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AMT GARNERS TOP AWARD IN ACEC/MD EEA COMPETITION

The American Council of Engineering Companies/Maryland (ACEC/MD) is pleased to announce that **A. Morton Thomas & Associates, Inc.** received the **Grand Award** in the 2010 ACEC/MD Engineering Excellence Awards (EEA) competition for the **NPDES Program Carrington Watershed** project. The 14 finalists in this competition were

recognized for diverse accomplishments that exemplify today's engineering challenges.

2010 GRAND AWARD and OUTSTANDING PROJECT IN GROUP 5 Environmental

A. Morton Thomas & Associates, Inc.
NPDES Program Carrington Watershed

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2010 GRAND AWARD and OUTSTANDING PROJECT IN GROUP 5: Environmental
A. Morton Thomas & Associates, Inc., NPDES Program Carrington Watershed

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PRESIDENT'S MESSAGE

by Michael W. Myers, P.E.

The 2010 Maryland General Assembly session ended at 12 a.m. on April 13, 2010. During the 90-day session, ACEC/MD's Legislative Committee reviewed approximately 250 of the 2,700 bills introduced and took positions on 70 bills related to Transportation, Environmental, General Business, Workplace/Health and Mechanical/Electrical issues.

Regarding transportation, the General Assembly passed legislation (SB 229 and HB 710) to appoint a Blue Ribbon Commission on Maryland Transportation Funding to study the state's short- and long-term transportation funding needs. ACEC/MD supported these bills. The Commission will review and make recommendations on a number of items, including: current Transportation Trust Fund (TTF) funding sources and the structure of the TTF; transit and highway construction and maintenance funding needs; options for public-private partnerships to meet transportation funding needs; and options for sustainable, long-term revenue sources for transportation. The Commission will be required to submit an interim report by January 2011 and a final report by November 2011. Bill Hellmann, former MDOT Secretary of Transportation, has been requested to chair this very important commission.

Additionally, ACEC/MD took positions on the following transportation funding-related bills:

- SB 827; Motor Fuel Tax Index (ACEC/MD supported; bill failed)
- HB 383; Transportation Trust Fund Protection Act (ACEC/MD supported; bill failed)
- HB 479; Motor Fuel Tax Increase (ACEC/MD supported; bill failed)
- HB 969; Motor Fuel Tax Adjustments (ACEC/MD supported; bill failed)

As you can see, ACEC/MD was very supportive of bills that increased transportation funding options and prevention of TTF raids to supply the general fund, however, considering it is an election year, the majority of the legislators lacked the political will to be associated with any type of gas tax increase, indexing or adjustment.

Regarding environmental legislation, ACEC/MD followed HB 1125; Stormwater Management – Development Projects –



Requirements. The bill eventually failed and was replaced with emergency regulations that reflected compromise language in the legislation. The emergency regulations will give stakeholders more time to complete their projects before having to meet the new, stricter stormwater management rules. The compromise will "grandfather" some additional projects that were already in the planning pipeline. It will also give developers additional flexibility for redevelopment projects in designated growth areas.

Lastly, ACEC/MD initiated HB 168 which prohibited a party from holding an engineer (or architect, surveyor or inspector) liable for that party's sole negligence. This bill passed and was an important victory for the engineering community.

I want to again personally thank Jim Blake, the Legislative Committee Chair and the entire committee for their hard work and dedication to ACEC/MD in performing this critical function. The committee met almost every Tuesday morning for the entire session. That being said, ACEC/MD's legislative efforts will not end with the close of the legislative session. Considering the continued importance of transportation and infrastructure funding and the current crisis Maryland is facing, we will continue to meet with our legislators and attend their fundraisers to promote our agenda. As always, we will continue to keep you informed of issues affecting our profession as they arise and will be requesting you to contact your leg-

islators, as their constituents, to support our initiatives. As a reminder, our CEPAC funds are used to purchase tickets to fundraisers and for contributions to legislators. Please remember to meet your pledge for the annual contribution to CEPAC, ACEC/MD's state political action committee. Also, if you or your firm have not made a pledge, please do so as furthering our agenda during this election year is so very important.

The ACEC Annual Conference and Legislative Summit took place April 25th to April 28th in Washington, D.C. at the Grand Hyatt Hotel. The focus of the conference and summit was current legislative issues impacting the consulting engineering profession including transportation and water infrastructure funding, lobbying your Senators and Congressional Representatives; networking with fellow principals from all 50 states; and entertaining sessions including commentators Patrick Buchanan, Eleanor Clift and Greg Ip. ACEC/MD members participated in Congressional visitations on April 28th and the results of those visits will be summarized in an upcoming newsletter.

The ACEC/MD Governmental Golf Outing at Greystone Golf Course is scheduled for May 3rd and we are still accepting items for the silent auction to raise funds for CEPAC. Be sure to mark your calendars for the May 19th Environmental Business Opportunities Forum and the May 27th MDOT Modal Program, both events to be held at the Engineer's Club (Garrett-Jacobs Mansion).

Please plan to attend ACEC/MD's Annual Conference at the Marriott South Beach in Miami, Florida scheduled for June 23rd through June 26th. The program will include a session on multi-discipline Design/Build, a tour of the Port of Miami, a presentation on the future Port of Miami Tunnel project, a golf tournament at Doral's famous Blue Monster, a tour of the historic Vizcaya Museum and Gardens, and of course, South Beach.

Finally, I would like to take this opportunity to congratulate all of the award winners spotlighted in this special issue. The efforts of Jaswant Dhupar, our scholarship recipients and our member firm representatives truly embodies the positive impact that the engineering profession has on society.



