficient transit service. The diesel-electric articulated buses have over 14,000 daily boardings.

Highway design criteria were necessary, yet not entirely sufficient to meet transit goals. Improved traffic flow alone is not enough to justify such an immense investment. Although this project strives to decrease travel time for bus and auto traffic, other investment goals are to increase quality of life and stimulate development.

Improving the aesthetics of this neglected corridor would not have been difficult. (See photo 1.) But achieving the visions of the Greater Cleveland Regional Transit Authority, the Ohio Department of Transportation, city of Cleveland and many stakeholders was not always so easy. (See photo 2.) Not only was providing adequate soil space for trees a challenge, providing the depth for a brick paver was sometimes unrealistic. Underneath downtown sidewalks is a jungle of utilities and vaults. Wilbur Smith Associates (WSA) coordinated with the city to lower or abandon many building vaults to make way for hardscape and landscaping. In order to provide increased pedestrian area, WSA needed to provide the contractors a toolbox of details, which included removable curbs, offset lightpole foundations and drainage inlet chutes. By use of 3-D utility modeling, WSA was able to design around many of the potentially expensive utility relocations.

GCRTA formed an ADA subcommittee to establish project criteria beyond the standard requirements. WSA achieved a sidewalk meeting existing doorways with constant cross-slopes between one and two percent by working with ODOT to allow variable height curbs and variable pavement cross-slopes while still achieving profile and super-elevation criteria along Euclid, as well as on all crossing streets and Public Square. Median station platforms included refuge for pedestrians with traffic barriers

“Euclid” continued p. 30



Photo 1 - View from Public Square onto Euclid Avenue



Photo 2 - Public Square onto Euclid Avenue



MD 924 Design Build Streetscape Improvements Project

Written By: Michael Rothenheber, PE - Johnson, Mirmiran, and Thompson

*Contributors: Kristin Fusco Rowe - ASHE Chesapeake
Roger B. Carriker - ASHE Chesapeake*

The Maryland State Highway Administration's (MSHA) Design-Build streetscape improvements project included the design and reconstruction of MD 924 (Main Street) which runs through the heart of downtown Bel Air, Maryland. This section of MD 924 includes numerous Main Street shops and restaurants, the County Court House, the Police Department, and the County Government Office Complex. The project had to be completed while maintaining the economy and operations of the businesses and facilities.

As a first priority, the Design-Build Team of Johnson, Mirmiran & Thompson (JMT) and Corman Construction established a working culture that focused on total Owner satisfaction and project quality. An innovative, three phase construction approach was developed, aimed at minimizing disruption to businesses and residents, providing a quality product meeting all engineering criteria and demands, maintaining traffic flow and completing the project on schedule. The construction phasing was a product resulting from fully understanding the Owner's requirements.

In particular, the Team worked closely with the local businesses and restaurants to understand their needs during construction and provide options for deliveries and access. The key goal was to ensure that all businesses and restaurants remained economically viable during construction. The Bel Air Economic & Community Development Commission awarded the project the Archer-Bull Award for meeting these key goals.

The ideal phasing for businesses with traffic flow was evaluated to ensure that a smooth flow of vehicles would be achieved during both AM/PM peak hours and during busy weekend shopping and dining periods. The Team developed a minor detour of traffic during night time operations that allowed for enhanced construction productivity without disruption to the local residences. The phasing was reviewed to ensure that functional utility services were included within each phase. Services included storm drains, power, sewer, water, and communications.

JMT and Corman worked closely with the Town of Bel Air and MSHA to provide regular project updates with the citizens and business owners. These updates allowed for the review of the proposed project phasing, specific design elements and construction schedule.

Entrances to many buildings predated ADA regulations and created barriers for mobility impaired individuals that needed to be addressed. Detailed studies of sidewalk slopes were conducted to examine and determine the most effective course of action to be taken



in eliminating these barriers. The bifurcation was creating a barrier that impeded efficient pedestrian circulation and was in violation of current ADA requirements.

To address the elevational complexities, the cross section at each doorway and approximately every 15' was elevated to determine the appropriate cross and longitudinal slope to meet ADA requirements and provide a smooth sidewalk for all pedestrians. The on-street parking cross slope was reversed and sloped back toward the travel lanes. The result was a much more efficient sidewalk network accessible to all users and greatly improved aesthetics.

Architectural styles varied greatly along this stretch of Main Street. Structural challenges were also encountered with existing support columns of roof structures along some business fronts. Additionally, building façade treatments consisted of a wide range of materials, all of which were taken into consideration when developing the palette of streetscape elements. The challenge was to create a cohesive design that worked with the architecture and not against it, the result of which can be seen today along Main Street.

Project tasks also included the coordination and design of various project components, including curb and roadway

improvements, pedestrian facilities, landscape and hardscape treatments, pedestrian lighting, traffic signals, signage, drainage, and permit acquisition. As part of the construction, water line service connections and the main line were replaced along Main Street. Replacement of the main line within this busy downtown area presented many challenges, including maintenance of traffic and continuation of water service to the property owners. Work was conducted during nighttime hours in order to minimize disruptions to the owners.

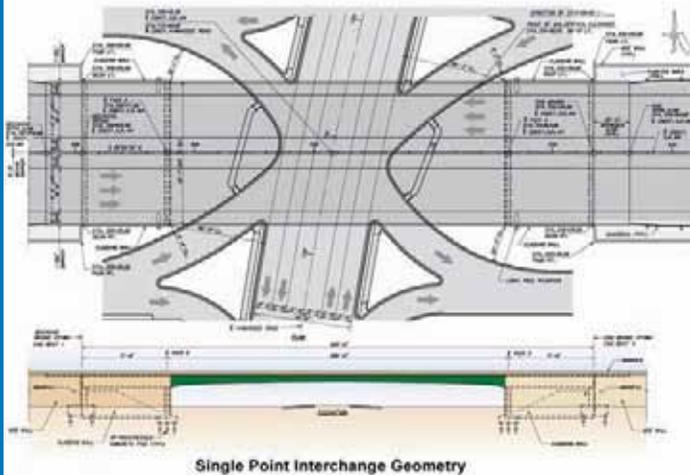
The streetscape improvements completed in Bel Air signify that major infrastructure improvements can be completed along a town main street, while maintaining the current economic vitality during construction, and looking to the long term future.

