

ecoletter

SUMMER 2011 ISSUE



The Sun Rises On Another Tri-Conference

CHESAPEAKE



*A Publication of the
Water and Waste Operators Association of
Maryland, Delaware, and the District of Columbia, and the
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PRESIDENT'S MESSAGE



CWEA President

—Craig Murray

Gratitude: *a feeling of being thankful to somebody for doing something*

Hard to believe that this is my last *Ecoletter* message as President of the CWEA. But as they say, time flies when you are having fun. And I really have had fun, quite a bit of it. That fun has been derived from two things—a great feeling of community with the rest of the CWEA leadership and a very real sense of accomplishment for the work that the CWEA has completed this year.

One key accomplishment that we would like to share is that the CWEA and WWOA have recently agreed to engage an outside publisher (Craig Kelman & Associates) to assist with the *Ecoletter*. In fact, this will be the last *Ecoletter* with this familiar blue hue. While we will all likely have moments of nostalgia from time to time (some more than others) I have no doubt that we will all quickly grow to love the vivid colors and feel of the new *Ecoletter*. We all need to remember that it has been the content of the *Ecoletter* that has made it so successful all these years. The commitment to *Ecoletter* content will not change. Thank you to the Ad Hoc committee, led by Ted Debota and Ann Baugher, for spearheading this significant effort.

My last president's message put out a request for volunteers to help with the *Ecoletter* and I am very grateful for the responses. Special thanks to Joan Fernandez and Kristi Perri who have agreed to take on leadership roles for the CWEA on the *Ecoletter*. Lastly, but certainly not least, I would like to recognize and thank Cynthia Lane for her tenure as editor—especially the last few months when she has been fulfilling this role from her new home in Denver. We could not have done it without you.

On my previous three *Ecoletter* messages I started with the definitions of three words—participate, share and volunteer. The CWEA has always been strong on these subjects, but I would like to think we've raised the bar a little this year. It is through our organization participating, sharing and volunteering that this progress happens. I have no doubt that our next year will be a productive one. We have great momentum and an ener-



WWOA President

—Rose Marie Cline-Lowe

It is difficult to believe that my tenure as your President is coming to an end. Both personally and professionally, it has been a year of ups and downs, but, having said that, I am pleased with the progress this

Association has made during the past 12 months.

As I stated in my remarks when I took over as President, I wanted to focus the work of the association to serve the membership—the water and wastewater operators and superintendents. Towards that end, the Association has revitalized several existing programs, such as the WWOA Awards program, the Short Course Scholarships and, with an eye towards future operators, the high school Science Fair Awards.

Additionally, this year for the first time, the Main Body of your Association is sponsoring four members—one from each section—to attend the Tri-Association Conference in Ocean City. One member will be selected by random drawing from each section.

Few people realize that the water that exists on the earth is all that there will ever be. That's all we get. Fewer people still recognize and understand the role that water and wastewater operators play in protecting that resource by providing safe drinking water and safely treating wastewater. Perhaps the fates will continue to consign us to remain in the background, with our only reward being our own satisfaction in a job well done. It is my hope, however, that this Association will continue to work against the fates and publicly recognize the efforts of our members in this quality undertaking.

So, in closing, our year together began with a great Tri-Conference in 2010 and will end at yet another tremendous conference. I want to thank all the members of the Executive Board for their service over this past year. I would also like to thank the Boards of the four Sections for their support. Most of all, I would like to thank you, the membership, for your continued service to the betterment of our world community.

gized group of volunteers ready participate. We will also have a president, Ted Debota, who has shared a clear vision for where this organization can go and has the drive to move us there. Exciting times indeed.

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Contact Kraig Moodie

Tri-Association Conference

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Collection Systems/Stormwater Seminar

November 15
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TABLE OF CONTENTS

| | |
|--|-------|
| President's Message | 3 |
| Editor's Corner | 5 |
| Meeting the Challenge of Achieving Bay Area Stormwater Requirements | 8-11 |
| Asset Management Seminar | 14-15 |

| | |
|--|-------|
| Our Other Bay | 18-21 |
| Tri-Association Conference | 24-36 |
| Registration and Hotel Information | 24-25 |
| Conference Highlights | 26-29 |
| Sessions Schedule | 29-36 |

EDITOR'S CORNER

We have important staff news. CWEA Administrator Ann Baugher has become our Advertising Manager. The business side of *The Ecoletter* had fallen into arrears and she agreed to step in and help. Thanks to her efforts and the cooperation of our faithful advertisers, our publication is already on firmer footing. If you have been an advertiser and have not paid for past ads we ask your understanding in paying for ads that we ran for you. On a sadder note, Co-editor Cynthia Lane will be leaving us. She has moved out to Denver to work at AWWA headquarters. Showing her dedication to *The Ecoletter*, she has agreed to stay on until her successor has taken over.



Last issue we reported that Pennsylvania DEP had taken away violation notices from inspectors of natural gas drilling. Thankfully that order has been rescinded and the inspectors can once again cite operators for misdeeds. On top of that the DEP has fined gas driller Chesapeake Energy over a million dollars for a fire that injured three workers and for contaminating 16 wells. It's good to see the Pennsylvania Department of Environmental Protection taking environmental protection more seriously.



We love what Maryland is doing with grass. Stating that 14% of the nitrogen and 8% of the phosphorus going into The Bay comes from urban and suburban non-point sources, they passed a new lawn fertilizer law that will limit turf fertilizer use. Fertilizer must not contain more than 0.7 pounds of N and no P (except in special turf repair or establishment situations), and N cannot be applied at a rate greater than 0.9 pounds/1000 square feet. This new law does not apply to agriculture. And it does not apply to the easiest, most Bay friendly way to fertilize your lawn—leaving the grass clippings on the mowed lawn. It gets better. Because of budget cuts, the SHA will be reducing the amount of grass cuttings along highways in the state. This is a classic case of doing more for less in taking up more water runoff from rains by less frequent mowing. So when you travel the roads of The Free State this year, enjoy the tall beautiful grass.



Showing that the wild and wonderful, Mountain State wants to do its part, the three far eastern counties of the panhandle will be seeking a Chesapeake Bay coordinator to track what's being done and what will need to be done on their Bay effort.



Cumberland, Maryland is also doing its part. On June 22nd they dedicated the new ENR upgrade to their 15 mgd plant. This \$37 million upgrade received \$27 million from the Bay Restoration Fund, \$6 million from Federal stimulus money and \$4 million from the Maryland Water Quality Revolving Loan Fund. The plant will meet 3 mg/l Total N and .3 mg/l Total P.



The Wilderness Warrior—Theodore Roosevelt and the Crusade for America by Douglas Brinkley is an over 900 page book (it's very difficult to write a short book about him) that shows what the great man did for his country. All told he set aside over 234 million acres, many times by executive order over a foot dragging congress, for posterity. When birds were slaughtered for the big business of stylish hats, he created the first national bird refuge and in the process helped to eliminate the senseless commerce. He went on to create 54 bird refuges, 4 game preserves, 18 national monuments, 6 national parks and created or enlarged 150 national forests. After he set aside land that would become Olympic National Park, the largest of the four North American elk subspecies that roam there, was named Roosevelt Elk. Without a doubt he did more than anyone to wake our country up to protecting and cherishing our beautiful land and animals. He was our first and arguably our most environmental president—this alone would justify his presence on Mount Rushmore.



The City of Philadelphia has received approval from EPA for an innovative CSO plan. At the heart of the plan are measures taken to prevent runoff from entering sewers. These measures include pervious pavements, green roofs, rain gardens, tree planting, vegetative strips, rain barrels, and variations on French drains to capture runoff before it enters pipes. It will minimize the more common approach of building large underground storage reservoirs. Perhaps the most controversial part of the plan is changing how businesses are charged for storm water. Previously it was based on water use and with the new plan it will be based on the amount of impervious surfaces. Some businesses with large roofs and extensive parking lots will see substantial increases. To implement the plan the City has agreed to spend \$2 billion over 20 years. Comparing what Philadelphia will be doing to what DC is doing for CSO's is most interesting. Philadelphia is twice the size of DC and has 60% CSO's, twice the percentage that DC has, yet will spend much less than half of what DC will spend to handle its CSO's. Why didn't someone think of this sooner?

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Meeting the Challenge of Achieving Bay Area Stormwater Requirements

—By Paul Hlavinka, PMP, EIT, CWEA Stormwater Committee, Muddy Branch Alliance President and Patricia Jones, CWEA Stormwater Committee Secretary

On December 29, 2010, the EPA, Region 3 issued the “Chesapeake Bay Total Maximum Daily Load (TMDL) for Nitrogen, Phosphorus, and Sediment” described as “a historic and comprehensive ‘pollution diet’ with rigorous accountability measures to initiate sweeping actions to restore clean water in the Chesapeake Bay and the regions streams, creeks, and rivers.” Of the 40,000 TMDLs completed nationwide, the Chesapeake Bay TMDL is the largest and most complex. In brief, jurisdictions are required to implement pollution controls by 2025 capable of cumulative reductions of 25% nitrogen, 24% phosphorus, and 20% sediment with a requirement that 60% of the planned pollution controls be in place and operating by 2017.



In light of the challenges of this recent action by the EPA, it was timely that the recently formed Chesapeake Water Environment Association’s (CWEA) Stormwater Committee presented a seminar on May 17, 2011 entitled “Meeting the Challenge of Achieving Bay Area Stormwater Requirements.” The seminar, held at the Maritime Institute of Technology and Graduate Studies

(MITAGS) in Linthicum, Maryland, was well attended and featured speakers representing a variety of stormwater management and stakeholder roles.