ACEC/MD 2010 ENGINEERING EXCELLENCE AWARDS

(continued from page 1)

A. Morton Thomas & Associates, Inc.'s staff designed two shallow marsh Best Management Practice (BMP) facilities as part of an overall project at Dr. Gustavus Brown Elementary and Arthur Middleton Elementary Schools in Charles County, Maryland. The purpose of this project was to meet the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) permit program for water quality improvement in the Carrington Watershed residential district. Charles County, which qualifies as a medium-sized municipality, was required to apply for permit coverage for the Development District in the northern part of the County where urbanization is concentrated and in Waldorf, MD where the project is located.

The design of the BMP's included excavation and re-grading of 8.5+ acres at the back areas of the school sites to satisfy water quality treatment via shallow marsh facilities.

Rehabilitation of an existing dirt path to a more pedestrian friendly impervious paver path was constructed at the Middleton Elementary site; rehabilitation of a traffic circle and addition of parking spaces, made of impervious concrete pavers, was constructed at the Brown Elementary site; and student teaching areas were established outside next to the BMP facilities to serve as outdoor classrooms and education tools for the students, who learn about stormwater management (SWM) and wetland ecology. The student's

outdoor benches, teacher's lectern and mulched area were constructed from salvaged trees and vegetation from the project. The student education program was coordinated with US Fish & Wildlife Service (USFWS), which met part of the criteria for watershed restoration.

Project coordination also involved the regulating agencies of Maryland Department of Environment Watershed Management Administration (MDE/WMA); the U.S. Army Corps of Engineers (ACOE); and Charles County regulating agencies.

GROUP 1: Studies, Research & Consulting Engineering Services (3 Honor Awards)

Honor Award

KCI Technologies Inc.

Congress Heights Traffic Calming and Safety Study

As ever increasing motorist speeds have caused safety concerns on the neighborhood streets of Congress Heights, residents of this 80-year old Washington, DC, community petitioned the District Department of Transportation (DDOT) to take action. KCI Technologies Inc. was contracted to identify pedestrian and vehicle safety issues, recommend innovative and effective traffic calming and safety solutions, and develop a comprehensive neighborhood-wide implementation strategy. The study is the first of its kind for DDOT.

Rather than addressing individual problem locations, engineers studied the "big" picture for calming traffic and improving safety. Instead of applying an extensive data collection effort for traffic counts and speed studies on every street in question, the team focused on compiling a comprehensive list of problem streets, recognizing neighborhood characteristics and traffic information,

and with stakeholders identifying a variety of possible traffic calming and safety measures from a toolbox of possible solutions. A public involvement team worked with the entire community—residents, community leaders, business owners, law enforcement, schools and public officials—allowing them to collectively identify problem locations and develop solutions and feedback.

KCI planners studied the neighborhood characteristics, reviewed street geometry, traffic volumes, accident information and speed results on selected streets, and recommended a series of short- and long-term traffic calming and safety solutions, including out-of-the-box technological applications never used in the District before. Solutions like rapid flashing beacons, high intensity activated crosswalks and in-roadway lighting were combined with more traditional traffic calming measures like speed humps, speed tables and curb extensions to create a neighborhood-wide traffic calming strategy. A test program is helping measure the effectiveness of the program at specific candidate locations.

Honor Award

Greenman-Pedersen, Inc.

Montgomery County Public Facilities Low-Impact Design

As part of the Montgomery County, Maryland greening initiative, the Department of Environmental Protection (DEP) decided to investigate the application of Low Impact Design (LID) techniques at selected County-owned facilities in order to improve stormwater runoff quality. The chosen facilities range from libraries, police stations, recreation centers, fire stations, park and ride sites, and schools to typical urban roadway sections.

In order to determine the effectiveness of each proposed LID retrofit, Montgomery County DEP required an evaluation of site conditions at 30 County facilities and roadways, an inventory and prioritization of potential Low Impact Design techniques, and a ranking criteria to assess retrofitting feasibility that could be applied to each site.

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**Honor Award - KCI Technologies Inc.,
Congress Heights Traffic Calming and Safety Study**

ACEC/MD 2010 ENGINEERING EXCELLENCE AWARDS

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Honor Award - Greenhorne & O'Mara (G&O)
St. Elizabeth's Environmental & Engineering Studies

Specific techniques examined included creation of green roofs, permeable surfaces, rainwater collection, bioswales, and infiltration basins. Each option was evaluated for enhanced filtration, absorption, and groundwater recharge based on site conditions. In order to evaluate the inventoried opportunities, a ranking matrix was developed that included calculations of impervious area treated, pollutant loading and removal, cost per impervious area, utility conflicts, and public visibility. Through the use of aerial photos, topography, property boundaries, impervious area calculations, public utilities, storm drainage, and stormwater management systems, maps were created with the LID opportunities graphically added. The results allowed Montgomery County to examine various LID techniques and the effectiveness at different sites and select sites for further study. GPI then developed the 30% concept plans for the eight chosen sites.

Honor Award
Greenhorne & O'Mara (G&O)
St. Elizabeth's Environmental & Engineering Studies

The General Services Agency (GSA) selected G&O to assist them in balancing the protection and proper utilization of St. Elizabeth's West Campus, one of its largest real estate resources, while meeting the mission requirements of a key federal agency.

