

# SCANNER

NEWSLETTER OF THE AMERICAN SOCIETY OF  
HIGHWAY ENGINEERS



May - 1997 - 2

## NORTH CENTRAL WEST VIRGINIA HONORS "MAN OF THE YEAR"

The Secretary of the West Virginia Department of Transportation/Commissioner of Highways, Fred VanKirk, was recently honored as "1996 Man of the Year" by the ASHE North Central West Virginia Section at a banquet. The award was presented by ASHE National President David A. Greenwood.

Appointed by Governor Gaston Caperton, September 1, 1995, to the combined position of Secretary and Department of Transportation/Commissioner of Highways, Mr. VanKirk is responsible for the administrative oversight and jurisdiction of the Division of Highways, Motor Vehicles, Public Transportation, West Virginia Parkways, Economic Development and Tourism Authority, Railroad Maintenance Authority, Public Port Authority, and the Aeronautics Commission. As Commissioner of Highways, he is responsible for the daily management of activities related to planning, constructing and maintaining West Virginia's 35,000 mile highway system which requires administration of an annual budget in excess of \$900 million.

Mr. VanKirk began his career with the WV Department of Highways in 1963 as an area engineer assigned to the Planning Division. In 1977, he was promoted to the position of Chief Engineer-Planning and was charged with the responsibility of preparation and planning of all railway programs, road construction and improvement projects.

In 1982, Mr. VanKirk was appointed State Highway Engineer, the highest level engineering position within the Division of Highways. His responsibilities included management of the ten field directors, together with the staff divisions involved in planning, development and operation of the state's 35,000 mile highway system. Mr. VanKirk served in this position until 1989, at which time the Governor appointed him to the dual position of Acting Commissioner/State Highway Engineer.

He has served on various Committees and task forces for the American Association of State Highway and Transportation Offi-



(Left to right) David A. Greenwood, ASHE National President, Fred VanKirk - "Man of the Year" North Central West Virginia Section. Photo by: William Rota

cials (AASHTO) and currently is a member of the AASHTO Board of Directors and the Standing Committee on Highways.

He is a member of the advisory committee for the West Virginia University Department of Civil Engineering.

A native of West Virginia, Mr. VanKirk was reared in the Ravenswood area, graduated from Ravenswood High School in 1953. He served in the United States Army and worked in heavy industrial plants, prior to receiving a Bachelor of Science degree in Civil Engineering from West Virginia University in 1962. In 1968 he received a Master of Science degree in Civil Engineering from WVU in Transportation Planning.

Mr. VanKirk is married to the former Jo Ann Harmon and has one son, Charles Mark.

Other national officers attending the awards celebration were Secretary Terry Conner, President-elect Pat Dougherty and Director Domenic Piccolomini.

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# NATIONAL BOARD NEWS

The National Board met for a regular board meeting on April 18, 1997, in Harrisburg, Pennsylvania. National Board President David A. Greenwood, P.E., presided over the meeting. The following are highlights of the committee reports and actions:

## MEMBERSHIP

There have been 76 new members since January 1997, bringing the total membership in the 30 Sections to 4,581.

There was discussion on how to attract younger people, especially Department of Transportation employees. Suggestions included the establishment of student sections, "Younger Members Forum" and the inclusion of more DOT people on the Section Boards.

## MEMBERSHIP AWARDS

Winners of the Membership Increase Awards for 1996-97 are as follows:

George K. Hart Award	Percent
Potomac	30.9%
Chesapeake	21.1%
Western Reserve	17.0%

Gene G. Smith Award	Numerical
Carolina Triangle	31
Potomac	29
Chesapeake	26

## NEW SECTIONS

Chairman Cooper Curtis reported there is ongoing activity with the Columbia, S.C. group with 75 to 100 people interested in forming a Section. A future information meeting is being planned. There is also ongoing work with ASHE-interested people in the area of Dallas/Forth Worth, TX; Phoenix, AZ; and St. Louis MO. An organizational meeting for the future Atlanta, GA Section is scheduled for June 11, 1997.

## BONDING

The Board approved to amend the National By-Laws to read that each Section needs to purchase bonding for the Section's financial officers and that each Section's By-Laws need to be amended accordingly. The ASHE National Board is not legally permitted to provide the bonding for the Sections.

## LEGISLATIVE REVIEW

Chairman Domenic Piccolomini reported on the following items:

**Pennsylvania Transportation Funding Increase:** Pennsylvania Legislators and Governor Ridge agreed April 16 to increase the gas tax and vehicle registration fees in order to make road and bridge improvements. Key elements of the legislation are:

**A 3.5 cent increase in the Oil Franchise Tax.** This will provide \$200 million which will go exclusively to maintain state roads, costing the average motorist approximately \$30 a year.