The Design-Build MD 924 (Main Street) project recently won the 2009 Regional Design-Build Merit Award from the Design-Build Institute of America (DBIA) for Transportation Projects under \$25 million, the 2010 American Council of Engineering Companies (ACEC) Maryland Merit Award for Special Projects, and the 2010 Maryland Quality Initiative (MdQI) Awards of Excellence, Context Sensitive Project Development and the Award of Excellence, Partnering. ■



Expressway Utilizes Rare Bridge Design

Don Hammack, P.E. and Craig Noon, P.E.



The Orlando Orange County Expressway Authority (OOCEA) recently completed construction on the first phase of SR 414 (John Land Apopka Expressway) extension project.

As part of this phase, a new single point interchange was constructed at the intersection of SR 414 and Hiawassee Road. In order to accommodate the geometry of the single point ramps, a long main span was required for the overpass. Due to the high visibility of this location, OOCEA's desire for this bridge was to create a slender, aesthetically pleasing structure. As such, a bridge utilizing haunched, steel plate I-girders with anchored end span technology was selected for design. Only a limited number of structures of this type have been built in the country, and this is the first bridge of this type built in Florida.

Bridge Overview

The bridge is a three span structure with an overall length of 429'-0". The superstructure utilizes a three span continuous haunched steel girder system with a span configuration of 71'-6" – 286'-0" – 71'-6". The steel girder varies in depth from 9'-0" at each intermediate pier to 5'-0" at the center. Over 2,200 tons of structural steel were used for the superstructure.

High strength anchor rods were utilized at the end of each girder to resist the applied uplift forces resulting from the severely unbalanced span configuration.

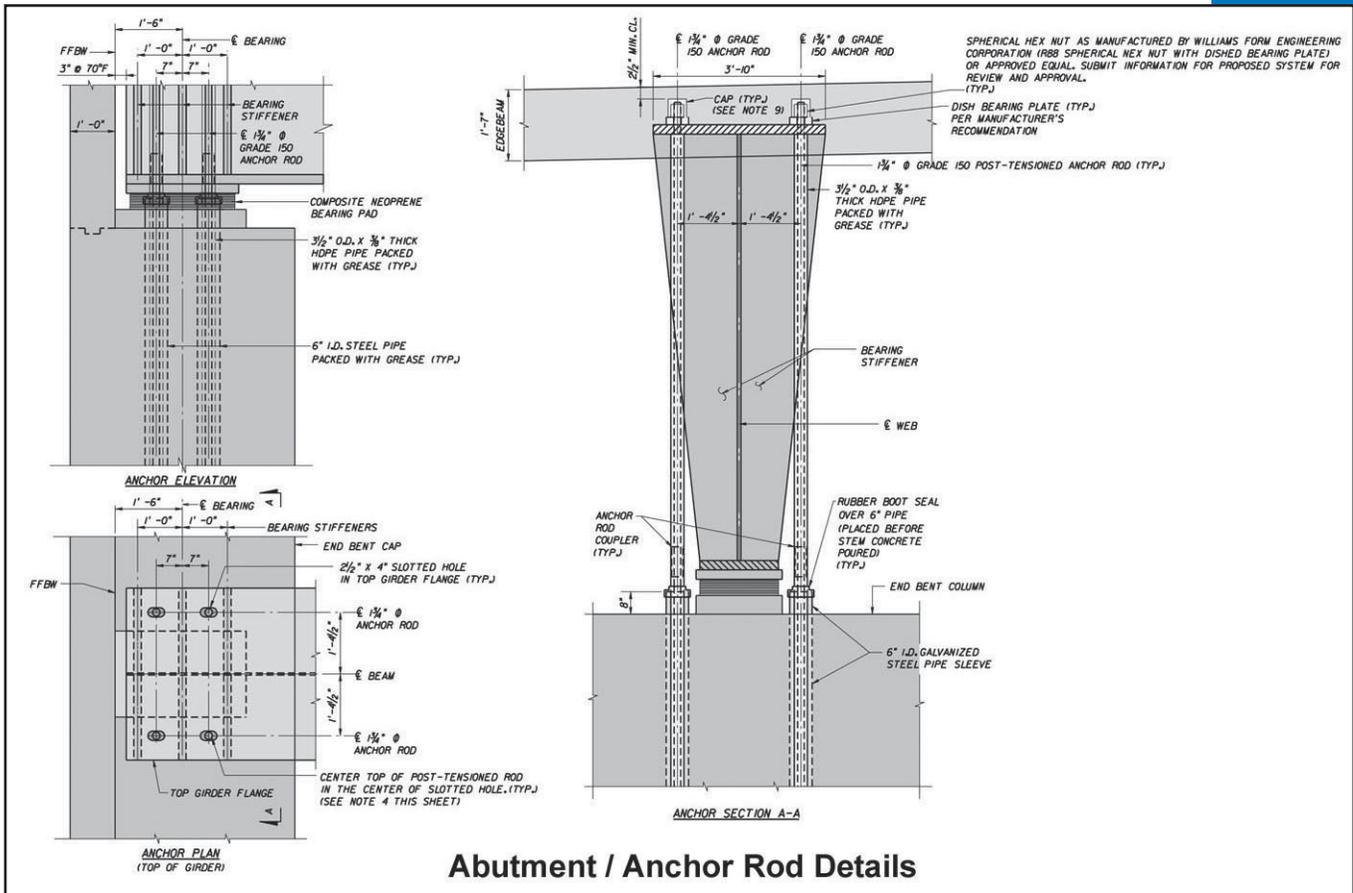
End bents consist of concrete cantilever type abutments approximately 30' in height. Intermediate bents consist of reinforced concrete multi-column piers. Concrete cladding walls were used to enclose the end spans and give the appearance of a single span bridge.