As further background, the Bay TMDL mandated seven major jurisdictions (Delaware, District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia) develop Phase I Watershed Implementation Plans (WIPs) requiring jurisdictions to subdivide their TMDL allocation among pollution sources and specify plans for meeting targeted reductions. Currently, the bulk of the WIPs rely on improvements to stormwater control, treatment and discharge from the Municipal Separate Storm Sewer Systems (MS4s) within these watersheds. If these control measures prove inadequate, EPA has outlined contingency actions it may take including expanding NPDES permits to currently unregulated sources, requiring additional pollution reductions from point sources, prohibiting new or expanded discharges, revising quality standards, as well as traditional enforcement actions.

To address the implementation of these mandates by EPA, CWEA broke the seminar into three sessions. The morning session addressed a range of municipal, state, federal, and watershed protection perspectives on what is required for the region to meet Chesapeake Bay TMDL targets. One afternoon session addressed Case Studies of stormwater program plans, implementation and performance. The other afternoon session addressed Cutting Edge Research from numerous academic researchers throughout the region.

The morning session started with Mark Charles, City of Rockville’s Chief of Environmental Management, who presented a lively yet sobering talk pointing out that to meet Bay TMDL compliance schedules all MS4 permit holders will need “people, data, cash, contractors, and time” and that competition for all of these will drive up costs and compound time constraints. Jim Foster, President of Anacostia Watershed Society, made the case for why partnering is “good for all parties” given the scope of the task ahead and the need for public education as a key component in Bay restoration. The federal perspective was presented by Jenny Molloy, Chesapeake Bay Stormwater Coordinator (EPA Region III), who commented that a fundamental shift from rapid conveyance to flow control (volume, velocity, and duration) still needs to take place; that EPA will be



looking at how individual best management practices (BMPs) actually perform rather than accepting assumed design performance; and that national rule-making on stormwater regulations will include special provisions to maintain the robustness of the Bay TMDL.

The Maryland perspective was addressed by Mr. Jay Sakai of the Maryland Department of the Environment (MDE) who spoke in place of Dr. Robert Summers. Mr. Sakai stated that MS4 permits will be aligned with WIPs and pursuant to EPA requirements accountability and enforcement will increase. The Virginia perspective was addressed from the permit holder viewpoint by Randy Bartlett, Fairfax County Deputy Director for the Department of Public Works and Environmental Services, who stated that differences in state and federal compliance mechanisms, guidelines, and reporting methods unnecessarily complicate compliance efforts. Mr. Bartlett also presented data on various BMPs implemented in Fairfax County with a cost per acre ranging from \$3,500 for stream restoration to \$103,000 for low impact design (LID); additionally, each BMP evaluated had variable performance on nitrogen, phosphorus, and sediment removal. In effect there was no one BMP technology that provided a comprehensive treatment solution.

The morning session was concluded with presentations from state transportation representatives including Karuna Pujara, Maryland State Highway Administration, Vince Davis, Delaware Department of Transportation, and Pawan Sarang, Virginia Department of Transportation in which they each outlined their MS4 program and discussed how and to what degree they coordinate their stormwater programs with municipalities in their service

areas. There was a consensus among the state transportation representative that increased cooperation between their departments and local municipalities, as well as regulatory flexibility, will be necessary for each to achieve their compliance goals.

The afternoon Case Studies addressed stormwater program implementation, urban retrofits, BMP monitoring and nutrient accounting. Steve Shofar of Montgomery County's Department of Environmental Protection (MCDEP) kicked off the case studies providing a brief description of the County's latest NPDES MS-4 permit and the implementation strategy that has been developed to comply including significant costs and aggressive schedules needed to meet local TMDLs requirements. The plans laid out and discussed are a testament to the work that MCDEP has done so far to meet broad reaching targets. Jason Papacosma of Arlington County's Department of Environmental Services discussed Watershed Retrofits in the Urban Landscape. Since 2008, Arlington County, VA, has been working with the Center for Watershed Protection, Inc. to develop a watershed retrofit inventory, to date over 40% of the County has been assessed, and implementation of the highest prioritized retrofits have begun. Mr. Papacosma offered a word of caution that retrofits alone will not likely treat enough area to meet watershed goals and Chesapeake Bay TMDL requirements. Therefore, it will be necessary to rely on other strategies, including: creating "green street" designs and urban stream restoration. Lessons from this effort can



Continued on page 10

Bay Area Stormwater Requirements

Continued from page 9

help other communities develop their own effective retrofit programs as well as inform the regulatory community of the realities and limits of urban retrofitting.

Edmonston, Maryland Mayor Adam Ortiz provided a wonderful narrative on how his community has been able to achieve innovative improvements in stormwater management while simultaneously addressing pressing social and community issues. Through the construction of a state-of-the-art stormwater control system repeated flooding has ended and the east coast's Greenest Street has been built through partnerships between the City, non-governmental organizations, regulators, consultants and contractors. Mayor Ortiz's take home message is that stormwater sustainability is achievable, not just for large or wealthy jurisdictions, but for small working class communities and he invites the Bay area to "steal our ideas at: www.edmonstonmd.gov."

John Coffin, President and Chief Hydrologist for Hydrologic Data Collection, had the monumental task of addressing "Methods to Determine Pollutant Removal Efficiencies of Stormwater BMPs" in half an hour. Mr. Coffin described one of their projects at a regional stormwater facility designed to treat more than 55 square miles (3,583 acres) of the Phillippi Creek Watershed in Sarasota County, Florida where the treatment consists of a series of four cascading wet detention ponds and a large wet retention/wetland area. The concluding message was that a lot of taxpayer money is spent implementing projects and the through consistent monitoring you can show how effectively it is being used for pollutant removal.

Thomas Schueler, Executive Director of the Chesapeake Stormwater Network, wrapped up the Case Studies with a presentation on "Strategies for Local Nutri-

ent Accounting in the Chesapeake Bay" addressing how localities can use nutrient accounting to define their baseline loads and identify the most cost-effective combination of stormwater and restoration practices that can achieve the desired reductions. He described some useful strategies and technical resources to help localities meet these new responsibilities. He recommended a local tracking system to account for loads from BMPs at existing, new and redeveloped areas, and new methods for assigning accurate reduction rates to the practices they will implement.

The afternoon Cutting Edge research session addressed BMP design, performance, and monitoring as well as watershed modeling. Jamie Houle, Program Manager for the University of New Hampshire Stormwater Center, presented a primer on lessons learned from years of stormwater research highlighting the importance of starting with a clear project objective that defines the spatial, temporal, constituent, budgetary, monitoring, and reporting requirements. William

Soulliere, Teledyne Isco, addressed a variety of factors to consider when planning and implementing stormwater monitoring, concentrating on how to best use sampling equipment so that site visits decrease and data is robust and reliable.

Dr. Allen Davis, Professor, Department of Civil and Environmental Engineering, University of Maryland, presented results demonstrating increased soluble phosphorus removal in bio-retention following addition of water treatment alum residuals to a lab scale treatment column. Based upon the lab scale success, this innovative method has been introduced to a full-scale facility and monitoring is ongoing. Performance monitoring data from various full-scale bio-retention facilities demonstrated that even with comparable design, treatment performance is variable and the need for routine monitoring



is essential to determining the effectiveness of each BMP. Dr. Shirley Clark, Associate Professor of Environmental Engineering, Penn State addressed efforts to design bio-retention treatment media for various stormwater contaminants. When different classes of contaminants are present, more than one treatment media may be necessary and while trade-offs exist, careful consideration of media selection can result in combinations that meet treatment objectives effectively.

Watershed modeling was presented by Dr. David Sample, Assistant Professor, College of Engineering, Virginia Tech evaluating the flow based TMDL on the First Order Catchment (headwaters) of Accotink Creek in Northern Virginia. Based upon this project, Dr. Sample concluded that watershed modeling can be an effective tool for planning and subsequently evaluating TMDL compliance. He recommended that watershed stormwater models be applied to smaller scale catchments because monitoring data is more manageable making model calibration more straightforward.

Closing comments and conclusions were presented by Larry Jaworski, Vice-President of Brown & Caldwell, who addressed the overall concepts of the

seminar. Essentially we have some new and challenging non-point source requirements around the Chesapeake Bay, and we are just starting to learn how to deal with them. Maryland is in the forefront of the nation with addressing our water body impairment, and will lead the country in TMDL, WIP issues. Several universities have been doing research on just these issues, and it will be one of CWEAs the new functions to help bring the technology where it is needed.

The CWEA Stormwater Committee is planning a Summit meeting in September 2011 as an opportunity for area stormwater organizations to meet and establish ongoing dialog and discuss partnering efforts toward accomplishing Bay stormwater objectives. Further, the Stormwater Committee in conjunction with the Collection System Committee is planning a one-day seminar to address wet weather flow issues for November 2011. If you are interested in joining the Stormwater Committee please contact Jeff Cantwell at 610-918-3857 or jcantwell@flowassessment.com.

NOTE: Presentations from this seminar are available at <http://www.wwoa-cwea.com/cwea> (follow the links).

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The CWEA Collections Systems Committee would like to thank all of our speakers, volunteers, and guests for an outstanding seminar!