**A 50 percent increase in registration fees.** This will raise the annual fee from \$24 to \$36 per car, still one of the lowest registration fees in the United States. This increase in fees will provide \$200 million for major construction.

**Repeal of Gasohol Exemption Proposal:** U.S. House Ways and Means Committee Chairman Bill Archer (R-TX) plans to propose the repeal of the partial Federal motor fuel tax exemption now provided for gasohol. If this would occur, an additional \$3 billion in highway user fees could be available to invest in the nation's road and bridge system over the next five years.

**Truth in Budgeting Act:** The U.S. House Transportation and Infrastructure Committee unanimously passed H.R. 4, "The Truth in Budgeting Act", on Feb. 7, 1997. However, as of March 27, 1997, there were only 191 co-sponsors in the House, still 27 short of the 218 votes needed.

**Note: ASHE urges the membership to write to their Senators and Representatives asking for support of H.R. 4.**

**New Bill would Direct 4.3 Cent Federal Gas Tax:** On March 22, 1997, Senators John Warner and Max Baucus announced their plans to introduce legislation to redirect the revenue from the 1993's 4.3 cent Federal motor fuels tax increase to the Highway Trust Fund. The revenue is currently earmarked for deficit reduction. Legislation has already been proposed in the House to accomplish this goal (H.R. 255).

**Note: ASHE urges the membership to write to their Senators and Representatives asking support of H.R. 255.**

## NEXTEA

The U.S. Congress is considering legislation in 1997 to authorize Federal funding for the nation's surface transportation program which includes roads and bridges. Congress has authorized Federal aid for highways when it approved the Intermodal Surface Transportation Efficiency Act

(ISTEA) in 1991. This Act will expire on September 30, 1997.

New Federal highway legislation, dubbed NEXTEA or National Economic Crossroads Transportation Efficiency Act, will provide for the funding of road and bridge improvements. If a bill is not approved by the Federally mandated deadline, Federal funding for roads and bridges will cease.

**Note: ASHE urges the membership to write to the Senators and Representatives asking support of NEXTEA.**

## ASHE NATIONAL CONFERENCE

**1998 - Harrisburg, PA:** "Buggies to Beltways" will be held May 14-16, 1998 at the Lancaster Host Resort, Lancaster, PA. Technical sessions and tours are being planned as well as social events.

**1999 - Asheville, N.C.:** Conference will be held the last week/weekend in May of 1999. Committee assignments are being made and budgets are being discussed. A contract with the hotel has been signed with room rates set at \$89 per night per room.

## SCANNER

Chairman Sandy Ivory reported the legal firm of Korn & Cohn would like to supply the SCANNER issues with a legal column pertaining to the highway industry at no charge to ASHE. The firm plans to advertise in the SCANNER. The Board approved the addition of the Korn & Cohn's legal column in the SCANNER.

## WEB PAGE

Michael R. Martin, Chairman of the Association Management Assistant/Executive Director Committee, reviewed the plans for an ASHE Web Page on the Internet. It was determined that a start-up cost and maintenance fee for one year would possibly be \$5,000. A demonstration by the Web Page providers and a question and answer session will be held at the June Board meeting before a final decision is made.

## CONFERENCE PROFITS

After considerable discussion for the second time, Board members sent the question of Conference profits back to the Committee, headed by president-elect Pat Dougherty. The committee will send the proposed motion to all the Sections for a response, so the matter may hopefully be voted on at the June Board meeting. The proposed motion is as follows:

*(Continued on page 3)*

# PRESIDENT'S MESSAGE

By: David A. Greenwood, P.E.



With Federal funding of many programs being scrutinized to an ever greater extent, it is imperative that we focus on those issues that impact the highway industry directly. There is legislation currently being considered that deals with truth in budgeting, the redirection of the 4.3 cents from deficit reductions to the Highway