Innovation During Design

The innovative use of applied engineering principles for this project were related to design of the anchor system required to resist the applied uplift forces at the girder ends, while allowing for the bridge to expand and contract due to thermal forces. Various structural and bridge design principles were utilized to determine the maximum uplift forces.

Once these forces were determined, various methods were investigated in order to determine the most efficient method to counteract the anticipated girder uplift that will occur at each abutment. It was determined that four 1-3/4" high strength steel anchor rods utilized at each girder end was the best solution to offset the significant girder uplift forces. The rods were designed and





detailed to extend from the top flange of each girder through the abutment and were anchored to a steel plate embedded in the bottom of the abutment footings.

Another example of innovative use of applied engineering principles was design and detailing of the concrete abutments to avoid any applied tensile forces to the pile foundations. Based on the maximum calculated uplift force at each abutment, the abutment was sized so that the total abutment dead load was greater than the maximum applied uplift force. This prevented any uplift forces being applied to foundation piles. ■

About the Authors: Don Hammack, P.E. is a Vice President and Craig Noon, P.E. is the Manager of Structural Design at Bowyer-Singleton & Associates.



Completed bridge over Hiawasse Road

Pennsylvania ASphalt Improvement Network (PASIN)

George W. McAuley, Jr., PE, PASIN Team Leader

Assistant District Executive for Maintenance, PennDOT Engineering District 10-0

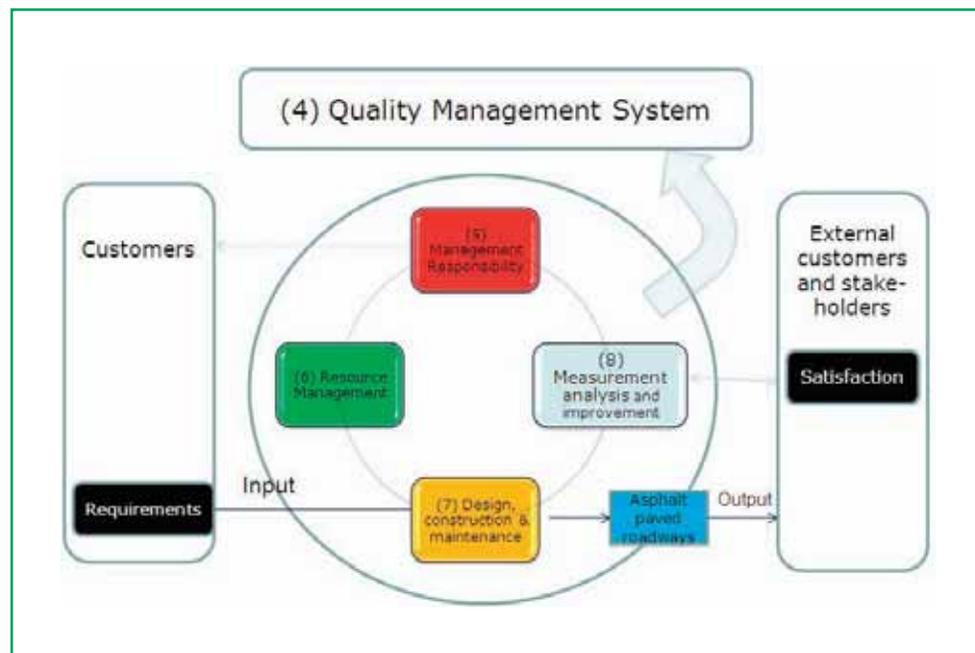
Prior to 2004, PennDOT had a review conducted of its business processes to look for opportunities to improve. As a result of this independent assessment, PennDOT initiated a number of task groups intended to close the recognized gaps. An opportunity existed to apply the principles of ISO 9001 Quality Management to the entire supply line of the products that the highway construction industry provides -- Pennsylvania's highways and bridges. The chosen focus of this effort was the process of designing, constructing and maintaining asphalt pavements. The Pennsylvania ASphalt Improvement Network was born.

Through voluntary participation in this public-private network, members joined forces to develop and improve a Quality Management System (QMS) modeled after the principles of the ISO 9001:2000 criteria. The ISO criteria, which can apply to all types of organizations, regardless of size or function, can help both product and service-oriented organizations achieve standards of quality that are recognized and respected throughout the world. These systems document the policies, processes, and procedures that member organizations use to accomplish quality improvement objectives. The systems include regular systematic reviews of how organizations conduct

daily activities and provide opportunities to correct deficiencies and to improve operations.

The purpose of PASIN is to improve the quality of asphalt highways. The PASIN network has included participation from the Pennsylvania Department of Transportation, American Council of Engineering Companies, PA Aggregate and Concrete Association, PA Asphalt Pavement Association, PA Association of Asphalt Material Applicators, American Association of State Highway Transportation Officials (AASHTO) Materials Reference Laboratory, Federal Highways Administration, PA Turnpike Commission, and Northeast Center of Excellence for Pavement Technology (NECEPT).

Through 2004, 2005 and 2006 this multidisciplinary team conducted a baseline assessment of the status of management practices in the industry and developed a QMS for the design, construction and maintenance of asphalt pavements and detailed these requirements in the PASIN Quality Manual. Additionally, Best Practices for asphalt production, transportation, and laydown were identified. The focus then concentrated on the ability of the construction industry to effectively apply these principles.