The redevelopment of the campus in Washington, D.C. has produced controversy since it was first proposed. The GSA plans to develop the site with 4.5-million gross square feet of office and support space plus parking to serve as the Department of Homeland Security (DHS) Consolidated Headquarters. The property, a 150-year old, 176-acre former mental hospital, is a National Historic Landmark with numerous resources and constraints, including mature woodlands, habitat for a nesting pair of bald eagles, steep slopes, a Civil War cemetery, obsolete utilities, extensive soil contamination, and limited vehicular access.

G&O proactively navigated the client through the environmental compliance requirements, fully engaged the community and regulatory agencies, and delivered an Environmental Impact Statement in record time. The firm led compliance efforts under the National Environmental Policy Act (NEPA) as an integral part of the consultant master planning team for this project. G&O conducted detailed studies to define existing conditions and to determine impacts of and feasibility for numerous development options.

G&O's efforts allowed GSA and the Master Plan Team to obtain approval from the National Capital Planning Commission and the Commission on Fine Arts for a development plan that balanced natural and cultural resources with restoration of historic buildings and construction of additional modern office space.

GROUP 2: Building/Technology Systems (1 Outstanding Project Award)

Outstanding Project Award

URS Corporation

Chesapeake High School Virtual Learning

URS was selected by Baltimore County Public Schools (BCPS) to design a new Virtual Learning Environment (VLE) at the Chesapeake High School. The first of its kind in the United States, the VLE utilizes state-of-the-art systems to provide students with 3-D programs to assist in the instruction of mathematics and science curriculums

The challenge of keeping students engaged in the classroom has been increasingly difficult for teachers. The new lab, designed for the start of the 2009 school year, helps incorporate gaming technology into the classroom, providing an opportunity for a different type of learning. After a feasibility study to select the location of two Classrooms for the VLE, the Client's schedule required a design start of February 2, 2009 and completion by March 6, 2009 to allow construction to begin June 12, 2009.

URS designed the "Arena" and Computer Lab. The Arena housed ten 72" DLP monitors, which were configured in a 360-degree visual and audio environment. The computer lab contained 29 workstations using high powered

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Outstanding Project Award - URS Corporation
Chesapeake High School Virtual Learning Environment

ACEC/MD 2010 ENGINEERING EXCELLENCE AWARDS

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PC's. To overcome the issue of large amounts of power and A/V cabling for the VLE, a raised floor system was designed to conceal all of the required cabling, and also to distribute a portion of the supply air through perforated floor tiles. A state-of-the-art lighting system was integrated into the arena, which would allow various lighting configurations to be set within the space. Independent HVAC systems for the VLE and the new IDF room were also designed. Due to the nature of the VLE, sound transmission was at the forefront of the design and was incorporated into the elements of the project from the structure modifications to the HVAC design.



Honor Award - Alvi Associates
Fender / Dolphin Systems for Route 5 Bridge over Chickahominy River

GROUP 3: Structural Systems (1 Honor Award)

Honor Award

Alvi Associates

Fender / Dolphin Systems for Route 5 Bridge over Chickahominy River

Alvi Associates designed a new replacement bridge carrying Route 5 over the tidal/navigable Chickahominy River. This major bridge has 21 spans totaling 2,550 feet and is considered security-critical. The firm first performed a comprehensive marine vessel collision study and then designed fender/dolphin systems. The fender system consists of two concrete fenders which mainly guide vessels through the high-level main span. The dolphin system consists of four circular concrete dolphins strategically placed to sacrificially protect the piers against vessel collision.

Many issues made this project quite complex including: (a) a 50-page vessel collision study that involved extensive data collection, storm and collision risk analysis, and determination of collision forces; (b) the fender/dolphin systems required a total of 106 concrete piles, each 100 feet long and installed in water depths up to 46 feet; (c) atypically, the fender/dolphin systems were designed to convert vessel kinetic energy into nonlinear deformation of the fenders and dolphins; (d) the intricate ten-stage construction sequence required choreographing the fender/dolphin construction with existing bridge removal, existing fender removal, new bridge construction, and avoiding existing piles, all while maintaining bridge and vessel traffic.

This project required innovative technologies to make the project a success. The firm's vessel collision study included the unusual scenario of impact by a vessel coming downstream from the James River.

This required going well beyond AASHTO guidelines to study navigable channel locations and depths, tidal ranges, normal river currents, and influences of tropical storms, hurricanes, and storm surges. Also, for the fenders/dolphins, the firm used a partially pre-stressed concrete design which is a hybrid of conventional reinforced and pre-stressed concrete design. This approach isn't covered by AASHTO, and is only addressed conceptually by the relevant ACI committee. This pioneered custom design criteria had to be developed from fundamental principles of structural mechanics.

To help keep this security-critical bridge in service, this study provides a thorough assessment of vessel collision risks, and the firm's fender/dolphin design cost-effectively protects the bridge by using a relatively sophisticated model. Similarly, the needs of recreational boaters were addressed by pro-

viding relatively soft rubber fenders to gently redirect small vessels. Also, the fenders and dolphins were designed with all-concrete construction to minimize future maintenance needs, costs, and environmental impacts associated with working in the water.

Addressing marine vessel collision risk is important in ensuring the functioning of US bridge infrastructure. The firm's innovative and cost-effective fender/dolphin system design can hopefully serve as a model for other bridges needing such protection, including many of the existing US bridges which span navigable waterways but are currently unprotected.

GROUP 5: Environmental (1 Outstanding Project Award and 2 Honor Awards)

Outstanding Project Award

A. Morton Thomas & Associates, Inc.
NPDES Program Carrington Watershed

A. Morton Thomas & Associates, Inc. received the Grand Award for this project.

Honor Award

Gannett Fleming, Inc.