Trust Fund, and authorization of NEXTEA, the new Federal highway legislation. Details of the legislation are provided under the legislative review portion of the National Board News section of the newsletter. Through research with other professional organizations, it appears that there is support for returning the 4.3 cents to the Federal Highway Trust Fund. However, there are mixed opinions with respect to removing the Transportation Trust Fund (TTF) off budget. We, as members of a growing national organization, must serve notice to the appropriate U.S. Senators and Representatives that we strongly support these legislative initiatives that will help preserve and promote the transportation infrastructure, especially highways, throughout the country. A part of our strategy must focus on the impact on local businesses and state economies associated with a well-funded highway program. In some cases, legislators are not aware of the direct impact a load restricted bridge or closed roadway have on the financial success of businesses on a local as well as regional basis. We also must make them aware of the user costs associated with traffic congestion, detours associated with bridge postings and highways running at or above capacity. Once we have educated the appropriate officials, I believe the support for these legislative issues will grow. We must realize that these and other legislative processes dealing with the TTF are continuing and evolving processes that will always need the constant support of our membership. Please get involved and support our efforts at the local and national level to protect and preserve our highway system. ■

## NATIONAL BOARD NEWS

*(Continued from page 2)*

Conference profits up to \$10,000 will remain with the host Section/Region. The remaining profits will be split equally between the host Section/Region and National's portion will be used to help eliminate deficit spending.

### ASHE VIDEO UPDATE

Director David Jones gave several options on updating the present ASHE video. To update the existing video, the cost range would be approximately \$1,000 to \$3,000, and to have a new video produced, the cost would be approximately \$5,000 to \$6,000. No decision was made at this time.

All Sections - Start thinking PHOTOS now so we will have a great selection when they are needed. Photos should be of major highway/bridge construction, awards ceremonies, new section charters, outings, etc. Photos should be horizontal. ■

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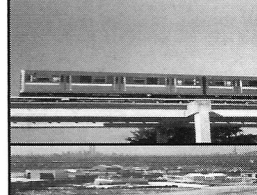
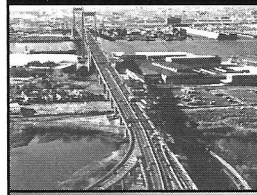
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# TIMELY TOURIST TYPE TRANSPORTATION TRANSFORMATION - MEDORA'S METAMORPHOSIS

By: Dale C. Heglund, P.E., Dickinson NDDOT Assistant District Engineer

Medora, located in the southwest corner of North Dakota, has deep historical ties that stem back to the start of the cattle industry and Theodore Roosevelt's residence in this rugged desolate region known as the Badlands. Tourists are inundated with a sense of the old cowboy era, reminiscent of the times that our late President "Teddy" Roosevelt walked the dirt and boardwalked paths through Medora.

Despite being North Dakota's number one tourist attraction, Medora was missing something. Something in the form of a transportation system facelift. The old route through town not only suffered from degradation but lacked the current safety features, parking, drainage and non-motorized facilities that were not available when it was originally constructed in 1942.

Conceptually, the reconstruction of the I-94 business loop through Medora started in 1981. Lack of funding delayed actual project design until 1994, with construction of the \$2.9 million project targeted for 1995/1996.

In a town that swells in population from 100 in the winter to 3,000 in the summer, revamping its lifeline (i.e., their transportation system link) could have a dramatic negative affect upon the business community. The city leaders made it clear that the business loop could not be attired with orange construction signs. Since the I-94 business loop bisects the city and is the sole connection to the State's transportation network, it was obvious that the design team would have to come up with a plan to reconstruct this system between Labor Day and Memorial Day, outside the prime window of opportunity for construction in a region of freezing temperatures between Thanksgiving and Easter. Along with the tight construction window, product aesthetics and historical preservation of several facilities were critical.

To accomplish these objectives, the planning/design team periodically met with the city public members and officials to set realistic time tables and sensible design guidelines. The construction project engineer participated in the design phase to review project requirements and verify the design specifications and sequencing logic. The resulting contract provided for critical path scheduling, optional project partnering, and weekly public informational meetings.

Ultimately, these pre-contract planning sessions provided for: 1) phased urban reconstruction from Labor Day 1995 to Memorial

Day 1996 through the use of a city provided detour, 2) construction on the rural portions of the business loop and structural widening to take place between July 1995 to July 1996 provided two-way traffic and pedestrians were accommodated, 3) structural work scheduled to meet environmental time constraints for several aquatic species, and 4) completion of the rehabilitation of roads and parking systems for two historical sites by May 15, 1996.