To date, PASIN has piloted a QMS approach on five PennDOT projects from 2007 to 2009. The construction portion of this system was successfully piloted in two projects in 2007 following individual gap assessments of the low bidders of these projects. Typically, companies desiring to apply ISO style principles to their organization undergo a cultural shift that takes about a year to formulate and implement. On these projects asphalt paving companies were asked to shift to the PASIN QMS within a month. The members of the PASIN team guided them through developing an implementation plan and offered training in auditing practices.

Two additional pilots were constructed in 2008, and utilizing the lessons learned from the first round of pilots the implementation process improved. Templates were developed for documentation and corrective action systems that expedited the process. One of these projects utilized an external asphalt supply company, adding another layer to the implementation process. Metrics were collected to indicate the consistency of quality management processes.

For each project, the contractor's Quality Manager directed the PASIN implementation effort. In the HMA Plan for the project, the contractors communicated the plan for implementing the Best Practices and Quality Management System by:

- Assigning responsibility for implementing Best Practices of proven value-adding procedures, as listed in the PASIN Quality Manual, within the company. (This Quality Manager needed to have authority over the entire operation, from production through paving.)
- Identifying a Management Review Team to ensure involvement and commitment to continuous improvement.
- Assigning responsibility for the application of each of the production and paving Best Practices.
- Developing a Corrective and Preventive Actions methodology that required management review of issues and verified closure. Root causes were determined and resolutions were tracked to prevent recurrence.
- Establishing a Customer Focus Process to collect and resolve customer concerns and improve customer satisfaction.

- Creating a Non-Conformance Resolution Process to identify issues and track the effectiveness of corrections.
- Developing an Internal Auditing Process that documented conformance to standards and identified opportunities to improve operations.
- Developing processes to Control Documents and Records to enable the organization to provide evidence of meeting quality requirements, and approve and distribute documents within the organization.

The asphalt pavements in the 2007 and 2008 pilots were accepted by PennDOT's standard acceptance criteria as detailed in Publication 408 Specifications. In 2009 a pilot project was constructed that linked the quality management requirements of PASIN with a Warranty Specification. Under warranty acceptance, the contractor was free to develop the mix design and construction quality control processes that they felt would provide the best quality pavement for the project. To this end, the contractor was required to develop their own Best Practices to address critical potential failure modes within their operations as opposed to a prescribed list of Best Practices.

The internal and external audits indicated that the process was successfully implemented in each of the pilots. In addition to documented proof of application of the QMS, the participating companies and the PennDOT teams reported improved communication, increased efficiency and a more quality-focused operation. The management team drove the message of quality through the entire organization. A more thorough understanding of the interaction of the supply and placement of the asphalt material was developed, as well as a greater understanding of the resources necessary to efficiently construct a quality asphalt pavement.

These applications of the principles of ISO are the first in the asphalt paving industry in Pennsylvania and are not at all common in the highway construction industry in the United States.

If you are interested in more information about the specifics about these projects, please visit our website (<http://www.dot.state.pa.us/Internet/Districts/PASIN.nsf>) or you may contact George W. McAuley, Jr. Assistant District Executive for Maintenance at PennDOT Engineering District 10-0 and ASHE Mid-Allegheny Section President at gmauley@state.pa.us. ■

Mile Markers



ASHE Chesapeake members and SHA District Engineers. Pictured from left to right: Tony Frascarella, Tony Crawford, Roger Carriker, Dave Coyne, Brian Post, Brian Young, Chris Fronheiser, Kristin Fusco Rowe, Matt Waters, Mario Aponte, and Marco Avila



Roger Carriker, Vice President, presents scholarship check to James Hoover of Morgan State University



ASHE Chesapeake members and guests enjoy dinner and evening activities at the Engineering Society of Baltimore on March 16, 2010

Chesapeake

The Chesapeake Section held its March 16th meeting at the Engineers Society of Baltimore. The theme for the meeting was "Highways." Technical sessions included presentations from Greg Burkholder of Work Area Protection, Todd Lang of the Baltimore Metropolitan Council, and Dave Labella of the Maryland Transportation Authority.

During the dinner hour, the Chesapeake Section awarded the second of its two \$1,000 scholarships this year to James Hoover, a junior at Morgan state University. At the February meeting, Allysson Mondoro of Johns Hopkins University was awarded the other \$1,000 scholarship.

Evening activities concluded with a round table discussion forum with three of Maryland State Highway Administration's (SHA) District Engineers, Dave Coyne (D-7), Brian Young (D-3), and Tony Crawford (D-6). The panel discussed SHA's current focus and future outlook in the area of delivering a sustainable transportation system. They also showed various images from the recent winter storms and described how each of the Districts' staff worked to clear Maryland's roadways of over 50 inches of snow that fell in early February 2010.

ASHE Chesapeake meetings include technical sessions which earn attendees CEU/PDH credits recognized by IACET. Visit our web site to see meeting information, newsletters, and section activities: <http://www.ashe-chesapeake.org/>.

Central Ohio



(left to right) Ted Beidler and wife, Rich Weigand and wife, Tom Bolte, Robert Ballard, Barbara Jordan and husband, Tom Hibbard, J. Rock and John McGeorge.

ASHE Central Ohio Section enjoyed their 2nd Annual Blue Jackets Family Night February 4th, 2010 and cheered as the Columbus Blue Jackets beat the Dallas Stars 2-1. This is a great event where members and their families/friends gather for a happy hour at a local establishment prior to the game, then participate in the Tunnel of Pride (greeting the Blue Jackets as they take the ice prior to the game). This year our group was also invited to have our photo taken on the ice after the game.