Emergency and Long-Term Repair of the Southwest Diversion Pressure Sewer

Emergency services to repair a failed 102-inch diameter section of the City of Baltimore's Southwest Diversion Pressure Sewer (SWD) led to Gannett Fleming, Inc. (GF). As the emergency services continued and it became apparent that substantial lengths of the SWD needed to be repaired or replaced, GF was tasked with fast-track development of biddable documents. In the meantime, GF oversaw the required emergency patching of the pipe. Ultimately, in the course of three years, six separate failures occurred along the SWD. Concurrent with providing emergency services, GF developed enhanced innovative repair strategies. These efforts included the design and construction oversight of the world's largest temporary steel patch to block a 12-foot by 3-foot failure along the bottom of the pipe. Subsequent emergency repairs to the SWD utilized an innovative, reinforced concrete patch system. These patches

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Honor Award - Gannett Fleming, Inc. - Emergency and Long-Term Repair of the Southwest Diversion Pressure Sewer

could be installed quickly and economically and were able to provide leak-proof performance, even when the pipe was significantly pressurized during storm events.

Permanent repair of the two sections of pipe was begun in February 2007 and included sliplining of 250 feet of pipe using 90-inch fiberglass reinforced pipe (FRP) at one site and installation of 750 feet of 102-inch FRP via open trench construction at the other site. At both sites, flow was bypassed using a constructed sluice gate structure upstream that diverted flow into a 60-inch bypass pipe. A wet tap of the SWD allowed the 60-inch bypass pipe to be connected to the SWD at a surcharged, downstream location. The 102-inch stopple provided positive isolation of the pipe even during severe storm conditions. The use of a 102-inch stopple represents a new world record for repairing sanitary sewers.

**Honor Award
Rummel, Klepper & Kahl, LLP
Potomac River Intake and Pumping Station**

Rummel, Klepper & Kahl, LLP, (RK&K), recently assisted the Berkeley County Public Service Water District (District), Martinsburg, WV, with engineering services for a new submerged river intake and raw water pumping station located on the Potomac River near Falling Waters, WV. The facilities were constructed as part of an extensive water system and distribution system upgrade to service the

District's more than 19,000 customer accounts, representing nearly half of the population of Berkeley County, WV.

Working closely with the District, RK&K overcame significant challenges in permitting, design and construction to replace a 1950's vintage intake while keeping existing facilities operational until construction was completed. Located within the Potomac

River's 100-year floodplain where flood elevation is over 40 feet above the normal river elevation and within two states, the intake and station design were required to accommodate these factors. This required working closely with regulatory agencies in both Maryland and West Virginia. To minimize disturbance within the river, a micro-tunneling tunnel boring machine (TBM) was used for the installation of the two 51-inch steel casing pipes. As the TBM advanced, the casing was jacked into the resulting tunnel. Two 30-inch intake carrier pipes and screen cleaning air burst pipes were installed within the casing pipes. The intake structure was designed to be resistant to the ice flows and protective of aquatic life. The station is equipped with two vertical-turbine pumps, each with a capacity of 3.0 MGD. The design also included provisions to expand the capacity of the station to a total of 12.0 MGD.

Because of the proximity to recreational activity on the Potomac River and the nearby C&O Canal National

Historic Park, the building design was aesthetically pleasing to minimize its visual impact. Ultimately, the RK&K design allowed the District to achieve its goal of providing a reliable supplemental source of water to its customers while minimizing the impact to the surrounding area.

GROUP 6: Transportation (1 Outstanding Project Award and 2 Honor Awards)

**Outstanding Project Award
Whitman Requardt & Associates, LLP
Grade Separation of MD 450 at CSXT Railroad**

The Grade Separation of MD 450 at CSXT Railroad project involved the elimination of an existing grade crossing between CSXT's main north-south track in the Mid-Atlantic Region, carrying approximately 26 freight trains per day, and MD 450, a major commuter route to and from Washington, D.C., carrying over 38,000 vehicles per weekday. The grade separation was accomplished by carrying the railroad over the MD 450 and Upshur Street, an adjacent County owned roadway, using a combination of steel girder bridges and reinforced concrete retained fill structures, totaling over 3,800 linear feet in length.

Freight rail service on CSXT's track needed to be maintained for the project's duration and the proposed bridges and retained fill

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**Honor Award - Rummel, Klepper & Kahl, LLP
Potomac River Intake and Pumping Station**

ACEC/MD 2010 ENGINEERING EXCELLENCE AWARDS

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**Outstanding Project Award - Whitman Reardon & Associates, LLP
Grade Separation of MD 450 at CSXT Railroad**

structures needed to accommodate a double track system with a clear width between parapets on the retained fill structures equal to 45 feet. With a limited 66-foot wide CSXT right-of-way, bordered by a regional park, wetlands, and commercial buildings on both sides of the right-of-way, staged construction of the retained fill structures was required while maintaining freight rail service on a temporary track adjacent to the proposed construction. A mandatory maximum grade on the railroad of 1% required the use of thru girder bridges in order to meet minimum vertical clearance requirements over MD 450 and Upshur Street, and to minimize impacts to an existing bridge over the Anacostia River on the project's northern end and several at-grade crossings with local municipal streets on the project's southern

end. In addition, multi-steel beam bridges were required for temporary and permanent crossings over a local tributary within the project's limits. Two historic buildings adjacent to the site required special consideration to minimize vibrations during construction.