The project design, detailed in the 331 page set of plans, included a 0.46 mile urban reconstruction section, a 2.82 mile rural interstate business loop rehabilitation, a widening and repainting of a 1942 four-span structure, restoring the roads and parking facilities at two State Historical facilities, and construction of a 1.29 mile bikepath. The urban reconstruction consisted of extending the underground storm system to those areas previously surface drained, installing ornamental lighting, modifying the existing profile, installing radial intersections where skewed intersections previously existed, widening the street from a three to a five-lane section, installing new curbs, gutters and sidewalks, placing bituminous pavement, and providing for bicycle and pedestrian traffic. The rehabilitation in the rural section included flattening of several inslope sections that allowed for the elimination of guardrail, approach slope flattening, reconstructing highway fill between the railroad and the river, and placing a bituminous overlay over the entire section. Rehabilitation of the 1942 steel structure included widening to accommodate the 10' bikepath, refurbishing the existing historical bridge rails and resetting them as aesthetic attributes, updating the bridge barrier and guardrail system, and complete repainting. The city council selected an earthtone shade of tan to match the existing prominent buttes in its background. Construction of the bike path was completed via transportation enhancement funding. The path provides equestrians, hikers, skaters, and bikers with a paved extension of the city's system and provides access to the Maah-Daah-Hey trail. The Maah-Daah-Hey trail is a 120 mile Forest Service project, which extends through much of North Dakota's Badlands.

Construction was completed as planned with only minor exceptions. The tourism industry was not impacted. Following the ques from the design team, the NDDOT engineering staff worked hard to ensure that work was completed on schedule. ■

## First Student Chapter Formed in Florida

The first ASHE Student Chapter has been formed by the Central Florida ASHE Section. The first meeting was held Oct. 2, 1996.

Members of the Chapter are all engineering students at the University of Central Florida. There are 26 members led by President Curtis Warren, and the faculty advisor from the University is Dr. Atty.

Since the Chapter formation, meetings have been held monthly. Speakers have presented the students with information on such topics as current market for employment opportunities, land development projects, transportation projects and environmental projects.

The ASHE Central Florida Section is sponsoring a \$1,000 scholarship at the University of Central Florida. The selection committee will be selecting one of the Student Chapter members as the recipient during the next months.



# A NEW APPROACH TO CONTRACTING BY THE FDOT

By: Peter A. Markham, PE, Executive Vice President, Martin Paving Company  
William O. Downs, PE, District Construction Engineer, District 5, FDOT

To address the needs and concerns of the traveling public, who are after all, the ultimate customers of the Florida Department of Transportation (FDOT), FDOT is trying some new and innovative contracting methods. Some of these methods have been tried with varying results in other states and some are new. The Legislature has even gone as far as to tell the Secretary of Transportation to let them know who the "Bad Contractors" are, those that file lots of claims and those that are always late on their projects, and the Legislature will give him the tools to get rid of them.

In studies performed to determine if the traveling public would be willing to pay more for projects to accelerate their completion the results have overwhelmingly been to pay extra and minimize the hassle and disruption to their lives. In 1996 the Florida Legislature authorized the FDOT to use Alternative Contracting Techniques to control time and cost increases on construction projects. So far there are four bills that cover Alternative contracting:

F.S. 337.025 Innovative Contracting (limited to \$60 million annually)

F.S. 337.11(04) Time-Plus-Money techniques

F.S. 337.11(7) Design/Build

F.S. 337.18(4) Incentive/Disincentive.

## A + B Bidding

Cost-plus-time bidding, also referred to as the "A+B bidding", involves time, with an associated cost, in the low bid determination. Under this method, each bid submitted consists of two components:

The cost of "A" component is "the traditional bid" for the contract items and is the dollar amount of all work to be performed under the contract.

The time or "B" component is a "bid" of the total number of calendar days required to complete the project, as estimated by the bidder.

The bid, for award consideration, is based on a combination of the bid for the contract items and the associated cost of the time needed to complete the work according to the following formula:

$$(A) + (B \times \text{Road Cost/Day})$$

This formula is only used to determine the award. Contract payments will be based upon the "A" component only.

A disincentive provision, equivalent to the Road Cost/Day used in the bidding process will be incorporated into the contract, in addition to the normal liquidated damages provisions, to discourage the contractor from over-running the time "bid" for the project. In addition, an incentive provision will be included to reward the contractor if the work is completed earlier than the time bid.

The value of the road cost is predetermined by the FDOT and specified in the proposal. It is based on costs, such as road-user delay time, detour costs, construction engineering costs, etc.

## Lane Rental

The lane rental concept involves the contract being assessed a fee for each time period in which a lane is closed to traffic.