Speakers:

- Steve Albee, EPA
- Ayodele McClenney, DC Water
- Charlie Card, Washington Suburban Sanitary Commission
- Scott Rebman, RJN Group
- Philip Hannan, Black & Veatch

Moderators:

- Kraig Moodie, Chair CWEA Collections Systems Committee, FloWav
- John Fletcher, Dukes Root Control

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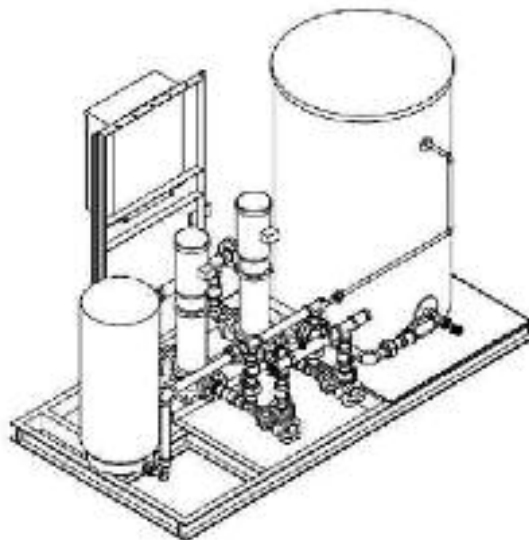
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Our Other Bay

—By Floyd B. Johnson, *Ecoletter* Co-editor

There is no doubt we are Chesapeake Bay centric. This makes sense for a number of reasons mainly based on size, proximity and socio-economic impact, but there is another substantial bay whose waters wash the shores of our territory.

In *The Chesapeake Bay Watershed* article (Spring 2010 *Ecoletter*); I mentioned that 72% of Delaware drains into Delaware Bay. What I should have said was 72% of the state does not drain into the Chesapeake. Delaware's inland bays (Rehoboth, Indian River and Assawoman) of the Atlantic receive flow from nearly a quarter of the state so Delaware Bay's watershed is closer to half than three quarters of the state.



East End Light on the left and a World War 2 observation tower on the right at Cape Henlopen State Park.

With that correction logged, let me compare and contrast the Delaware Bay with the Chesapeake. The Delaware's 13,539 square mile watershed is 21% and its 800 square miles of water is less than 18%, of the Chesapeake's, but other facts support considerable significance. Philadelphia is the largest freshwater port in the world, oil refineries along Delaware Bay make up the second largest US capacity with over 40 million gallons of crude oil traveling the bay every day, and over 15 million people (half in New York City) receive drinking water from the Delaware River. Many more people drink from the Delaware than the Susquehanna. A downside to all the oil tanker traffic has been oil spills. In the last 40 years there have been four major spills that exceeded 250,000 gallons with a spill in January 1975 being the worst at 11,000,000 gallons. There have been two major oil spills in the Chesapeake during the same period—250,000 gallons in 1976 and 111,000 in 2000 (Patuxent River pipeline leak). By comparison, the Exxon Valdez oil spill in 1989, the largest tanker caused spill in US history, leaked between 10,800,000 and 32,000,000 gallons. The largest US oil spill, the 2010 Gulf of Mexico spill, was 206,000,000 gallons.



Refineries at Delaware City. Who says this country does not do much manufacturing?

Out in the river opposite the Delaware City refineries sits Pea Patch Island, one of the most unusual 161 acres in the country. On the south end of the island is Fort Delaware, one of the biggest forts in the country and active from The War of 1812 to World War 2. On the north end of the island is one of the largest bird rookeries along the Atlantic coast. As many as 20,000 birds use this nesting site every year. It's hard to imagine two such dissimilar uses of such a small piece of land.



Fort Delaware on Pea Patch Island.

A claim to fame of the Delaware is being the longest river east of Mississippi undammed. But I'm not buying that considering large upstream impoundments on the east and west branches of the river near the Catskills provide drinking water to over seven million people outside the watershed in a diversion worthy of the west. There is no disputing downstream of where the two branches meet at Hancock, NY there are no impediments to flow. But the two branch reservoirs and a third one on the Neversink River are a major factor in river flows. So technically the main stem of the Delaware is undammed, but don't say the river is unharnessed.

Back in 1931 the Supreme Court ruled that New York City could withdraw 440 million gallons a day from the Delaware from planned reservoirs. During that ruling Justice Oliver Wendell Holmes uttered a phrase that goes for all rivers when he said, "A river is not an amenity, it is a treasure." The people along the river acted on what he said and now there are 150 miles of the river included in

The National Wild and Scenic Rivers System—an amazing fact given the location of the river in the heart of a megalopolis that stretches from Boston to Washington DC and within a day's drive of 40% of the US population. The original ruling was amended by the court in 1954 after reservoir construction allowing the city to take 800 million gallons a day while at all times maintaining a minimum flow of 1,130 million gallons a day just below Milford, Pennsylvania. With several major floods along the Delaware in recent years, finding the right balance between storage for water supply and capacity for flood control has become a real tug of war between New York City and communities along the river. You can bet that the next major flood will bring even more warring.



Delaware Memorial Bridge. Note the industry in the background on the New Jersey side to the right.

Delaware Bay, roughly one fifth the size of the Chesapeake, is fed almost entirely by the Delaware River. And the river only has two major tributaries, the Lehigh and Schuylkill. The last tributary of any size, the Christiana River and the last source of water coming from outside the coastal plain, enters the Delaware just upstream of the Delaware Memorial Bridge at Wilmington. Note the lack of the term “Bay” in the bridge name. Unlike the Chesapeake’s two bridges that span it at mid-point and mouth, Delaware Bay is un-breached by bridges.

A rather unique feature of the Delaware is the long length of its freshwater estuary which occupies the river from the head of tide at Trenton, New Jersey to the Delaware/Pennsylvania border where the transition zone of fresh/salt water begins. The transition zone continues to just south of the Chesapeake and Delaware Canal. One area where the Delaware outshines the Chesapeake is its 75 mile width from Little Creek, Delaware to the back of the bite the bay takes out of New Jersey, at Dennis Creek. This distance is twice the maximum width of the Chesapeake.

Delaware Bay hosts the largest population of spawning horseshoe crabs in the world. The ancient horseshoe crab is unchanged for the last 350 million years and believed to be the oldest animal species, (humans or homo sapiens have only been around 200,000 years) puts on quite a show in May and early

June. During new or full moons, these animals blot out the sand of beaches of the lower Delaware Bay during their spawn. Unlike the blue crab’s culinary delight, the horseshoe crab has no real flesh to consume. However the eggs are an important food for migratory birds. Another important use of horseshoe crabs is in the field of medicine. Their blood is used to detect endotoxins in drugs and medical devices. If you get a chance, visit a Delaware Bay beach during the spawn and ponder the resilience of these very special animals. Although a harvesting ban enacted in 2000 remains in effect so they cannot be taken for bait, even after all these millions of years their population remains fairly stable. Remarkable is a too often used term, but not when talking

about horseshoe crabs. The thought that these creatures have been around for so long should be a humbling and instructive one for us humans.

The 14 mile long, 450 feet wide, 35 feet deep, C&D Canal is the physical link between the Chesapeake and Delaware Bays. Since the 1920’s it has been a

lock free, sea level canal that allows an exchange of waters (the prevailing flow is from the Chesapeake to the Delaware) between the bays, considerable shipping, and in the process created the largest island in the United States. It’s Delmarva Island, not peninsula.

While the source of the West Branch of the Delaware is only 25 miles from Cooperstown, NY where the Susquehanna begins, they not only take divergent paths to the sea but also are regulated much differently. The Delaware River Basin Commission, created by President John Kennedy, has authority over water quantity and water quality (along with EPA). This means the commission sets the compact that balances flood control with water storage in the upstream reservoirs that are used for New York City water supply and also, despite considerable pressure, has so far banned gas drilling in the watershed. Its counterpart, the



Reedy Point Bridge over Chesapeake and Delaware Canal near the canal’s eastern terminus.

Continued on page 20

Our Other Bay

Continued from page 19

decade younger Susquehanna River Commission, is largely a toothless water management agency that serves in an advisory role. Water quality is controlled by each state and flood control is handled by the US Army Corps of Engineers. Gas drilling in the Susquehanna basin is widespread in Pennsylvania. New York has banned it pending establishing regulations.

On another energy front the Delaware outpaces the Chesapeake. Each bay has a nuclear power plant directly on its shores but the three reactors at the Hope Creek–Salem complex with a capacity of 3,560 MWe far exceeds Calvert Cliffs' two reactors 1,735 MWe.



Hope Creek–Salem, New Jersey nuclear power plant.

Dredging is a recent contentious issue on the Delaware Bay. Federal judges have had to get between the combatants, Pennsylvania and Delaware on one side and New Jersey on the other, to allow a five feet deepening to 45 feet of the 102 mile channel that extends from Capes May and Henlopen to Philadelphia. The work commenced a year ago on a 12 mile reach near Wilmington, Delaware with the restriction that removed sediments were to be disposed on Delaware land. Then something happened last summer that made matters worse. A dike broke on the cell holding the sediments allowing them to enter New Jersey waters and lands. You may ask how a failed dike on Delaware land allowed material into New Jersey. After all the states are on opposite sides of the bay.