On- and off-site mitigation was necessary due to the project's impact to the Chesapeake Bay Critical Area. An 1800 linear foot steel sheet pile wall was constructed to keep the project within the CSXT right-of-way and eliminate impacts to adjacent parkland and wetlands. Numerous utilities required relocation, including a fiber optic cable and a 42" sanitary sewer running parallel to the tracks.

**Honor Award
Wallace, Montgomery & Associates
MD 5 Branch Avenue Metro Access, Phase 1**

Wallace, Montgomery & Associates, LLP (WM&A) was retained by the Maryland State Highway Administration (SHA) to provide engineering services for the MD 5 Branch

Avenue Metro Access Phase 1 (MD 5/I-495 Interchange) from Auth Way through the I-95/I-495 Capital Beltway interchange to Manchester Drive.

The Project included improvements along 1.75 miles of MD 5 and I-95/I-495 Capital Beltway, 2.25 miles of MD 5/Capital Beltway interchange ramps. Phase 1 con-

sisted of modifications to the MD 5, I-95/I-495 Capital Beltway Interchange along with safety and resurfacing improvements of I-95/I-495 through the limits of the interchange. Primary elements of the interchange modifications are the construction of a semi-direct flyover ramp from the Capital Beltway IL to MD 5 SB, realignment and construction of a directional ramp from the Capital Beltway OL to MD 5 SB, a cloverleaf ramp from MD 5 NB to the Capital Beltway IL, and the construction of a spur connection ramp from Auth Road to the realigned MD 5 NB to the Capital Beltway IL cloverleaf ramp. The construction of the directional ramp and flyover ramp includes five bridges, four Retaining Walls and a segment of Reinforced Earth Slopes.

WM&A provided traffic engineering services for the analysis of a Capital Beltway continuous closure for 14 hours, the erection of the semi-direct flyover ramp over the Capital Beltway bridge, and assisted SHA in the development of contract documents related to the Capital Beltway closure and the use of a temporary positive barrier for work performed on the Capital Beltway, resulting in new SHA policy.

Construction was scheduled for completion in July 2009 but was completed in November 2008, seven months ahead of schedule, at a cost of \$31.6 Million.

**Honor Award
Whitney, Bailey, Cox & Magnani, LLC
Hampstead Bypass (MD 30 Relocated from South of Wolf Drive to North of Hampstead**

The Hampstead Bypass project was a demonstration of how an environmentally-sensitive project and the design of bridges could be successfully constructed through the Design/Build method of procurement. Both of these elements were new for the MD State Highway Administration's (SHA) Design/Build program. In addition, SHA used the Best Value method of contract procurement on the project for the first time ever to select the Design/Build team.

The project involved the relocation of MD 30 in Carroll County from south of Wolf Hill Drive to north of the Town of



**Honor Award - Wallace, Montgomery & Associates
MD 5 Branch Avenue Metro Access, Phase 1**

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Hampstead, a distance of 4.4 miles. MD 30 was experiencing severe congestion in the AM and PM peaks, often taking 20 minutes to creep three miles through the Town of Hampstead. It was estimated that two-thirds of the traffic on existing MD 30 would divert to the bypass enabling the Town of Hampstead to redevelop the downtown area in accordance with its "Main Street Revitalization Plan". A major obstacle to constructing the bypass was that it passed through a habitat of a state and federally listed threatened or endangered species, known as the bog turtle.

After years of working with State and Federal environmental agencies, the bypass received approval to move forward provided certain unique mitigation measures were



Honor Award - Whitney, Bailey, Cox & Magnani, LLC
Hampstead Bypass (MD 30 Relocated from South of Wolf Drive to North of Hampstead)

incorporated into design and construction of the bypass. This project successfully accomplished these requirements and was opened to traffic in August 2009.

The team of Corman Construction/WBCM was selected by SHA to design and construct the project for a price of \$41 million. The design included four miles of roadway, four bridges, three roundabouts, 3,500 lineal feet of noise wall or noise berms, 13 stormwater management facilities, erosion and sediment control, signing, lighting, landscape architecture, maintenance of traffic, traffic signals and utility relocations.

GROUP 7: Special Projects (2 Honor Awards)

Honor Award **Johnson, Mirmiran & Thompson** *MD 924 Design-Build Streetscape, Bel Air, MD*

This Design-Build (D-B) streetscape improvement project includes the design and reconstruction of MD 924 (Main Street), which runs through the heart of downtown Bel Air, Maryland. The work encompassed approximately 3/4 of a mile,

from Fulford Avenue to Gordon Street. 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.

The D-B Team of Johnson, Mirmiran and Thompson, Inc. (JMT) and Corman Construction established a partnering culture with a focus on total owner satisfaction and overall project quality. The Team successfully balanced the competing needs of multiple stakeholders.

Construction had to be completed while maintaining pedestrian and vehicular access to the businesses, including parking during business hours. Utilities were maintained during construction to avoid impacting business operations. These competing interests were achieved by establishing an effective and project specific Quality Assurance/Quality Control Program which assured that the project was completed



Honor Award - Johnson, Mirmiran & Thompson
MD 924 Design-Build Streetscape, Bel Air, MD

on time and within budget.

JMT began the project by establishing the most critical elements, sequencing and scheduling. JMT developed a three phase construction approach aimed at minimizing disruption to businesses and residents, providing a quality product, meeting all engineering criteria and demands, maintaining pedestrian and traffic flow and completing the project on schedule and within budget.