Like cost-plus-time bidding, the goal of the lane rental concept is to encourage contractors to minimize road-user impacts during

construction. The lane rental rates are stated in the bidding proposal in dollars per lane per time period, which could be daily, hourly, or fractions of an hour. Included within the proposal for this contract type is a bid item for Lane Rental Days (hours, etc.). The bidder shall determine the number of Lane Rental Days required to perform the work specified and show this number in the bid item in the proposal. The Department will multiply the number of Lane Rental Days bid by the contractor by the Daily Lane Rental Rate to determine the Total Lane Rental Bid. The Total Lane Rental Bid will be added to the Base Bid and used to determine the apparent low bidder. This adjusted bid process is only used to determine the award - it is not used to determine the contract amount or for payment purposes. If the contractor uses more lane rental time than what was bid, the appropriate amount of lane rental fees will be deducted on a monthly basis from the monthly progress payment.

## Design/Build

Design/build combines the design and construction phases of a project into a single contract. The FDOT establishes the design criteria package from which the prospective bidders then develop design proposals that optimize their construction abilities. The submitted proposals are rated by the FDOT on factors such as design quality, timeliness, management capability, and environmental sensitivity.

By allowing the contractor to optimize his or her workforce, equipment, and scheduling, the design/build concept opens up a new degree of flexibility for innovation. However, along with the increased flexibility, the contractor must also assume greater responsibility for long term performance.

There are two types of design-build bidding that may be used. (1) Low Bid - for scopes that are precise and clearly defined, and (2) Adjusted Score - for scopes where the end results are defined but the means and methods (i.e., concrete vs. steel bridges) are not specified.

From the contracting agency's perspective, the potential time savings is a significant benefit. Since design and construction are performed through one procurement, construction can begin before all design details are finalized. Also, because both design and construction are performed under the same contract, claims for design errors or construction delays due to redesign are not allowed, and the potential for other types of claims is greatly reduced.

## Warranty Clauses

A warranty is a guarantee of the integrity of a product of the makers' responsibility for the repair or replacement of deficiencies. It is an absolute liability on the part of the warrantor and the contract is void unless it is strictly and literally performed.

Warranties have been successfully used in other countries and by some states to protect investments from early failure. Many owners feel that warranties motivate contractors to build better quality projects.

Warranties for materials and workmanship are common in the construction industry with more performance bonds covering such items for one year following completion of a project. The new emphasis on warranties for highway construction involves the guar-

*(Continued on page 6)*



# A NEW APPROACH TO CONTRACTING BY THE FDOT

(Continued from page 5)

antee of longer-term performance of highways.

As a general rule, warranty provisions should be for specific construction products or features. Warranty requirements should not be used to place an undue obligation on the contractor for items over which the contractor has no control.

## Bid Averaging Method

The Bid Averaging Method or BAM is designed to get contractors to bid a true and reasonable cost for a project. The BAM bidding process is as follows:

- 1) if 5 or more bids are received, the Department will exclude the low and high bids, average the rest and select the contractor whose bid is closest to the average.
- 2) if 3 or 4 bids are received, the Department will average all bids and select the contractor whose bid is closest to the average.
- 3) if fewer than 3 bids are received, then the Department will

Upon award of the project, the Department's normal contract administration processes are used.

## No Excuse Bonuses

Bonuses are intended to reward a contractor for early completion of a contract thereby reducing the disruption and inconvenience to the public. The bonus can be tied to either milestones, a final completion date, or both. Bonuses differ from incentive/disincentive clauses in that bonuses do not allow for any time extensions. They are tied to a "drop-dead" date (time-frame) that is either met or not met. Unforeseen conditions, weather delays, and other such issues, which normally extend contract time, are not a consideration when granting a bonus.

If the contractor elects not to pursue or fails to meet the "no excuses" deadline, then the normal contract administration processes will be applied.

## Lump Sum

This option involves the contractor providing the FDOT with a lump sum price to complete a project as opposed to bidding on individual pay items with quantities provided. The contractor will be provided a set of bid documents (design drawings, etc.) and be required to calculate quantities and develop a lump sum bid for all work specified in the contract drawings.

The intent of lump sum is to reduce quantity overruns due to designer errors in quantity calculations and to reduce the costs of contract administrations associated with quantity verification and measurement.

Design elements such as typical sections, guardrail, drainage requirements and other information needed by the contractor to develop accurate bids will be provided. Under the lump sum method of bidding, any costs associated with changed or unforeseen conditions as well as added or deleted work will be negotiated with the contractor using standard practices. It is anticipated that this method will only be used on simple projects such as resurfacing. The process may include a pre-bid meeting requirement to address bidder concerns and to help to alleviate any potential problems.

## Liquidated Savings

The intent of Liquidated Savings is to encourage the contractor to finish a project early. The contractor will be rewarded for

each calendar day the contract is completed and accepted prior to the expiration of the allowable contract time. The amount of the incentive or reward will be based on the direct savings to the Department (and thus the public) related to construction engineering inspection and contract administration costs.