Pittsburgh



Members of the Pittsburgh Section held their Annual Section Past Presidents' Banquet October 24, 2009. The photo is ASHE Pittsburgh Section Past Presidents attending the affair were (left to right): Front Row - Joe Bianco, Catherine Anderson, Don Gennuso, Gene Lipovich, Blair Stocker, Kevin Duris. Back Row - Jim Weaver, Tom Riestler, Gerald Pitzer, Sean Henderson, Richard Bogovich, Tom O'Brien, Bill Bury, Mark Sikora.

Mile Markers

Georgia

Members of the Georgia Section held the 2010 Poker Tournament February 25 with the proceeds of \$900 benefiting the scholarship fund. Over 70 people attended the event. Spectators, players and volunteers all had a great time. Eventually the "Top 8" were determined, as well as "Top Female", "Most Knock Outs" and the not so highly coveted "First Out." The night was a huge success and everyone looks forward to try their luck again next year.



What a crowd!



Matt Sanders and Eniel Gonzalez get ready to start a new hand



Seated: David Hannon, Colin Johnson, Mindy Sanders. Standing: The Pit Boss- Ashley Zellner



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Mile Markers

First State

Nearing completion of its first year, ASHE's University of Delaware Student Chapter can boast success. From a handful of interested and dedicated students, ASHE-UD has grown to almost 50 active members, representing a full cross-section of the University of Delaware community.

Freshmen through seniors, and even a few grad students, have taken to ASHE's message of personal and professional development through innovative and influential experiences. Our rapid and sustainable growth is a testament to the mission of our ASHE Student Chapter, and leads the officers of ASHE-UD to believe that students are hungry for new experiences that will complement classroom training and prepare them for success in the industry.

Student interaction with industry professionals has been a key component of our program from the beginning, along with a focus on meaningful site visits and presentations. Few on campus organizations have the benefit of such a supportive parent organization. Close collaboration with First State Section members has enabled students to participate and take advantage of many opportunities that would otherwise not be feasible. Over the past year, ASHE-UD students have participated in numerous First State Section dinner meetings, covering a range of topics from the I-95 5th Lane Project to DelDOT's Recycled Materials Program, and everything in between. At our inaugural speaker's night, members listened to Section board member, Rod Pieretti, describe many of the

challenges and opportunities that he has faced throughout his career, sparking many questions from those in attendance. Starting with an opportunity to attend FHWA's Highways for Life presentation on PCPS Concrete Panels at SR896 and US40, students have visited many active construction sites and operations centers, providing ample opportunity to witness projects firsthand.

Upcoming trips and events include another trip to the Indian River Inlet Bridge with the Section, a trip to High Steel Structures, a yet to be announced guest speaker, and a trip to the Chesapeake Bay-Bridge Tunnel. Additionally, ASHE-UD is planning on sending a student delegation to the ASHE National Conference in June, so that we may highlight our successes to the other ASHE Sections, and hopefully spur some interest towards starting and supporting other student chapters across the United States.

The past year has been challenging, rewarding, and entertaining, but the members of ASHE-UD and ASHE First State Section would have it no other way. The First State Section and the Student Chapter have accomplished the goals of improving the visibility of the Delaware highway industry through increased student involvement and developing a sustainable and robust organization that exceeds the expectations of its members. We would like to thank the many members of the ASHE and UD communities that have helped us through this first year, because without your selfless dedication to the success of our chapter, we would not be in such a great position as we are now. Thank you all.

*Bob McGurk (UD CIEG '11) serves as Vice President - Events.
bobmcg@udel.edu*



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ASHE National Board Members

2010 2011

John Hetrick, P.E.

2010 National President

John is a charter member of the Mid-Allegheny Section located in Indiana, PA. He held positions of Section Treasurer (1997 - 1999), Second Vice President, First Vice President and President from 2000 to 2004. He served as Section Board Director (2004 - 2006), at which time he became the first Region 2 President (2006 to 2008). John was elected to National Second Vice President in June 2008 and is currently National President.

He retired from Pennsylvania Department of Transportation, Engineering District 10-0, with 32 years service. During his career with PennDOT he held the positions of Maintenance Program Coordinator, Assistant District Traffic Engineer for the Operations Section, and Design Section, and lastly District Maintenance Program Engineer. He also received the Star of Excellence Award while serving with the Department. John is now employed with SAI Consulting Engineers of Pittsburgh. He has been with the company for nine years and is presently the Project Manager for the PA Turnpikes Mon- Fayette Expressway, Uniontown to Brownsville Phase II construction project.

John received his Associate Degree in 1969 from the DuBois Campus of Penn State University. He is a Registered Professional Engineer and Land Surveyor in Pennsylvania. He is a past member of the Board of Directors of the Indiana County American Red Cross, and Boy Scouts of America - Penn Woods Council.

John and his wife, Ann, reside in Indiana, PA. They have three children; Eric (30) who lives in Cleveland, Natalie (27) who lives in Charlotte, NC and is a Pediatric nurse at Levine Children's Hospital and Michael (25) who is an Assistant Golf Pro at Birkdale Golf Club in Huntersville, NC. The family pets are a golden retriever named Penny and a calico cat named Peanut. John's hobbies include golf, hunting and bicycling. He is active in his church where he is the Sunday School Treasurer, usher and volunteer for the church food bank.

Calvin Leggett, P.E.

First Vice President

Calvin is a member and former President of the Carolina Triangle Section and was previously Region 8 Director on the ASHE National Board where he served as chair of the Constitution and Bylaws Committee and still remains chair of the National Legislative Review Committee.

He was born in Oxford, Mississippi and eventually attended the University of Mississippi where he received a Bachelors of Science Degree in 1973, and was inducted into Chi Epsilon and Tau Beta Pi Engineering Honorary Fraternities. Calvin received a Master of Civil Engineering Degree from North Carolina State University in 1975.