To understand how this happened, we must go back to William Penn's original 1682 deed that specified a 12 mile arc, with a center point at New Castle, to separate the Pennsylvania and Delaware colonies. This seemingly simple statement has complicated Delaware's boundaries for centuries. On the west side, the arc was to have met the southern boundary of Pennsylvania but a surveying error by a couple surveyors named Mason and Dixon made the arc intersect the Maryland border a mile south of the surveyors most famous east-west line. A one square mile wedge of no-man's land was created and Delaware could not claim



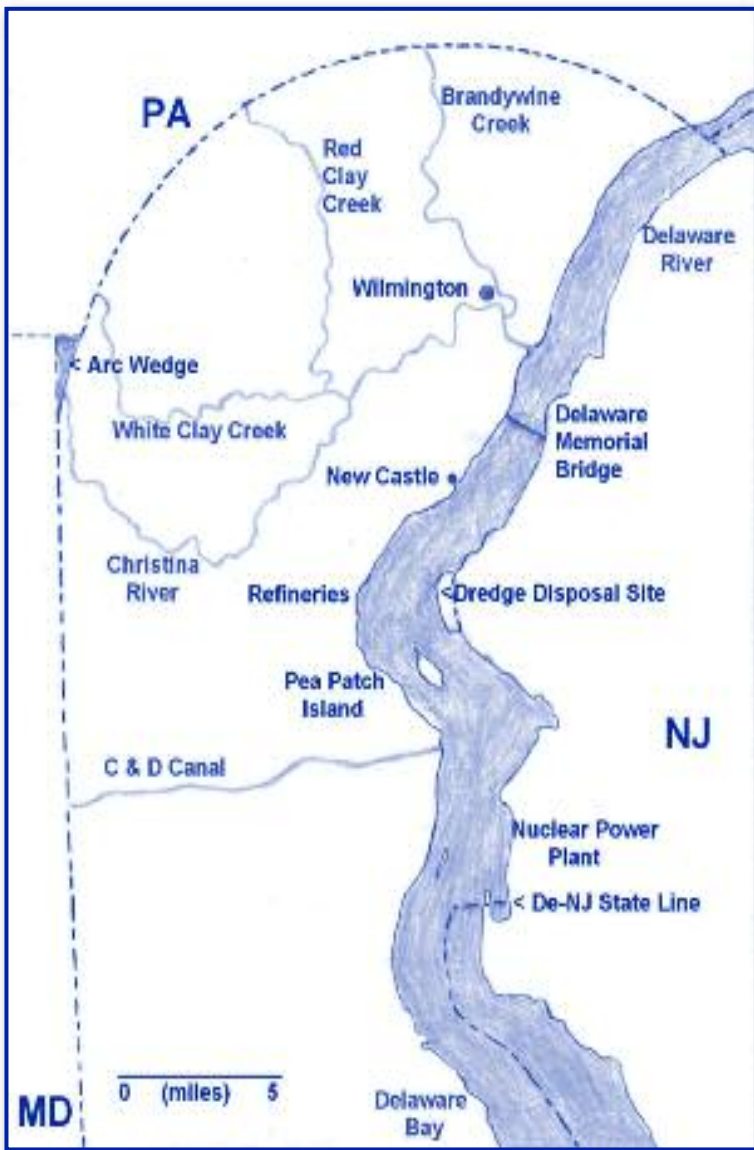
William Penn statue, in old colonial, New Castle Common.

it free and clear from Maryland until the Supreme Court ruled in 1921. On the east side the deed specified that all islands and the water to the mean low water tide will be part of Delaware. Twice in the twentieth century and again only three years ago, New Jersey and Delaware have been before the Supreme Court over where the border is. Unlike the Maryland–Virginia border which is set on the mean low water level in Maryland's favor for the entire length of the Potomac River, only in the 12 mile arc portion of the border is this the case along the Delaware. For the rest of the Bay downstream and the entire river upstream, the border is mid-stream. Back to the failed dike. It was set on the east side of the bay on an island separated from the mainland by a narrow channel, so when it gave way the material flowed into New Jersey.

This all too familiar, bigger story of states fighting over water use and abuse is the result of political boundaries paying insufficient heed to watersheds. As a result the troublesome "Federal case," must be enacted to find elusive solutions. At least Delaware Bay only has four states involved. In Chesapeake country there are six states and the District of Columbia to contend with. While the Delaware is not facing a massive Total Maximum Daily Limit like the Chesapeake, there are still serious water quality concerns.

Because of legacy PCB (polychlorinated biphenyl), a compound banned in the US in 1979, there are restrictions on fish consumption in the entire Delaware Bay. An emerging pollutant and another fat soluble, bioaccumulative compound is PBDE or polybrominated diphenyl ethers. This compound used in fire retardants, has shown up in higher concentrations than most places in the world. Also an area of concern is residuals from pharmaceuticals, given the high concentration of drug companies in the watershed. Various drugs, such as steroids, antibiotics, pain relievers and hormones have shown up in stream samples. On the positive side, both phosphorus and sediment loads have been reduced and nitrogen loads have not caused harmful algal blooms or excessively low dissolved oxygen levels. The situation with crabs and oysters is similar to the Chesapeake's and the pace of land lost to development is also much like the Chesapeake watershed.

An advantage Delaware Bay has over the Chesapeake is having a better flush effect with a freshwater residence time around 100 days compared to the Chesapeake's 260 days. This more than makes up for Delaware Bay's watershed population density of 590 people per square mile, compared to the Chesapeake's 265 people per square mile. Unlike the Chesapeake, there are no



As we have seen Delaware Bay is and isn't a smaller version of the Chesapeake. It has many of the same problems that the Chesapeake has, but thanks to a much lower water residence time, the overall water quality of the Delaware is better than the Chesapeake. To learn more about the Delaware Bay please visit the following sources:

The Partnership for The Delaware Estuary—A private, non-profit organization and Delaware Bay's version of the Chesapeake Bay Foundation. They published the 2008 State of the Delaware Estuary, an excellent source of information on current conditions. Go to www.delawareestuary.org

Delaware River Basin Commission—A good source of information about the Delaware River. Go to www.drbc.state.nj.us

Delaware Department of Natural Resources and Environmental Control—Their 2004 assessment of the bay watershed was a helpful source. Go to www.dnrec.delaware.gov.

plans to impose a Bay wide TMDL on nutrients and sediments in the near term. Unfortunately there has been a bay and river wide TMDL on PCB's since 2006.

The health and proliferation of wetlands, like in every area of the country, is an issue along the Delaware. Going back to Revolutionary War times, the State of Delaware has lost over half of its wetlands. Much of this loss came from draining activities to expand agriculture and in the last half century, to allow development. A peculiar institution in Delaware called tax ditches created entities for landowners in a watershed to band together for flood control and drainage. Not until the early 1990's was the law amended to provide for no net loss of wetlands and to create best practices for construction and maintenance of drainage ditches. On a much better note, Delaware has done a good job of protecting current wetlands with over 115 square miles in such places as Bombay Hook and Prime Hook National Wildlife Refuges, in public hands. This represents approximately half of all Delaware Bay wetlands in the state.

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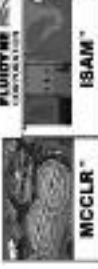
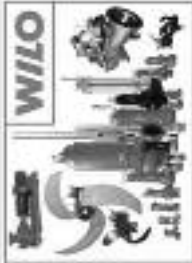
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2011 Tri-Association Conference At-A-Glance

| Tuesday, August 30 | Wednesday, August 31 | | Thursday, September 1 | | Friday, September 2 |
|--|--|--|--|--|---|
| GOLF AND AWARDS Ocean City Golf Club Berlin, MD 8:00 AM check-in, 9:00 AM start | PRESIDENTS'/CHAIRS' BREAKFAST Princess Rayside Augusta Room 7:30 - 9:00 AM (by invitation) | OPF CHALLENGE ORIENTATION Room 217 11:00 AM - Noon | REGISTRATION 2nd Floor, Top of Stairs 8:00 AM - 4:00 PM | WVOA BUSINESS LUNCHEON Rooms 207-208 12:30 PM - 2:15 PM | REGISTRATION 2nd Floor, Top of Stairs 8:00 AM - 9:30 AM |
| EXHIBITOR SETUP Grand Ballroom 10:00 AM - 5:00 PM | SWF FUN RUN/WALK Princess Rayside Lobby 7:30 AM - 9:00 AM | LUNCH WITH EXHIBITORS Food/Drinks/Door Prizes Grand Ballroom Noon - 1:15 PM | EXHIBITS OPEN Grand Ballroom 8:00 AM - 12:00 PM | CSAWWA LUNCHEON & SECTION/AWWA FORUM Room 217 12:30 PM - 3:00 PM | CONTINENTAL BREAKFAST Outside Rooms 201-206 8:00 AM |
| REGISTRATION 2nd Floor, Top of Stairs Noon - 6:00 PM | REGISTRATION 2nd Floor, Top of Stairway 8:00 AM - 4:00 PM | TECHNICAL SESSIONS Rooms 201-206 1:30 PM - 3:00 PM | CONTINENTAL BREAKFAST Grand Ballroom 8:00 AM | TECHNICAL SESSIONS Rooms 201-206 1:30 PM - 4:00 PM | TECHNICAL SESSIONS Rooms 201, 202, 203 & 204 9:30 AM - 11:30 AM |
| PRE-CONFERENCE Infrastructure Funding - Coping with Dwindling Resources following the Economic Downturn of 2008 Rooms 204 - 206 1:00 PM - 4:30 PM | EXHIBITS OPEN Grand Ballroom 8:00 AM - 6:00 PM | OPF CHALLENGE (Classroom/Lab) Exhibit Hall B 1:30 PM - 5:00 PM | TECHNICAL SESSIONS Rooms 201-206 9:00 AM - 10:30 AM | TOP OPF Room 213 3:00 PM - 5:30 PM | ADJOURN/ MONSTER DOOR PRIZES Registration Desk 11:30 AM |
| OPENING SESSION Rooms 201/202/203 4:30 PM - 5:30 PM | CONTINENTAL BREAKFAST Grand Ballroom 8:00 AM | BREAK/VISIT EXHIBITS Grand Ballroom 8:00 PM - 8:30 PM | OPF CHALLENGE Exhibit Hall B 9:00 AM - 5:30 PM | BREAK/DOOR PRIZE Outside Rooms 201-206 4:00 PM - 4:30 PM | CSAWWA BOARD MEETING & LUNCHEON Room 215 Noon - 2:00 PM |
| EARLY BIRD RECEPTION Grand Ballroom 5:30 PM - 7:30 PM | BIO SLIDE BEAUTY CONTEST CWEA Table outside of Grand Ballroom 9 AM - 11 AM | TECHNICAL SESSIONS Rooms 201-206 1:30 PM - 5:00 PM | WFP SILENT AUCTION Benefiting Water For People Table by Escalators 10:00 AM - 4:00 PM | TECHNICAL SESSIONS Rooms 201-206 4:30 PM - 5:30 PM | CWEA BOARD MEETING & LUNCHEON Room 213 Noon - 2:00 PM |
| | TECHNICAL SESSIONS Rooms 201-206 9:00 - 11:30 AM | PIPE CUTTING SHOOTOUT Exhibit Hall B 5:00 PM - 6:00 PM | BREAK/VISIT EXHIBITS Grand Ballroom 10:30 - 11:00 AM | AWARDS PROGRAM Ballrooms 2 & 3 - Cocktails 5:45 PM - 6:30 PM - Program 6:30 PM - 7:30 PM - Reception & 1 st Social until 9 PM | WVOA BOARD MEETING & LUNCHEON Room 207 Noon - 2:00 PM |
| | WFP SILENT AUCTION Escalators outside of Grand Ballroom 10:30 AM - 4:30 PM | MEET & GREET GRAND BALLROOM 5:00 PM - 6:00 PM | OPF CHALLENGE LUNCHEON Rear Patio 12:30 PM - 1:30 PM | | |
| | BREAK/VISIT EXHIBITS Grand Ballroom 10:30 AM - 11:00 AM | FUN NIGHT! Socorro 7:00 PM - 11:00 PM | CWEA BUSINESS LUNCHEON Room 215 12:30 PM - 2:15 PM | PRESIDENTS'/CHAIRS' RECEPTION Princess Rayside Augusta Room 9:00 PM - 11:30 pm (by invitation) | |