This is different from the No Excuse Bonus method in that contract time is adjusted for unforeseen conditions, extra work and weather delays under the Liquidated Savings concept.

## Incentive/Disincentive

Incentive/Disincentive (I/D) contracts are used to not only provide an incentive to the contractor for early completion, but also to increase the penalty for failure to complete a project on time. The amount of I/D for a particular project is set by the Department based on daily road user costs, and construction engineering inspection and administration costs born by the Department. I/D is assessed on a daily basis and can be used to achieve specific milestones within a project or to encourage timely completion of the total contract.

## Plan for the next two Fiscal Years

The FDOT intends to try all of the above methods and evaluate their potential for saving time and money during fiscal years 1996/1997 and 1997/1998.

	FY 1996/1997	FY 1997/1998
BAM Bidding	3 contracts	4 contracts
Design/Build	4 contracts	2 contracts
Lump Sum	3 contracts	8 contracts
Warranties	2 contracts	1 contracts
Lane rental	7 contracts	7 contracts
A + B	9 contracts	11 contracts
Bonus	15 contracts	16 contracts
Liquidated Savings	10 contracts	7 contracts
Incentive/Disincentive	6 contracts	11 contracts

The FDOT plans to evaluate the program after completion to determine which are the most effective methods of controlling costs and time. They will then meet with industry representatives and come up with a consensus of the best method of controlling time and cost for the benefit of the traveling public. ■

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# EAST TO MEET WEST AS CINCINNATI NEARS COMPLETION OF CROSS COUNTY HIGHWAY

Submitted by: ASHE's Triko Valley Section

A highway first conceived as Harry Truman won a stunning victory over Tom Dewey, begun midway through Dwight Eisenhower's second term, and named for Ronald Regan, will finally be completed during Bill Clinton's second term in office, the one which will lead this country into the year 2000.

Cincinnati's Cross County Highway, more properly the Ronald Reagan Cross County Highway, has been under consideration if not construction for more than half of the 20th century. Begun in 1958, the original section, slightly less than a mile in length, cost \$800,000 to construct. The last segment, 4.3 miles scheduled to open in August of this year will cost \$39.5 million.

Overall, the 16.4 mile highway linking Montgomery Road in the east to I-275 in the west will cost \$135.5 million to complete. 1989's 2.1 mile segment required 17 bridges and, at a cost of \$63 million, became the most costly project, per foot, in Ohio Department of Transportation history.

John R. Jurgensen Co. of Cincinnati, Ohio is the contractor for the seventh and final leg of the highway. Excavation re-

quired the removal of 1.8 million cubic yards of dirt and embankments of 1.0 million. Eight hundred thousand cubic yards of excess cut was trucked to a local landfill where it will eventually become a cap for the facility.

The project included construction of 12 bridges and the placing of 400,000 square feet of architectural concrete finish sound walls. Jurgensen sub-contracted this portion of the project to The Ruhlin Co., Sharon Center, Ohio.

Pavement is 6-inches of subbase, 12-inches of base and 13-inches of asphalt. In all, 162,000 tons of asphalt was used on the project.

Key to successful completion of the highway was the creation of 5.5 acres of remedial wetlands to replace nearly 3.5 acres lost during construction. Jurgensen crews hauled the top 8 inches of soil from the old wetlands to place on top of the new wetlands area to provide the best possible environment for common vegetation to regrow.

"It gives you a better result because you carry a seed bed to the new area," said Hugh Trimble, an environmental specialist with the Ohio Environmental Protection Agency. "It helps re-seed the area."

Throughout its construction cycle, lack of money, changes in Federal standards and the difficulty of building a highway through urban areas and neighborhoods have plagued the project. But the current segment has involved a level of partnering unseen previously.

"State, Federal, County and Local money has gone into this highway. We felt our first task was to listen to what each of these constituencies had to say, what they felt was important to them, before we turned that first shovelful of dirt," said James P. Jurgensen, President of Jurgenson Construction. "This project is partnering in the truest sense of the word, with many stakeholders having signed the partnering charter."

Before construction began, a public relations firm was hired to monitor public sentiment throughout the project and to identify and address concerns before they became problems which could threaten progress on the highway.