Key design components included the reconfiguration of on street parking, elimination of the existing sidewalk bifurcation of over two feet, upgrades to pedestrian facilities to provide a safe and aesthetically pleasing facility while meeting or exceeding all ADA Guidelines, the renewal/replacement of existing utilities, curb and roadway improvements, landscape and hardscape treatments, pedestrian lighting, traffic signals, signage, drainage, and permit acquisition.

Honor Award **URS Corporation** *Wireless Pier Monitoring on the Millard Tydings Bridge, MD*

On the Millard Tydings Bridge, URS Corporation used an innovative process to address the problem associated with conventional bridge analysis and evaluation methods in code specifications that were developed for general applications and intended to produce reasonable but conservative results.

With the continuing aging of our high-
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Honor Award - URS Corporation
Wireless Pier Monitoring on the Millard Tydings Bridge, MD

bridge load ratings; evaluation/retrofit of cracks in bridge components; assessment of remaining fatigue life of steel bridges; diagnosis of structural performance while subjected to controlled or regular traffic loadings; long-term bridge monitoring and/or health monitoring through remote wireless communication; emergency bridge safety assessment after accidental damage; and balancing and performance evaluation

of movable bridges. way infrastructure and increases in traffic weight and volume, the accuracy of bridge analysis methods has become more important than ever for evaluation of existing bridges. Field instrumentation and advanced finite element modeling can produce the most accurate results in predicting structural behavior and assessing load carrying capacities of bridges. This approach measures actual structural responses to loading, uses the measured data to validate computer models, and employs calibrated computer models to evaluate the effects of controlling load combinations.

The firm successfully applied this project's technology on numerous bridge evaluation projects across the country, including:

GROUP 8: Small Projects (1 Honor Award)

Wallace, Montgomery & Assoc. Solomon's Island Roundabout

Wallace, Montgomery & Associates, LLP (WM&A) was retained by Calvert County Department of Public Works to develop streetscape improvements and a roundabout at the intersection of Charles Street and Farren Avenue in Solomon's Island. Based upon the context of the surrounding area, this roundabout needed to serve tractor-trailer vehicles and provide safe pedestrian access while meeting aesthetic goals mandated



Honor Award - Wallace, Montgomery & Assoc.
Solomon's Island Roundabout

by the tourist sites, university, and retail and walking destinations in the area.

Stormwater Management (SWM) and the Chesapeake Bay Critical Area (CA) were serious concerns for this project. Through the innovative use of Grasscrete®, a form of pervious concrete

pavement, along the bulkhead at the Bay, WM&A was able to treat stormwater runoff for the project improvements, avoid impacts to the CA and provide much needed parking. The ultimate approach to address all the design constraints and community concerns was to design a mini-roundabout allowing trucks to traverse over the center island. A 35-foot diameter center island fit perfectly within the site, and avoided impact to the bulkhead, Pump Trees, and the Calvert Cliffs warning siren without adversely effecting project goals or impacting the CA. A partial closed section was developed to control drainage and conveyed runoff along proposed curbs then overland to existing outfalls at the Chesapeake Bay. Sidewalk construction along the west side provided continuity with the existing streetscape and provided appropriate pedestrian accessibility and compliance with ADA guidelines.

The Solomon's Island design team successfully coordinated all design efforts with MDE, the Critical Area Commission, and the County to deliver advertisement documents on schedule, and ensured all environmental and permitting issues were addressed. The original construction budget was \$600,000 and Rustler Construction, Inc. was able to complete the project for \$454,575, ahead of schedule.



PRESIDENT'S AWARD

At the president's discretion, the American Council of Engineering Companies/Maryland honors an individual whose actions have greatly contributed to the advancement of the consulting engineering profession and the citizens of Maryland. We are pleased to present the 2010 President's Award to:

Jaswant S. Dhupar, P.E.

After a distinguished 32-year career with the city of Baltimore and serving the past nine years as the Division Chief of Engineering and Water and Wastewater, Jaswant Dhupar, P.E. recently retired. A native of Punjab, India, Jaswant was an active participant on ACEC/MD's City of Baltimore Liaison Committee, where he worked with representatives of ACEC/MD to deliver quality projects for the citizens of Baltimore.

Notably, during his career, Jaswant was instrumental in the City's efforts to deliver projects under the EPA's consent decree and to upgrade the city's treatment plants for ENR, both initiatives valued at approximately \$1 billion. He was also instrumental in initiating efforts to cover the city's drinking water reservoirs.



A long-time supporter of ACEC/MD, Jaswant's efforts on behalf of the engineering profession and the citizens of Baltimore have positively impacted the business climate in which our members operate.



COMMUNITY SERVICE AWARD

Annually, when appropriate, ACEC/MD honors a member firm representative that has made a significant contribution to the community by volunteering their time and expertise. This year we are pleased to present the 2010 Community Service Award to:

Marco V. Àvila, P.E.

Marco V. Àvila, P.E., a Senior Supervising Engineer/Certified Project Manager at member firm Parsons Brinckerhoff, has been volunteering for over 14 years organizing medical missions to help children around the world. He is dedicated to helping children with complex congenital malformations in areas lacking resources and surgical expertise. He also volunteers at local universities as a mentor and at high schools, where he encourages students to stay in school and perhaps choose a career in engineering. As a Board Member of the local ASHE Section, Marco raises money for scholarships and interacts with government officials.