2011 Tri-Association Conference

The Chesapeake Section, American Water Works Association, the Chesapeake Water Environment Association, and the Water & Waste Operators Association will hold a combined Annual Conference (2011 Tri-Association Conference) and Exhibition at the Roland E. Powell Convention Center in Ocean City, Maryland from August 30 through September 2, 2011. The Conference Committee has planned the Conference program and schedule, as well as negotiated blocks of rooms at conference rates with several local hotels. Please check the Associations' websites (www.csawwa.org and www.wwoa-cwea.com) frequently for Conference updates regarding program, hotel accommodations, registration, golf outing, Engineers Without Borders Fun Run/Walk, and other Conference updates.

Tri-Association Conference will be held on the 2nd floor of the Ocean City Convention Center. There will be 135 technical presentations in 6 concurrent sessions and up to 119 exhibitors. The full Operator's Challenge Competition is back again this year.

Due to its previous success, we are again providing a Cyber Café, located in Room 209, which will include several PCs and a printer. The Conference Committee has arranged for free wireless Internet access at the Convention Center for attendees and exhibitors.

Registration/Check-in Hours

Tuesday: Noon - 6:00 pm
Wednesday: 8:00 am - 4:00 pm
Thursday: 8:00 am - 4:00 pm
Friday: 8:00 am - 9:30 am

Location: 2nd Floor at the top of the stairs.

Attention Certified Operators

The Pre-Conference and technical sessions have been approved by the Maryland Board of Certification (BOC) and course codes assigned.

The 2011 Tri-Association Conference includes an entire technical track dedicated to 1-hour process presentations where operators can earn up to six process credits.

The course number and applicable certification data will be included on the attendance sheets. This year we will be provided with a form that will be used to track your attendance at the sessions. Be sure to get this attendance form stamped at the end of the session; this will be the only time to obtain stamps. Additionally be sure to get your form signed at the registration desk prior to leaving the conference. You will not be able to obtain a signature after Friday, September 2, 2011 at Noon.

The Roland E. Powell Convention Center

The Convention Center is located at 4001 Coastal Highway, between 40th and 41st streets. There are 1,200 parking spaces at the Convention Center. Anyone with a Tri-Association Conference name badge can ride the Ocean City buses at no charge.

Hotel Information

The Conference Committee has negotiated blocks of rooms at 11 Ocean City Hotels for the 2011 Tri-Association Conference. Conference rates are available Monday, August 28 through Friday, September 2, 2011 (Friday checkout). Room blocks at each hotel are limited and most room blocks close July 31, 2011, so make your reservations early to get your choice of hotel. In some cases, rooms may be available at less than the Conference rate. To obtain the Conference rate, you must call the hotel directly and ask for the "Tri-Association Conference" rate. Many of the hotels have offered reduced rates before and/or after the Conference; details are available under Hotel Information on the Conference website.

| Hotel & Location | Approx. Miles to Convention Center | Room Type* | Conference Rates | Room Block Held (Est) | Hotel Phone Numbers & Website |
|---|------------------------------------|------------|-----------------------------|-----------------------|--|
| Princess Bayside (Conference Hotel) 48th Street & Bayside | 0.5 mi. | H,E | \$89 - \$125 | 7/31/11 | 410-723-2900, 800-854-9785 www.princessbayside.com |
| Quality Inn Oceanfront 54th & Oceanfront | 1.0 mi. | H | \$99-\$129 | 7/31/11 | 410-524-7200, 800-837-3586 www.ocm-hotels.com/qioceanfront |
| Flagship Oceanfront Hotel 26th Street & Boardwalk | 1.1 mi. | E | \$79 | 7/31/11 | 410-289-3384, 800-837-3585 www.ocm-hotels.com/flagshipof |
| Grand Hotel 21st Street & Boardwalk | 1.4 mi. | E | \$129-\$189 | 7/31/11 | 410-289-6191, 800-447-6779 www.grandhoteloceancity.com |
| Holiday Inn Oceanfront Hotel 67th Street & Oceanfront | 1.6 mi. | E | \$159 | 7/31/11 | 410-524-1600, 800-837-3588 www.holidayinnocanfront.com |
| Sleep Inn and Suites 11 North Baltimore Ave | 2.8 mi. | H | \$229 | | (443) 664-4020 www.sleepinn.com |
| Princess Royale 91st Street & Oceanfront | 3.0 mi. | S | \$149 | 7/31/11 | 410-524-7777, 800-4-ROYALE www.princessroyale.com |
| Clarion Resort Fontainebleau Hotel 101st Street & Oceanfront | 3.4 mi. | H,C | \$159-\$189-\$299 (minimum) | 7/31/11 | 410-524-3535, 800-638-2100 www.clarionoc.com |
| Comfort Inn Gold Coast 112th Street & Coastal Highway | 4.1 mi. | H | \$69 | 7/31/11 | 410-524-3800 www.comfortgoldcoast.com |
| Ferwick Inn 138th Street & Coastal Highway | 5.5 mi. | H | \$59 | 7/31/11 | 410-250-1100, 800-492-1873 www.ferwickinn.com |
| Castle in the Sand Hotel 37th St. & Oceanfront | 0.3 mi. | E | \$99-\$185 | 7/31/11 | 410-289-6846, 800-552-SAND www.castleinthesand.com |

H=Hotel; E=Efficiency; S=Suite; C=Condo/Cabana

* = Stay three or more nights & receive complimentary restaurant voucher

Continued on page 26

2011 Tri-Association Conference Highlights

TUESDAY, AUGUST 30, 2011

Golf Outing

Ocean City Golf Club—11401 Country Club Drive, Berlin MD

8:00 AM check-in, 9:00 AM shotgun start

Format: Captain's Choice

Cost: \$100/player, \$360/foursome: (includes greens fee, cart, practice range, continental breakfast, lunch, prizes and donation to Water For People) Before you arrive in Ocean City, stop off in nearby Berlin, Maryland to play on the beautiful and challenging Newport Bay course at the Ocean City Golf Club. Proceeds from the Golf Outing this year will benefit Water For People. Prizes will be distributed at the end of the Golf Outing, and winners announced at the opening session. Unclaimed prizes will be posted and claimed at the Registration desk.

To register: Use the Tri-Association Conference registration form (on or before 8/16/11) or register on-line (on or before 8/26/11). A limited number of last-minute on-site registrations can be accepted the day of the golf outing. On-site payment must be in the form of cash or check. Sign-up to be a Golf Outing Hole Sponsor, where designated on the registration form. Contact Ron Tatariw for more information: 703-716-0770, or rtatariw@tatariw.com

Pre-Conference Luncheon *(by invitation)*

11:30 AM - 1:00 PM • Room 212

Pre-Conference Session

1:00 PM - 4:30 PM • Rooms 204-205

Infrastructure Funding—Coping with Dwindling Resources following the Economic Downturn of 2008

We are approaching the third year since the economic downturn, and utilities are looking for ways to cope with the challenge of maintaining an acceptable level of service with dwindling resources. This year, we have assembled a group of professionals who are experts in meeting these challenges and finding resources to maintain our water and sewer infrastructure.