"Our goal was cooperation through communication," said Jurgenson. The fact that we've kept on schedule in spite of everything the weatherman has thrown at us is testimony to our success in meeting that goal." ■

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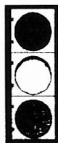
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# RELOCATED US 15 SEBRING TO BLOSS MOUNTAIN

By: Dan King, Civil Engineer - PennDOT, District 3-0 Construction Unit in Montoursville, PA

The Route 15 corridor construction began its first leg in Tioga County, PA with the letting and award of S.R. 6015, Section D51. New Enterprise Stone and Lime Company, Inc. of New Enterprise, PA was awarded the contract for the project, and began construction on October 2, 1995. The \$19.9 million dollar project traverses Liberty Township to the east of existing Route 15, from the Sebring intersection to the top of Bloss Mountain. The project is approximately 3 miles long, involves the excavation of 1.7 million cubic yards of soil and rock, construction of two dual structures and 13.48 acres of mitigated wetland sites.

Earthwork, wetland construction, and the majority of the structure and drainage work will be completed in 1996. The structures and drainage was completed in 1997 along with the concrete pavement and final grading. If all operations proceed according to schedule, the road will be opened to traffic in early September of 1997.

Design of the roadway was completed in-house by a PennDOT Design Unit from District 3-0 in Montoursville, PA. The final alignment for the road took into consideration impacts to farmland, woodlands, wetlands, and the potential impacts to traffic on existing S.R.15. To reduce impacts to wetlands, the Department chose to construct the fill slopes adjacent to existing wetlands on a 1.5:1 slope. Stabilizing these slopes required the construction of rock fill of varying thickness at the outside face of the fills. This proved a challenge to the contractor due to only 250,000 cubic yards of the 1.7 million cubic yards of excavation being rock. Despite this, coupled with the rainy weather experienced in the 1996 season, the contractor has maintained its original schedule.

To maintain this schedule, the contractor purchased a Hitachi EX Super 1800 backhoe to perform mainline excavation. This backhoe has a 14 cubic yard bucket. The backhoe, teamed with three to seven 85 ton off road trucks, moved an average of 300,000 CY per month. Three of the 85 ton trucks used were CAT 777's with calibrated weigh scales and on board computers to monitor production. New Enterprise worked two 10 hour shifts per day during the months of May through August to move 1.3 million cubic yards of excavation.

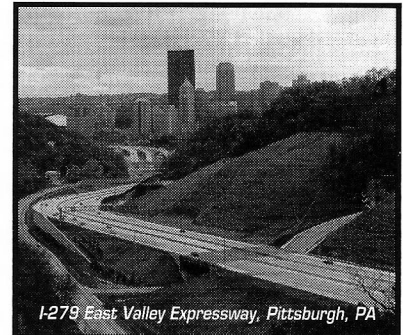
Wetland design was completed by Skelly and Loy, a consultant from Harrisburg, PA. The design of the wetlands replaces, to a varying degree, the type of wetland impacted. Of the 13.48 acres of replacement, 3.83 acres are emergent, 9.26 acres are forested, and 0.39 acres are open water. Special provisions of the contract required the use of clay to line the wetland basins and the reuse of impacted wetland soil for the final surface. Where sufficient replacement soil is not available, the contractor was required to use topsoil mixed with wood chips from the clearing operation. The decay of the wood chips produces an increase of the acid content in the soil which is required for establishment of wetland plantings. Several of the replacement sites are nearing completion and deer are already feeding on the newly planted grasses.

In addition to the wetland replacements, and special roadway design to avoid existing wetlands, a 200' single span dual structure was constructed to avoid an exceptional quality wetland. During the final design field view, a small stream known locally as Black's Creek was found to have an abundant number of native trout. The

proposed design of a box culvert under fill was changed to a single span steel I-beam bridge with a 200' span to avoid impacting the stream and wetlands on either side. Along with the structure, a stream crossing using rock fill for the approaches, and a closed deck structure has to be built to allow access through the project. Special provisions do not allow fuel or grease trucks to use the crossing, and setting of the two-piece beams must be accomplished from behind the abutments. High Steel Structures of Williamsport, PA fabricated and erected the beams during the early part of November, 1996.

Cooperation during the project between the Department and the contractor has been excellent, and has made the numerous changes occur without problems. Also, the assistance of the Tioga County Conservation District has been greatly appreciated. Project costs relating to Erosion and Sediment Control have been reduced, better controls have been placed, and future design will be modified to reflect the Conservation District's desires. Finally, the cooperation and patience of local officials, emergency responders, and especially property owners has allowed the project to run very smoothly. ■

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## AS THE WHEEL TURNS...