He began working for the North Carolina Department of Transportation in 1975 as a Planning Engineer in the Planning and

Research Branch. Between 1975 and 1985 Calvin developed numerous long-range transportation plans for various towns and cities in North Carolina rising to a Unit Head position.

Calvin worked for the City of Raleigh in the roles of Transportation Services Engineer, MPO Director and Transit Administrator (1985 to 1988). Accomplishments while with the City include a major expansion and update of the Capital Area Long Range Transportation Plan, development plans for the Briar Creek (Airport Assemblage) area and the NCSU Centennial Campus, development of the City's first transportation Impact Fee ordinance and opening of the Moore Square Transit Transfer Facility.

In 1988 he returned to the NCDOT as head of the Program Development Branch. This Branch is primarily responsible for development of the State's multi-year Transportation Improvement Program, scheduling of pre-construction activities leading to right of way acquisition and award of contracts for major construction projects, financial management of federal and state roadway construction funds, and preliminary project studies.

In 1993 Calvin was promoted to Director of Planning and Programming with responsibility for the work of the Planning and Environmental Branch, Program Development, Statewide Planning, Research and Develop Unit, GIS and Program Analysis. In 1999, he was reassigned as Manager of a new Program Development Branch, which incorporates the previous Program Development Branch's activities with Research and Analysis functions. He provides leadership and guidance to developing NCDOT positions on federal legislative and reauthorization issues. Calvin developed successful legislation to create a statewide toll road authority and since 2003 has also worked with the new NC Turnpike Authority. In 2005 he served as chair of the Planning Committee for the first North Carolina Transportation Forum held in Charlotte.

He and his wife Llewellyn live in Raleigh, NC and have one daughter, Lydia Elaine, born June 3, 1993. He is a member and former President of the Raleigh Engineers Club and the North Carolina Section of the International Institute of Transportation Engineers, Registered Professional Engineer in North Carolina and a member and Elder at the Hudson Memorial Presbyterian Church in Raleigh.

P. Frank O'Hare, P.E., P.S.

Second Vice President

Frank has been a member of the Central Ohio Section since 1985 and served as Section President in 1995-1996. He was the first Region 1 President, and also served on the 1992 and 2004 National Conference Committees. In fall 2006, he was awarded ASHE Central Ohio's Person of the Year Award. He has been the ASHE National Director for Region 1 for the last four years, representing Circle City, Cuyahoga Valley, Central Dacotah, Central Ohio, Derby City, Lake

"National Board" continued p. 29

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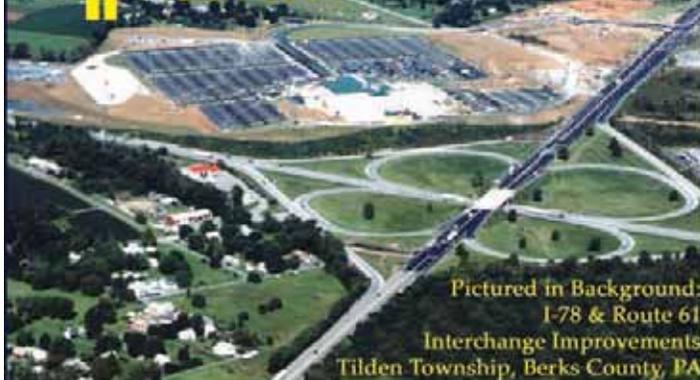
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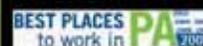
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"National Board" continued from p. 27

Erie, Northwest Ohio and Triko Valley Sections. Region 1 consists of over 850 members spread out over 1,200 miles.

He received his BSCE Degree in 1974 from Purdue University where he worked in the Civil Engineering Testing Lab as a technician. He co-oped with the Indiana Department of Highways during college, working on a survey crew (smart end of the chain) and performed construction inspections. He was certified as a highway inspector in 1971.

Frank has 35 years of diverse engineering experience and is employed as a Senior Project Manager for CT Consultants, located in Columbus, Ohio. He has worked extensively with local, state, and federal clients in the areas of project management, preliminary and final design, corridor studies and project planning, development of design criteria, contract management and construction administration. His diverse background also includes serving as project manager for large civil projects including dams and locks, bridges and highways. He is a Registered Professional Engineer in Ohio, Indiana, Michigan, Kentucky and West Virginia. Frank is also a Professional Surveyor in Ohio and Land Surveyor in Indiana.

He has been a member of the American Society of Civil Engineers since 1975, Columbus Engineer's Club since 1985, Society of American Military Engineers and the American Council of Engineering Companies of Ohio where he has been Past Chairman of the Transportation Committee. Frank is Past President of the Peace Lutheran Church in Gahanna, and has been the Chairman of the City of Gahanna's Planning Commission. Currently he serves the City on the Landscape Board. He is an Eagle Scout.

Calvin and his wife, Kathleen, have been married since 1975 and reside in Gahanna, OH a northeast suburb of Columbus. Kathleen is a kindergarten teacher for Columbus Public Schools. Their only daughter, Molly, is married and is a full time mother of a baby boy, Davis Adam Stassfurth, who is the first grandchild.

The family pet is a cat named Duesenberg, named after the classic cars that were built in Frank and Kathleen's home town, Auburn, Indiana. During the winter, Frank and Kathy can be found cheering on the Columbus Blue Jackets Hockey Team. In 2009, Kathy and Frank completed a new lake home at Apple Valley Lake where the Bald Eagles frequently are found soaring over the lake. Frank enjoys boating, fishing and traveling. He also is a collector and operator of Lionel trains.

Kevin E. Duris, P.E.