Our panel of experts will describe the flow of federal funds to states, associated legislative processes, proposed funding proposals and budget cuts, and EPA regulatory initiatives. We will be provided insight on the success of Virginia's use of unsolicited proposals and how evaluating cost and demand trends have helped achieve success in both public and private sector organizations. Panelists include:

Speakers include:

- Merrill Oliver, Deputy Director, Governor's Grant Office – "Grants & Industry: Opportunity Through Mutual Understanding"
- Myron Olstein, Independent Consultant – "What Does the Future Hold for Utilities?"
- L. Preston Bryant, Jr., Senior Vice President, Infrastructure and Economic Development, McGuire Woods Consulting, LLC – "Building Public-Private Partnerships for Infrastructure Projects"
- Tim Williams, Managing Director for Public Policy, Water Environment Federation – "Washington Update from WEF"

- Tom Curtis, Deputy Director for Government Affairs, American Water Works Association – "The Challenge of Infrastructure Funding in an Era of Federal Austerity and the Model for a Federal Water Infrastructure Finance Authority that Fits the Times"

Pre-Conference Session – 1:00 PM - 4:30 PM

| | |
|-------------|--|
| 1:00 - 1:30 | Merrill Oliver, Governor's Grant Office |
| 1:30 - 2:00 | Myron Olstein, Amawalk Consulting |
| 2:00 - 2:30 | Break |
| 2:30 - 3:00 | Preston Bryant, MWC, LLC – Public-Private Partnership side of infrastructure funding |
| 3:00 - 3:15 | Tim Williams - WEF |
| 3:15 - 3:30 | Tom Curtis - AWWA |
| 3:30 - 4:30 | Round Table Discussion |

Opening Session

4:30 PM - 5:30 PM • Rooms 201/202/203

Opening remarks: Craig Murray, CWEA President, Rose Cline-Lowe, WWOA President and John Moore, CSAWWA Chair

Introduction of Keynote Speaker: George S. Hawkins, General Manager, DC Water

Keynote Address – 4:30 PM - 5:30 PM

Keynote Speaker: George S. Hawkins - General Manager, DC Water

George Hawkins was named to the post of General Manager of DC Water by the Board of Directors in September, 2009.

Hawkins has launched an ambitious agenda at DC Water that compliments a vast 10-year program to improve aging infrastructure and comply with ever more stringent regulatory requirements. DC Water is designing and implementing a \$2.6 billion program, the Clean Rivers Project, to nearly eliminate overflows of sewage and stormwater to the Anacostia, Potomac and Rock Creek. DC Water is also investing \$950 million to achieve the next level of nutrient reductions and help restore the Chesapeake Bay. In addition, DC Water is implementing a \$400 million digester program to help manage solids being removed from reclaimed water that will become the region's biggest source of renewable energy, reduce the volume of biosolids by almost half, and disinfect the biosolids to be clean enough to sell as fertilizer at retail stores. The digester project will be the first in North America to use the CAMBI treatment process, and the largest installation of CAMBI in the world. Finally, Hawkins has gained approval from the board of directors to triple the rate of DC Water's program to replace water and sewer infrastructure frequently installed generations ago.

Prior to joining DC Water, Hawkins served as director of the District Department of the Environment (DDOE), a \$110 million dollar agency with 300 employees. DDOE performs city, county and state environmental functions for the nation's capital. The agency is responsible for providing energy assistance to District residents; reviewing development applications for compliance with environmental requirements;

monitoring and enforcing air and water quality standards; regulating the use and disposal of toxic substances; preserving the District's natural habitat for fish and wildlife; and developing and implementing stormwater management regulations to minimize runoff pollution into District waterways.

George also served as Executive Director of New Jersey Future, a non-profit organization which, under his leadership, came to be recognized as the State's foremost advocacy promoting smart growth. He has also held senior positions with the EPA and served Vice President Al Gore on the National Performance Review, playing an integral role in streamlining and strengthening environmental protection programs at EPA and OSHA. He graduated Summa Cum Laude from Princeton University and Cum Laude from Harvard Law School.

Early Bird Reception

5:30 PM - 7:30 PM Grand Ballroom

Come get warmed up for the conference by enjoying lite fare and drinks with our valued exhibitors. Exhibitors are the life-line of our conference, so make sure you visit as many as you can! Sodas, beer and wine are complimentary. Cash bar for liquor available.

WEDNESDAY, AUGUST 31, 2011

5K "Engineers Without Borders" Fun-Run/Walk

7:30 AM Princess Bayside Lobby

Pre-Registration fee: \$25 (Pre-registration by 8/16/11); On-Site \$ 35. [Includes T-Shirt, prizes and donation to Engineers Without Borders (EWB)]

Presidents'/Chairs' Breakfast *(by invitation)*

7:30 AM - 9:00 AM Princess Bayside Augusta Room

Continental Breakfast

8:00 AM Grand Ballroom

Biosolids Beauty Contest

9:00 AM - 11:00 AM CWEA Table outside Exhibit Hall

Contact Pete Thomson at thomsonpj@bv.com for more information on your entry

WFP Silent Auction *(continued on Thursday)*

10:00 AM - 4:30 PM Tables by Escalators

Water For People Chesapeake will be conducting a silent auction on Wednesday, August 31 and Thursday, September 1. If interested in contributing items for the auction, please contact Michael Peterson at 301-362-5286 or michael.c.peterson@aec.com. All proceeds from the auction will go to Water For People in order to improve sanitation and water supply in developing communities.

Wednesday AM Break

10:30 AM - 11:00 AM Grand Ballroom

Lunch with Exhibitors

Noon - 1:15 PM Grand Ballroom

Food/Drinks/Door Prizes

4th Annual Operator's Challenge in Ocean City

1:30 PM - 6:00 PM Exhibit Hall B

Orientation 11:00 AM - Noon Room 217

Operation OC! - Day 1

The Operator's Challenge highlights important skills possessed by local operators and encourages teams to compete from around the region. This challenge is exciting for both the competitors and their audience as each team of six demonstrates excellence in the following events:

- Process Control: This event consists of an exam that includes multiple choice, short math, and operational scenario questions taken as a team.
- Laboratory: Teams will perform all steps of an E. coli membrane filtration analysis using Hach products.
- Pipe Cutting Shootout: Individuals will compete to see who can cut a piece of pipe the fastest.

Continued on Thursday...

This year the CWEA Collection Systems Committee is sponsoring a NASSCO, PACP training prior to the start of the Operations Challenge event. The training will occur on August 29th and 30th from 8:00 AM to 5:00 PM at the Comfort Inn Gold Coast (11201 Coastal Highway). For additional information please contact Kraig Moodie at kmoodie@flowav.com the Collection Systems Committee chair person.

Wednesday Afternoon Break

3:00 PM - 3:30 PM Grand Ballroom

Meet & Greet

5:00 PM - 6:00 PM Grand Ballroom

Take a break before Fun Night and visit more exhibitors! Sodas, beer and wine are complimentary. Cash liquor bar available.

Fun Night

7:00 PM - 11:00 PM Seacrets

Enjoy dinner and an evening on the beach at Seacrets in Ocean City. Appetizers and a full dinner will be served from 7:00 to 8:30 pm. Each person will receive two drink tickets, but the bars will be open all four hours. Remember to bring your name badge to use on the Ocean City buses for a ride back to your hotel at no charge. Note: Seacrets tickets must be purchased by Tuesday, August 30, 2011. No tickets will be sold at the door or on Wednesday at the conference.

THURSDAY, SEPTEMBER 1, 2011

Continental Breakfast

8:00 AM Grand Ballroom

4th Annual Operator's Challenge in Ocean City

9:00 AM - 5:00 PM Exhibit Hall B

Operation OC! - Day 2

The Operator's Challenge continues with Day 2's exciting events:

- Maintenance Event: This event tests the knowledge and skill of an O&M team to respond to separate and simultaneous "Moisture Reset" failure conditions for a submersible pump and a submersible mixer.

Continued on page 28

Conference Highlights

Continued from page 27

THURSDAY (Cont'd)

4th Annual Operator's Challenge (Cont'd)

- **Collection System Event:** This event simulates connecting a 4-inch PVC lateral sewer to an existing 8-inch PVC sewer pipe while in service, and the programming of an automatic sampler.
- **Safety Event:** Teams are required to perform a rescue after finding a coworker at the bottom of a simulated (confined space) manhole. Teams must set up a retrieval system, perform a permit required confined space entry, and remove the victim from the hole.

All Events and Scoring Follow WEF 2008 Guidelines

Break/Visit Exhibits

10:30 - 11 AM Grand Ballroom

Research Day

Room 203

We are proud to offer a full track of papers on Thursday that present the cutting edge of research affecting our industry today and tomorrow. Don't miss as students, professors, and colleagues bring their latest findings to our conference! Also, CWEA's Student Paper Award winner for 2011, Marielle Remillard, from Johns Hopkins University, will be presenting her findings on the Eco-Toxicity of Carbon Nanotubes, wrapping up this all-day research session.

Top OPS Challenge

3:00 PM - 5:30 PM Room 213

Fast action and fun characterize this annual competition as teams of water plant operators square off against each other. The quiz show format tests the understanding and quick thinking of operators as they answer challenging technical, regulatory and customer service questions. The room will be filled with the spirit of contest as the participants are cheered, judges are booed, and competitors vie for a chance to go to the National Top Ops Challenge at the National AWWA Conference in 2012. For more information contact Don Sprinkle or Anthony Rocco of Howard County Utilities, 410-313-4997.

WFP Silent Auction (continued from Wednesday)

10:00 AM - 4:30 PM Tables by Escalators

CSAWWA Luncheon & Section/AWWA Forum

12:30 PM - 3:00 PM Room 217

AWWA National Representative R. Lee Roberts

Treasurer (2008-2012), American Water Works Association

R. Lee Roberts has a long history of participation in AWWA, beginning in 1970 when he first became a member. He is currently the Treasurer, serving on the Board of Directors and the Executive Committee in that capacity.

Lee has served on four of the seven councils, the International Council (IC), the Manufacturers/Associates Council (MAC), the Technical and Educational Council (TEC), and the Water Utility Council (WUC), ending with a term as Chair of the IC. He has also served on the Publications Marketing Advisory Com-

mittee as Board liaison. He chairs one of the task groups for the Ad Hoc Committee on Organizing for the Future, and the Ad Hoc Committee on Risk Management, and serves as Vice-Chair of the Filter Media Standards Committee.