Along with three other volunteers, in 2007, Marco founded The Healing Hands Foundation (THHF), and currently serves as the organization's Executive Director. In 2009, THHF missions to Guatemala and Colombia performed over 650 surgeries, 1,200 dental procedures and 6,000 medical consultations. The Foundation also donated over \$1-million in medicine, supplies and medical equipment. He also spearheads the "Golfers for Charity Foundation", that hosts an annual tournament with proceeds going to two Baltimore-based charitable foundations. Personifying his work, Marco has a slogan that he shares with everyone he meets: "Changing Our World . . . One Child at a Time."

Marco's contributions truly personify the positive impact that our member firms' employees have on society.



YOUNG PROFESSIONAL AWARD

Annually, in conjunction with our parent organization, the American Council of Engineering Companies (ACEC), ACEC/MD presents a Young Professional of the Year Award. This award recognizes the accomplishments of our member firms' young engineers by highlighting their interesting and unique work, and the resulting important impact on society. We are pleased to present the 2010 ACEC/MD Young Professional of the Year Award to:

Kristin Fusco Rowe, P.E.

A senior highway engineer working at Greenhorne & O'Mara's Baltimore office, Kristin Fusco Rowe, P.E. has extensive engineering experience in planning, designing and managing transportation and noise abatement projects including managing the proposed vertical alignment of 16 ramps and the two mainlines for the I-95/I-695 interchange reconstruction, as well as primary designer of the noise abatement barriers. Kristin is a 2002 graduate of Loyola College, where she was the President of the Engineering Club. Additionally, she holds a P.E. in Civil Engineering in Maryland, Delaware, and Washington, D.C., and is an active member of the American Society of Civil Engineers and the American Society of Highway Engineers, where she is chair of the hospitality and recruiting committee.

Based on research she completed while in college, Kristin co-authored a technical paper, "Metallurgical Characterization of Refrigeration Tubing Formed from Plain Carbon Steel Strip Stock", which was published in the Journal of Manufacturing Processes. Kristin is an avid traveler where she routinely volunteers at school and church organizations. On a recent trip to Africa, Kristin read to school children, donated school supplies and aided in the construction of desks.

ACEC/MD is proud to recognize the accomplishments of its member firms' young professionals, and very much appreciates their contributions to the profession and society.



THANKS FOR BEING A SPONSOR

A special thanks goes out to the firms that went the extra mile and cosponsored this year's Awards Banquet. This event would not be a success without their participation!

PLATINUM:

- Rummel, Klepper & Kahl
- A. Morton Thomas & Associates

GOLD:

- Gannett Fleming
- Johnson, Mirmiran & Thompson
- Whitman, Requardt & Associates

SILVER:

- AECOM
- Development Facilitators
- EBA Engineering
- KCI Technologies
- McCormick Taylor
- Wallace, Montgomery & Associates
- WBCM

BRONZE:

- Jacobs



FLORIDA'S MARRIOTT SOUTH BEACH IS SITE OF ACEC/MD'S CONFERENCE ROOM DEADLINE IS MAY 24TH

ACEC/MD's 22nd Annual Conference, being held June 23-26, 2010 at the Marriott South Beach is right around the corner, and you need to get your hotel room reservation today. The cut-off date is May 24th, but when ACEC/MD's room block is gone you will not be able to take advantage of special conference room rates.

Enjoy South Beach Miami's tropical breezes at the Marriott South Beach, situated directly on the beach a few blocks away from the Art Deco District. Room rates start at only \$159 per night. For those wishing to extend their stay, the hotel has agreed to honor these attractive rates two days before and two days after our conference.

Steeped in art deco splendor, the Marriott South Beach Miami hotel's stylish boutique atmosphere is ideally situated in the trendiest corner of Ocean Drive known as South of 5th Street or "SoFi." This Marriott beachfront hotel in South Beach Miami is a chic, contemporary retreat in the heart of it all. Dive into Miami South Beach hotel's new infinity-edged pool with seamless views of Miami Beach or enjoy sumptuous drinks and food while enjoying the view on the outdoor patio.

Our program features a session on multi-discipline Design/Build presented by representatives of Kiewit and a tour of the

Port of Miami with a presentation on the future \$1-billion Port of Miami Tunnel Project. This year's golf tournament should be better than ever as golfers get to tackle Doral's famous Blue Monster. At that time other conference attendees will tour the historic Vizcaya Museum & Gardens and a trip to Coconut Grove. And of course a trip to Miami would not be complete without a cruise of the mansions of the stars of Miami and the spectacular skyline.

Book your hotel reservation by May 24th by calling 1-800-468-3571; or 1-305-536-7700.

Our tentative schedule is as follows:

Wednesday, June 23

- 3:00pm - Executive Committee Meeting
- 6:00pm - Opening Reception

Thursday, June 24

- 9:00am - Golf
- 9:30am - Tour
- 6:00pm - Cruise

Friday, June 25

- 9:00am - Session
- 11:30am - Reception / General Membership Luncheon
- 6:00pm - Reception / Banquet

Saturday, June 26

- 9:00am - Port of Miami Site Tour



AWARD JUDGES PROVIDE VALUABLE SERVICE TO ACEC/MD

We would like to express appreciation to the following judges that played an integral part in the success of our Awards Program. The distinguished panel of judges for this year's awards included:

Engineering Excellence Awards:

- Stu Robinson; A. Morton Thomas & Associates
- J. Kurt Buckler; Baltimore County Public

Schools Department of Physical Facilities

- Robert Harrington; Charles County Planning & Growth Management
- John Narer; Maryland State Highway Administration
- Steven Walsh; Baltimore County Department of Public Works
- Paul Lee; Sabra, Wang & Associates
- Christopher McGuire; AECOM

Scholarship & Individual Awards:

- Stu Robinson; A. Morton Thomas & Associates
- Christopher Griffith; KCI Technologies
- Amy Lambert; KCI Technologies
- Paul Lee; Sabra, Wang & Associates
- Christopher McGuire; AECOM
- Mike Myers; Rummel, Klepper & Kahl



PROFESSIONAL DEVELOPMENT

- May 11-12** *U.S. Army Corps of Engineers, North Atlantic Division, Small Business Conference*
New York, NY. For more information or to register go to www.nan.usace.army.mil/sbc2010/index.html
- May 18** *Residential Sprinklers: Homes to High-Rise*
May 19 *Sprinklers for Dwellings*
May 20 *Hydraulics for Fire Protection Systems*
Reading, PA. Courses presented by NFSA. Each course is good for 6.5 CEU's. For more information or to register call 845.878.4207 or go to www.nfsa.org
- May 19** *ACEC/MD Environmental Business Opportunities Forum*
Baltimore, MD. Featuring presentations on water-related business opportunities. For more information call 410.539.1592 or go to www.acecmd.org
- May 19-20** *Professional Roof Consulting*
Baltimore. Presented by the Governor's Workforce Investment Board. For information contact ssareles@gwillb.state.md.us.
- May 21** *RRC Review & Update*
Columbus, OH. Courses offered by RCI, Inc. For more information call 800.828.1902 or go to www.rci-online.org
- May 27** *MDOT Modal Program*
Baltimore, MD. Co-hosted by ACEC/MD and ACEC/MW. For more information, call 410.539.1592 or go to www.acecmd.org
- June 10-11** *Applying Expertise as an Engineering Expert Witness*
Denver, CO. Presented by ACEC. For more information call 202.347.7474 or go to www.acec.org
- June 16** *Matchmaking Event For Small A/E Firms*
Hanover, MD. Co-hosted by MDOT and ACEC/MD. For more information, call 410.539.1592 or go to www.acecmd.org
- June 21-22** *Realizing BIM Potential for A/E Firms: Leveraging the Building Information Modeling Process for Increased ROI*
Orlando, FL. Presented by ACEC. For more information, call 202.347.7474 or go to www.acec.org
- June 23-26** *ACEC/MD Annual Conference*
South Beach, Miami, FL. Featuring presentations on Multi-Discipline Design/Build and the Port of Miami Tunnel Project. For more information, call 410.539.1592 or go to www.acecmd.org



MEMBER NEWS

- **A.D. MARBLE & COMPANY's** *Jessica Klinefelter* was recently elected as Secretary of the WTS Baltimore Chapter.
- **PRIME ENGINEERING, INC.** is pleased to announce that *Stephen M. Carl, P.E.* has joined the firm as the Vice President of Maryland Operations. He has over 35 years of transportation experience for many agencies along the East Coast.
- **URBAN ENGINEERS** is proud to announce that they are celebrating their 50th anniversary in 2010.
- **GREENMAN PEDERSEN's** *James W. Blake, PE, PLS*, was recently appointed Chair of ACEC's 2009-2010 Federal Agencies & Procurement Advocacy Committee.
- **URS CORPORATION** is pleased to announce the promotion of *Janie L. Tiedeman, P.E.* to Group Leader of the Environmental and Transportation Planning Division in their Hunt Valley office. She will be responsible for overseeing the Transportation Planning, Traffic, Environmental Planning and Science, Environmental Construction Monitoring, and Landscape Architecture departments.



PLAN TO ATTEND THESE UPCOMING EVENTS!

ENVIRONMENTAL FORUM

BUSINESS OPPORTUNITIES IN WATER RESOURCES

WEDNESDAY, MAY 19, 2010

*The Engineers Club (Garrett-Jacobs Mansion)
11 West Mount Vernon Place, Baltimore*

*Registration/Continental Breakfast: 8:00 AM
Program: 8:30 AM—Noon*

This year's program will feature a variety of presentations on timely water-related business opportunities in the environmental arena.

Our presenters will include:

- *US EPA Chesapeake Bay Program Office – Greg Barranco*
- *US Army Corps of Engineers, Baltimore District – Robert Gore, Division of Planning*
- *Maryland State Highway Administration – Sonal Sanghavi, Office of Environmental Design*
- *Montgomery County Department of Environmental Protection – Meosotis Curtis, Division of Watershed Management*
- *Center for Watershed Protection – William Stack*
- *Gordon Feinblatt – Todd Chason, Esq.*

Learn of upcoming projects in this fast-growing area, while marketing your firm to prospective clients.



MDOT MODAL PROGRAM

JOINTLY SPONSORED BY ACEC/MD & ACEC/MW

May 27, 2010

*The Engineers Club (Garrett-Jacobs Mansion)
11 West Mount Vernon Place, Baltimore
Registration/Continental Breakfast: 8:00 AM
Program: 8:30 AM—Noon*

Contact the ACEC/MD for cost and additional information on these upcoming events.



AMERICAN COUNCIL OF ENGINEERING COMPANIES/MARYLAND

312 N CHARLES STREET, SUITE 200

BALTIMORE, MARYLAND 21201-4310

POSTMASTER: ADDRESS CORRECTION REQUESTED

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March-April, 2010

SEEKING EMPLOYMENT

The following individual is seeking employment and has a complete resume on file in the ACEC/MD office. Please phone 410-539-1592 if you are interested in obtaining a copy.

1. **Civil Engineer** with more than 28 years of experience, including Project Management and Department Head responsibilities, in transportation and general civil engineering for public and private sector clients seeks position.