Past National President

Kevin is currently the Past National President of ASHE National. Kevin is a life member of the Pittsburgh Section and has been a member since 1982. He has been active on the ASHE Pittsburgh Board of Directors from 1995 to 2007 and has served as President in 2000. Kevin received the Presidents' Award in 1998. He was chairman of the Sponsorship/Advertising Committee for the

2005 ASHE National Conference hosted by the Pittsburgh Section. He served as chairman of the National Board Conference Committee, Budget/Audit Committee, and Executive Committee. He has served on the National New Sections and Website Committees. Kevin has been involved on National Committees since 2000 and member of the National Board since 2005.

Kevin earned his B.S. in Mining Engineering from the University of Pittsburgh in 1980. After graduating, he was hired by Trumbull Corporation, a heavy and highway contractor located in Pittsburgh, PA. His first assignment was Project Engineer for a project on I-80, Brookville, PA. He has held field positions as Project Engineer, Superintendent and Project Manager on many projects in Pennsylvania. During the winter months, Kevin helped estimate bids until permanently settling into Trumbull's main Pittsburgh office in 1988. Here, he estimated bids and is currently the Assistant Chief Estimator. Most recently, he lead the estimating team to successful bids for the reconstruction of Parkway East, Churchill to Monroeville, for \$24.7 million dollars in Allegheny County, PA and design/build reconstruction of I79/I70 for \$15.2 million dollars in Washington County, PA. Kevin is a Professional Engineer in the state of Pennsylvania.

Kevin is single and resides in Oakmont, PA. He enjoys golf, racquetball, swimming, boating, skiing, roller blading, riding the Harley and home improvement projects. Kevin never misses too many golf outings and never misses a Steeler or Pitt basketball game.

Charles L. Flowe, P.E.

National Secretary

Charlie is a charter member of the Carolina Triangle Section of ASHE. Charlie served on the Carolina Triangle Section Formation Committee and served as Director, Second Vice President, First Vice President, President and Past President of the Section. At the National Level, Charlie has served as National Director, National First Vice President, National President and National Past President along with chairing and serving on numerous committees.

Charlie earned a BS degree in Civil Engineering at North Carolina State University in 1983. He is a registered professional engineer in four states. He has been employed as a consultant to numerous clients in the highway industry since college graduation and has held the various titles of Bridge Engineer, Head of Structure Design, and Projects Manager for Transportation Design. Charlie is currently one of the owners of TGS Engineers in Cary, North Carolina, where he holds the title of Vice President and Principal-in-Charge of the highway and hydraulic design practices for the firm.

Charlie and his wife, Lynnell, have been married for 33 years. They have three children, Rachel, Daniel and Sam, ranging in age from 31 to 21. They are active in Christ Our Hope Presbyterian Church in Wake Forest, North Carolina where Charlie is an elder.

"National Board" continued p. 31



Operations Manual Updates

Shirley Stuttler, Chair

National Conference Guideline revisions

Document revised to reflect throughout the term Conference Host in lieu of Regions/Sections.

Provide CD's in lieu of binders of the conference summary to National and all future hosts was incorporated.

Provide a time slot for the National Presidents' Meeting immediately following the National Presidents' Luncheon and provide a location the morning following the Conference for a debriefing meeting with the current host and future conference hosts were added to the Technical Subcommittee duties list.

Item h.7 of the Program Subcommittee list was revised to include the Young Member of the Year and Member of the Year Awards.

SCANNER

Guidelines, as well as SCANNER Contracts and Rates, were revised and included additional requirements when submitting articles and changed contact person to Tom Morisi, as requested by John Hetrick.

Additional documents

ASHE National Awards Nominations Guidelines

Young Member of the Year Program

Member of the Year Program

National Officer Nominations

Revisions were made to the Guidelines.



Photo 3 - Station platform kiosk

"Euclid" continued from p. 15

designed into architectural elements. Station kiosks serve as a safety bollard, electrical control cabinet and rider information stand. (See photo 3.)

The functionality of Euclid Avenue has forever been changed. Traffic has adapted to the median-based transit by making right-hand turns in combination with U-turns. WSA worked with all stakeholders to develop the 'bus-only' signals and signing along this state route. Traffic modeling with transit and pedestrians was used not only in design, but also for developing stakeholder support for the project.

Due to the creativity of many engineers and the coordination between the city of Cleveland, GCRTA and ODOT, GCRTA's Healthline has successfully set a precedent for BRT. Transit authorities around the world are looking at the success on Euclid Avenue to see how they can replicate BRT success in their cities.

ACEC has already selected the Euclid Corridor Transportation Project for an Outstanding Achievement Award and is currently considering the project for the Grand Award in the 2010 competition. The winner will be announced shortly.

For more information on ECTP and other BRT projects, see the following TRB Report links:

http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_117.pdf

http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_webdoc_36.pdf ■

“National Board” continued from p. 29

Shirley Stuttler

National President’s Assistant

Shirley is a member of the Franklin Section and has served as the Section Secretary for 23 years. She served as a National Director from 1996 to 2002, at which time she was appointed as the National President’s Assistant. She also serves on the National Board as Chair of the Section Operations Manual and serves as a member of the National Conference, Nominating and Society History Committees.

Shirley retired in March 2005 from PennDOT Engineering District 1-0 after 35-1/2 years service and continues to perform her ASHE duties for the Franklin Section and National Board from the comforts of her home.

She and her husband, John, have been married for 22 years and reside in Cochranon, PA. They have three sons; David and his wife Lisa, who reside in Athens, GA; Jay and his wife Christy, who reside in Girard, PA; and Jim and his wife Katie who reside in Erie, PA. They are also the proud grandparents of four grandchildren; Adam age 8, Ethan age 2, Zachary age 3 months and Jordan age 7.