The fourth generation to lead his company, Lee holds more than two dozen patents on products for the water and wastewater industry and has authored numerous articles on filtration.

His international interests have led Lee to serve on the board of Water For People and as a WFP ambassador. He is on the board of the Pan American Association of Philadelphia and is a past director of the Latino Scholarship Fund. Lee is also a board member for the Police Athletic League of Philadelphia.

Lee holds a Bachelor's degree from Ursinus College and has completed graduate work in business, law, and engineering at the Wharton School, George Washington University and Penn State.

Lee and his wife Carol live in Chadds Ford, Pennsylvania.

CWEA Business Luncheon

12:30 PM - 2:15 PM Room 215

WEF National Representative Terry Krause

2010-2011 Board of Trustees, Water Environment Federation

Terry Krause is a member of the 2010-2011 Board of Trustees for the Water Environment Federation (WEF). Terry is currently a Vice President - Senior Program Manager and Principal Technologist in CH2M HILL's Global Water Group. He has over 35 years of experience in all aspects of wastewater treatment and collection systems. This experience ranges from preliminary studies through detailed engineering designs and construction related services. Projects have been performed both nationally and internationally, including alternative delivery approaches such as design-build.

A WEF member since 1976, Terry has held multiple leadership and committee roles within WEF. He has served on the House of Delegates and as a member of the Audit and Program, Committees as well as the Committee Leadership Council Steering Group. He was a Founder and Chair of the Municipal Wastewater Treatment Plant Design Committee and served as Chair and Vice-Chair of the Technical Practice Committee. Terry has also assisted in the development of numerous technical publications, including serving as Chairman of the Task Force charged with preparing the 5th Edition of WEF's flagship Manual of Practice, Design of Municipal Wastewater Treatment Plants. He has led task forces that reviewed and commented on the Ten States Standards and served as Committee Vice Chair overseeing development of the USEPA-funded Guide to Managing Peak Wet Weather Flows in Municipal Wastewater Collection and Treatment Systems. His other professional affiliations include the American Society of Civil Engineers and the American Water Works Association.

Terry is a registered professional engineer in Florida, Illinois, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin. He is also a Board Certified Environmental Engineer with the American Academy of Environmental Engineers. Terry received a B.S. in Civil and Environmental Engineering from the University of Wisconsin (Madison, Wis.) in 1974 and an M.S. in Civil Engineering from Northwestern University (Evanston, Ill.) in 1980.

WVWA Business Luncheon

12:30 PM - 2:15 PM Rooms 207-208

Break/Door Prize

4:00 PM - 4:30 PM Outside Rooms 201-206

An Evening of Awards and Fun!

5:45 PM - 8:00 PM Ballrooms 2 and 3

We are notching it up this year for our awards ceremony! Everyone is welcome to enjoy refreshments in the Ballroom and help recognize this year's award-winning members! We will have live music, food, and fun to celebrate the best of our organizations' leaders and supporters.

Meet and congratulate award winners while enjoying hot and cold hors d'oeuvres. Sodas, beer and wine are complimentary. Cash liquor bar available.

5:45 PM - 6:30 PM Cocktails: We will kick off the evening with networking and live music to get everyone warmed up.

6:30 PM - 7:30 PM Program: Our organizations have a number of prestigious awards to grant members who have demonstrated the very best of attributes that promote our missions. The following awards will be presented:

- CSAWWA: The George Warren Fuller Award, the Carl John Lauter Award, Outstanding Operator of the Year Award, Best Technical Paper Award, and the Horizon Award.
- CWEA: Public Officials Award, Gascoigne Wastewater Treatment Plant Operational Improvement Medal, Collection Systems Published Contributions Award, Outstanding Young Water Environment Professional Award, Past WEF Delegate
- WWOA: W. McLean Bingley Award for Wastewater Treatment, Distinguished Service Award in Wastewater Collection Systems, Distinguished Service Award for Water Treatment, Distinguished Service Award for Laboratories

We will also introduce each Association's incoming section officers.

Reception

7:30 PM - 8:00 PM

YP Social

8:00 PM - 9:00 PM

After the formalities have ended, the fun seamlessly continues as we let loose, and enjoy the camaraderie of the YP Social! Live music continues until 9pm, and all are welcome to meet and greet with our future leaders!

Presidents'/Chairs' Reception (by invitation)

9:00 PM - 11:00 PM Princess Bayside Augusta Room

FRIDAY, SEPTEMBER 2, 2011

Continental Breakfast

8:00 AM Outside Rooms 201-206

Adjourn/Monster Door Prizes

11:30 AM Registration Desk

CSAWWA Board Meeting & Luncheon

Noon - 2:00 PM Room 210

CWEA Board Meeting & Luncheon

Noon - 2:00 PM Room 213

WWOA Board Meeting & Luncheon

Noon - 2:00 PM Room 207

2011 Tri-Association Conference Sessions

WEDNESDAY—TECHNICAL SESSIONS

Room 201 - Collections Systems

9:00AM-9:30AM

Taking a Cost Effective Approach to Assessing the Condition of the City of Virginia Beach's Force Mains

Peter Oram - AECOM peter.oram@aecom.com

Andrew Clothier - AECOM

Andrew Kubek - City of Virginia Beach

Don Piron - AECOM

9:30AM-10:00AM

Work Order Planning for Wastewater Force Main Condition Assessment

Paul Wilson - Brown and Caldwell, Inc.
pwilson@brwncald.com

Phil Hubbard - Hampton Roads Sanitation District

Mark Harber - Brown and Caldwell, Inc.

Chris Wilson - Brown and Caldwell, Inc.

10:00AM-10:30PM

DC Clean Sewers Pilot Project 1

Hiram Tanner - DC Water htannerjr@dcwater.com

11:00AM-11:30PM

Using a Hydraulic Model to Develop an Action Plan for Wet Weather and Future Growth

Laura Siemers - GHD, Inc. laura.siemers@ghd.com

David Kerr - GHD, Inc.

Matt Lapinsky - City of Aberdeen

11:30AM-12:00PM

Modeling Portsmouth's Vacuum Assisted Collection System

Richard Underhill - Greeley and Hansen, LLC

runderhill@greeley-hansen.com

Frank Wilson - Portsmouth Utilities Field Operations Manager

1:30PM-2:00PM

Rock Creek Sewer Separation and Water Main Replace for CSO-031, 037, 053 and 058

Neil Cavanagh - Bryant Associates, Inc.

ncavanagh@bryant-engrs.com

Deidre Saunders - DC Water

Robert Richards - Bryant Associates, Inc.

Michael Thorstenson - Greeley and Hansen, LLC

Continued on page 30

Conference Sessions

Continued from page 29

WEDNESDAY (Cont'd)

2:00PM-2:30PM

There Doesn't Need to Be Pain to Make Gains: Baltimore's Risk-Based Approach to SSO Elimination

Jeffrey Pelletier - CDM pelletierjs@cdm.com
Michael Sevenser - KCI Technologies, Inc.
Harshad Shetye - KCI Technologies, Inc.
Wazir Qadri - City of Baltimore, Department of Public Works

2:30PM-3:00PM

Small Town, Big Problem, Systematic Solution

David Kerr - GHD, Inc. david.kerr@ghd.com
David Fauber - Town of Cape Charles

3:30PM-4:00PM

CSO In-Line Storage Dynamic Control: An Alternative Approach

Dana Pizarro - O'Brien and Gere Engineers, Inc.
dana.pizarro@obg.com

4:00PM-4:30PM

Approaches for Upgrading Septic Systems to Public Sewers in a Historic Area

Stephen Clark - CDM clarksa@cdm.com
Daniel Gilroy - CDM
Kenneth Dixon - Washington Suburban Sanitary Commission

4:30PM-5:00PM

Sustainable Alternative to Septic Systems in Public Parks: Pocomoke River State Park - Shad Landing Area, Worcester County, Maryland

Rizwan Siddiqi - EBA Engineering, Inc.
rizwan@ebaengineering.com
Room 202 - Water Distribution and Water Quality

9:00AM-9:30AM

Farm to Tap: Implementation of Sustainable Solutions to Protect Wilmington's Source Water

Matthew Miller - City of Wilmington
mmiller@wilmingtonde.gov

9:30AM-10:00AM

PCCP Condition Assessment – A Little Bit Goes a Long Way

Jonathan Watts - Pure Technologies US Inc.
jonathan.watts@puretechltd.com
Ilene Lish - City of Rockville, Department of Public Works

10:00AM-10:30AM

U.S. EPA Adds Contaminants, Analytical Methods, and Enhanced Search Capabilities to WCIT, the Online Water Security Database

Karen Milam - US Environmental Protection Agency
milam.karen@epa.gov

11:00AM-11:30AM

The Realities of Regulatory Compliance in a Dual-Supply System

Aaron Duke - Hazen and Sawyer, PC
aduke@hazenandsawyer.com
Gregg Bates - Harford County DPW, Division of Water and Sewer

11:30AM-12:00PM

Water Quality Modeling – Practical Applications for Public Water Supplies

Matthew Warfel - ARRO Consulting, Inc.
matthew.warfel@thearrogroup.com
Ran Liu - ARRO Consulting, Inc.