### Leila Jammal Nodarse Named Engineer of the Year


Highlighting National Engineers' Week in Central Florida was the selection of the 1997 Engineer of the Year. This year's recipient is Leila Jammal Nodarse, a professional engineer. Ms. Nodarse has practiced geotechnical engineering in Florida for 15 years and is the president of L.J. Nodarse & Associates, Inc., a geotechnical, environmental and construction materials testing consulting firm.

**LeRoy D. Loy, P.E.** one of the two founders of Skelly and Loy, has recently stepped down as Chief Executive Officer but will remain active in the firm as Chairman of the Board.

**Sandi Loy Bell** has assumed controlling interest of Skelly and Loy and has been named Chief Executive Officer. Ms. Bell has been with the company since 1984 and has been an owner since 1991. Her years of experience with Skelly and Loy have provided her with broad-based knowledge in all aspects of consulting engineering and in management of the company.

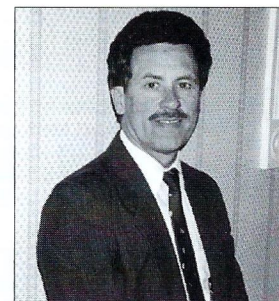
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## Laich Wins Altoona's Distinguished Service Award

After reviewing piles of plans, walking miles of roadways and crossing loads of bridges, Al Laich, Assistant District Engineer for Design at PennDOT's



District 9-0 office, still talks enthusiastically about his work and the future of the highway industry.

"I enjoy my work and the people I work with," Al said as he reminisced about his 33 years at PennDOT. "I also enjoy working with our customers - the taxpayers of Pennsylvania."

Al is the Altoona Section's 1997 Distinguished Service Award winner. He was honored at the Section's 10th Annual Awards Presentation and Installation of Officers on April 11, 1997.

Al graduated in 1964 from the Pennsylvania State University with a degree in Civil Engineering. He worked as a summer intern for PennDOT during college years, beginning full time employment in December 1964 in the Soils Unit following the initial training period. Before being named Assistant District Engineer for Design, a position he has held since 1979, Al worked in the Bridge Unit and the Liaison Unit, serving as its supervisor from 1968 until 1979.

Al's wife, Carole, works in the Fiscal Office at PennDOT District 9-0. Al has two children, his daughter residing in Fairfield, CT., and his son in Reston, VA.

## HEILMAN PAVEMENT SPECIALITIES, INC. RECEIVES APPROVAL FOR PROPRIETARY COLD PATCH MATERIAL

Thirteen proprietary cold patching materials were recently evaluated by the Virginia Transportation Research Council. These high-quality mixes are designed to be used as a permanent pavement repair. This year long study was sponsored by the Virginia Department of Transportation and the University of Virginia.

The chief objective of the research was to identify cold patching materials which would improve the life of the patch and to develop performance based specifications on cold patching materials.

Three test sections were placed to evaluate the material's performance. The performance was based on five categories for each repair: bleeding, dishing, debonding, raveling, and pushing and shoving. An average rating for each category was determined for an overall performance rating. These ratings were then plotted and the results compared among the 13 materials. The materials were also run through more severe testing to determine predictions on moisture susceptibility and adhesion. These tests included, but were not limited to, coating, stripping, drain down and workability.

The evaluation lasted fourteen months. In one test section forty man-made "potholes" were made in the Northbound travel lane of Route 29. They measured 3,800 mm in diameter and 75 mm deep. Each of the thirteen materials, was placed randomly in 3 potholes. This test section was evaluated at 7 days, 2 months and 5 months after placement.

Heilman Pavement Specialities, Inc. was asked to submit HEI-WAY Latex-Modified patching material for this study. The results, published as Report #VRTC 96-R9 and reported in November, 1995 indicate that the HEI-WAY pothole repair material received the highest overall ratings of any high-quality permanent patching materials tested. The recommendation of the study was to add the HEI-WAY mix to VDOT's Special Provision list for High Quality Cold Patching Materials.

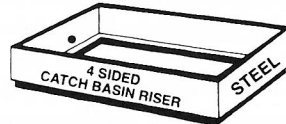
Heilman Pavement Specialities, Inc. is a family owned and operated company which is located in Freeport, Pennsylvania. Father Bill and sons Will, Glenn and David are all members of the ASHE Mid-Allegheny Section.



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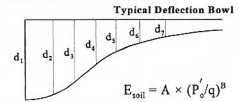
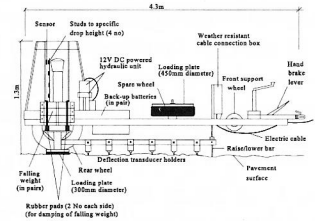
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