As a three time cancer survivor, Shirley spends extra time providing current cancer victims with encouragement, and stresses the importance of their attitude on life. She tells these individuals, “the only thing we can do is play on the one thing we have and that is our attitude.” She is convinced that life is 10% what happens to us and 90% how we react to it.

Shirley enjoys spending time with the grandchildren, traveling and relaxing at the cottage located along the Allegheny River where she and John can take canoe outings or enjoy riding in their hovercraft. ■

“Design-Build” continued from p. 9

forth in the contract documents. Elimination of the piers proved to be a winning combination. By eliminating the piers, traffic on the mainline turnpike remained virtually unimpeded for the duration of construction except for removal of existing structures and erection of the new superstructure. Valuable time was cut from the already tight schedule and made project completion attainable with reasonable resources. Elimination of the piers also provided for a much safer project since work was eliminated from the mainline median section of the Turnpike.

Another design change initiated to save time was the introduction of steel intermediate diaphragms into the concrete bulb tee design. This non-standard member required approval from PennDOT’s Bridge Quality Assurance Division. After many discussions, the Department allowed use of the diaphragms on the structure. The use of steel intermediate diaphragms was among the first on a Pennsylvania state owned bridge. Another first on this bridge was use of a type 3 approach slab. The type 3 approach slabs allow for another span off the bridge to eliminate any settlement reflection in the paving due to structure backfill and remove expansion dams from the bridge proper and provide expansion at the roadway interface. The type 3 slabs were issued as a change order due to cost and as an extension of time due to the magnitude of work involved.

Design of these alternate plans proceeded concurrently for both structures since the project schedule was of the utmost importance and different agencies would be reviewing the submitted plans. The type, size, and location plans were submitted and approved by the Pennsylvania Turnpike Commission for the Kriebel Road structure and by PADOT for the Bethel Road structure. The final design drawings were broken into two components - substructure and superstructure. This allowed for design elements that were to be constructed first to be approved and moved onto construction.

During the substructure design and approval phase, demolition and excavation of the existing structures occurred. Once approved, the substructure components were constructed and the superstructure elements designed. This concurrent design and construction allowed for the schedule to be expedited and continuous movement forward. This method of overlapping operations was completed for the roadway portion of the work.

Removal of these existing bridges was a successful milestone on this project. Contractually, both center spans of the existing two structures were required to be removed simultaneously during one four-hour shutdown of the mainline Turnpike. This work involved the use of two 500-ton cranes and the removal of the concrete deck and steel beams as a unit. The removal of both structures was completed safely and both structures were removed within 3.5 hours.

Construction of the project proceeded swiftly with work on all four abutments occurring simultaneously. The work occurred in an assembly type manner to keep crews efficient and on task throughout the project. The substructure construction was a straight forward approach with the exception of the architectural treatment. This treatment was placed on all exposed surfaces and required the finish to ‘wrap’ around corners and provide a seamless look. This treatment required tedious marking of liner pieces cut from one panel to be saved and used on the adjacent placement.

The project was completed within the contractual time and under budget. There was one change order on the project that added a significant amount of work and extended the project completion date. This work was completed at the owner’s request and was outside the original scope of work.

This complex project with its many different components outside of the normal contracting methods was a success for all parties and a jumpstart to the overall corridor reconstruction. ■

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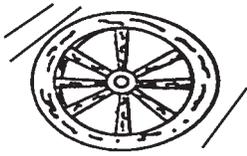
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As the Wheel Turns



Scott N. Rhine, P.E., DBIA, was recently named a senior associate at Gannett Fleming. Rhine serves as the transportation director and a project manager in the firm's Clearfield, PA., office, as well as a Design-Build Leader with the firm's Design-Build Practice Leadership Team (PLT).

With nearly 15 years of experience, which includes more than 10 years in the design-build arena, Rhine oversees the transportation staff in Clearfield.

His project experience includes

complete development of plans and specifications, inspections, and evaluations for new and rehabilitated bridges, highways, and related civil works projects. He is also responsible for setting project schedules and milestones, making staff assignments, and establishing and monitoring project budgets.

At the national level, Rhine is responsible for the effort and coordination of projects involving contractors, state departments of transportation, turnpike commissions, and a variety of other transportation clients. Working with the PLT, he participates in and leads design-build initiatives across the country.

Rhine holds a Bachelor of Science in civil engineering from the University of Pittsburgh at Johnstown. He is a registered professional engineer in Pennsylvania, Maryland, and North Carolina, as well as a Designated Design-Build Professional™ through the Design-Build Institute of America (DBIA).

Active in professional associations, Rhine is a member of the American Society of Highway Engineers, Clearfield Chapter; the Engineers Society of Pennsylvania; and the American Institute of Steel Construction. He resides in Dubois, PA.



Casey A. Moore, P.E. of McMahon Associates, Inc., has been selected as this year's Greater Valley Forge Transportation Management Association's (GVF) Peter P. Quinn Leadership Award recipient.

The award was created to honor the leadership legacy of GVF's founding director, Peter Quinn, and was presented to Casey in recognition of his voluntary service and leadership on the

Board of Directors of GVF and to its membership, as well as for his

leadership in the A/E/C industry. He was honored at GVF's Annual Meeting on Wednesday, May 5, 2010 at the Court at King of Prussia in King of Prussia, PA.

Mr. Moore, principal, vice president, and mid-Atlantic regional manager, has over 20 years of experience in transportation engineering, design, and planning. He is a registered Professional Engineer in Pennsylvania, New Jersey, Delaware, Maryland, and Florida. Since graduating from Penn State University in 1989, with a bachelor's degree in civil engineering, his work experience has included geotechnical engineering and construction services, but in his 19 years at McMahon, his focus has been in transportation engineering, planning, and design.

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