1:30PM-2:00PM

Review of New Lead Standards for Drinking Water Products

Jeremy Brown - NSF International brown@nsf.org

2:00PM-2:30PM

Legionnaires Disease: Minimize the Concern

David Smith - RK&K dsmith@rkk.com

2:30PM-3:00PM

Health Assessment for DC Water's Small Mains

John Wujek - Hatch Mott MacDonald
john.wujek@hatchmott.com
David Wall - DC Water
Damion Lampley - DC Water

3:30PM-4:00PM

The DMOM Theorem; Distribution System Metrics for Operations and Maintenance

Dave Lewis - Wachs Water Services
npraner@wachsws.com

4:00PM-4:30PM

Alternative Materials and Technologies Study for the Rehabilitation of DC Water's Small Diameter Water Mains

Gert Van der Walt - Hatch Mott MacDonald
gert.vanderwalt@hatchmott.com
John Wujek - Hatch Mott MacDonald
Jessica Demoise - DC Water

4:30PM-5:00PM

The Value of Qualified Third-Party Inspection During Coating Projects

Christine Gunsallus - Mumford-Bjorkman Associates
christine@mbatanks.com

Room 203 - Water Treatment

9:00AM-9:30AM

Optimized Ultraviolet Disinfection Systems Design and Operation for Wastewater Treatment Facilities

Carl McDonald - Trojan Technologies cmcdonald@trojanuv.com

9:30AM-10:00AM

Arsenic Removal System Proves Effective after First Year of Operation

Daniel Cargnel - Buchart Horn, Inc. dcargnel@bh-ba.com

10:00AM-10:30AM

Planning for the Future and Design Considerations for Treating Endocrine Disrupting Compounds using Ozone

Korkud Egrican - CH2M HILL
korkud.egrican@ch2m.com
Glenn Palen - CH2M HILL

11:00AM-11:30PM

Future Trends in Membrane Technology and the Impacts to Mid-Atlantic Water Utilities

Paul Delphos - Black & Veatch Corporation
DelphosP@bv.com

11:30AM-12:00PM

A Pilot Study on Fouling of Low Pressure Membranes by Natural Organic Matter

Chandra Mysore - GHD, Inc.
chandra.mysore@ghd.com

Room 203 - Stormwater

1:30PM-2:00PM

Municipal Stormwater: The New Regulatory Environment

Christopher Pomeroy - AquaLaw chris@aqualaw.com
Lisa Ochsenhirt - AquaLaw

2:00PM-2:30PM

Comprehensive Watershed Planning for Nutrient Reduction in Ellerbe Creek, City of Durham, North Carolina

Mike Fowler - Brown and Caldwell, Inc.
mfowler@brwncald.com

2:30PM-3:00PM

Stormwater Source Control Retrofits to Address Combined Sewer Overflows in New York City

Matthew Jones - Hazen and Sawyer, PC
mjones@hazenandsawyer.com
Julie Stein - Bureau of Environmental Planning and Analysis, NYCDEP
John McLaughlin - Bureau of Environmental Planning and Analysis, NYCDEP
Sandeep Mehrotra - Hazen and Sawyer, PC
William Leo - HydroQual, Inc.

3:30PM-4:00PM

Regional Stormwater Planning for the Department of the Navy's Compliance with the Chesapeake Bay TMDL

Jane McDonough - AECOM jane.mcdonough@aecom.com

4:00PM-4:30PM

Use of the BMP Optimization Model to Cost Effectively Estimate Non-Point Source Pollutant Loads and Select BMPs to Meet TMDL Load Reduction Requirements

Jeff Herr, P.E., D.WRE - Brown and Caldwell, Inc.
jherr@brwncald.com

4:30PM-5:00PM

Hydraulic and Hydrologic Modeling for Green Stormwater Practices

Sandeep Mehrotra - Hazen and Sawyer, PC
smehrotra@hazenandsawyer.com
Jim Garin - NYCDEP
Nick Barbaro - NYCDEP
Dana Gumb - NYCDEP
Matthew Jones - Hazen and Sawyer, PC

Room 204 - Wastewater Treatment

9:00AM-9:30AM

Out With the Old, In With the New: Design of a Central Wastewater System for the Community of Benedict, MD

Paul Deardorff - Johnson, Mirmiran & Thompson
pdeardorff@jmt.com
Ben Asavakarin - Johnson, Mirmiran and Thompson
John Stevens - Charles County
Charles Strawberry - Charles County

9:30AM-10:00AM

Not Your Daddy's Wastewater Treatment Plant - The Johns Creek Environmental Campus

Peter Schuler - Brown and Caldwell, Inc.
pschuler@brwncald.com

10:00AM-10:30PM

Being a Good Neighbor: Construction of an MBR Plant to Improve Community Relations

Kelly Spivey - Johnson, Mirmiran and Thompson
kspivey@jmt.com
John Ross - Worcester County Department of Public Works

11:00AM-11:30PM

Calibration of a Complex Hydraulic Profile - Blue Plains Secondary Reactors

Blair Wisdom - Black & Veatch Corp. wisdomb@bv.com
Peter Thomson - Black & Veatch Corporation
Randy Ashburn - Black & Veatch Corporation
Salil Kharkar - DC Water
Nick Passarelli - DC Water

11:30AM-12:00PM

Minimizing Energy Use to Maximize Savings: A Case Study of a High-Level Energy Audit at Hampton Roads Sanitation District, Virginia Initiative Plant.

Jennifer Shore - HDR Engineering Inc.
jennifer.shore@hdrinc.com
Sami Ghosen - Hampton Roads Sanitation District

Room 204 - Biosolids

1:30PM-2:00PM

Co-combustion of Municipal Solid Waste and Sewage Sludge in a Modern Waste-To-Energy Facility

Robin Davidov - Northeast Maryland Waste Disposal Authority rdavidov@nmwda.org

2:00PM-2:30PM

From Grease to Green: FOG Receiving, Co-Digestion and Combined Heat and Power Generation at the Henrico County, VA Water Reclamation Facility

Matthew VanHorne - Hazen and Sawyer, PC
mvanhorne@hazenandsawyer.com
James Grandstaff - Henrico County WRF
Michael Chapman - Henrico County WRF
Alan Stone - Hazen and Sawyer, PC
C. Bullard - Hazen and Sawyer, PC
Dan Peplinski - Hazen and Sawyer, PC
Hunter Long - Hazen and Sawyer, PC

2:30PM-3:00PM

Improved Brown Grease Handling and Processing for DC Water's Future - the Benefits are Significant

Akshay Kumar - Brown and Caldwell, Inc.
akumar@brwncald.com
Perry Schafer - Brown and Caldwell, Inc.
Phil Braswell - Brown and Caldwell, Inc.
Sudhir Murthy - DC Water
Chris Peot - DC Water

3:30PM-4:00PM

Class A Technologies for Smaller Generators

Robert Pepperman - Synagro
rpepperman@synagro.com

4:00PM-4:30PM

Turning Biosolids into Green Energy - WSSC's Biosolids Master Plan

Robert Taylor - Washington Suburban Sanitary Commission
rtaylor@wsscwater.com
Grant Davies - AECOM
Beverley Stinson - AECOM

4:30PM-5:00PM

Three Procurement Methods Used to Deliver DC Water's \$300M+ Biosolids Program

Lisa Reynolds - Brown and Caldwell, Inc.
lreynolds@brwncald.com
Philip Braswell - Brown and Caldwell, Inc.
Joseph Sullivan - Hawkins Delafield and Wood
John Carr - DC Water

Room 205 - Utility Management

9:00AM-9:30AM

"Aww Crap - Now What!?" Communicating in a Crisis.

Jeff Chatterton - Checkmate Public Affairs
chatterton@checkmatepublicaffairs.com

9:30AM-10:00AM

Climate Ready Water Utilities: Helping Build Climate Resilience in the Water Sector

John Whitley - US Environmental Protection Agency
Whitley.John@epa.gov

Continued on page 32

Conference Sessions

Continued from page 31

WEDNESDAY (Cont'd)

10:00AM-10:30AM

Risk Assessment/Consequence Analysis Tools and Utility Management

John DeGour - US Environmental Protection Agency
degour.john@epa.gov

11:00AM-11:30PM

Wet Utilities - Military Base Privatization Challenges at Andrews Air Force Base

Craig Benson - O'Brien and Gere Engineers, Inc. craig.benson@obg.com

Walid Halboni - Terrapin Utilities

Greg Booker - Terrapin Utilities

11:30AM-12:00PM

Department of Defense Utility Privatization: A Report from the Front Lines

Dan Tobocman - American Water - Military Services Group
dan.tobocman@amwater.com

Kevin McCormick - American Water - Military Services Group

Jeff DeRusso - American Water - Military Services Group

Adam Zimmerman - American Water - Military Services Group

1:30PM-2:00PM

Addition by Subtraction: Development of a Water Loss Reduction Plan for WSSC

Paul Deardorff - Johnson, Mirmiran and Thompson
pdeardorff@jmt.com

Ben Asavakarin - Johnson, Mirmiran and Thompson

Julie Trick - Johnson, Mirmiran and Thompson

Craig Fricke - Washington Suburban Sanitary Commission

2:00PM-2:30PM

Regional Drought Management Planning for Multiple Water Supply Sources

Thomas Dumm - O'Brien and Gere Engineers, Inc.
thomas.dumm@obg.com

George Rest - O'Brien and Gere Engineers, Inc.

2:30PM-3:00PM

Developing WSSC's Greenhouse Gas Action Plan

Scott Weikert - CH2M HILL scott.weikert@ch2m.com

Rob Taylor - Washington Suburban Sanitary Commission

3:30PM-4:00PM

Planning for Critical Data Systems - SCADA and Technology Master Planning

Dean Foote - Westin Engineering, Inc. deanlewis147@hotmail.com

4:00PM-4:30PM

Implementation and Experience with Enterprise Asset Management Software

Joel Thompson - Fairfax Water rjthompson@fairfaxwater.org

Jeff Smith - Fairfax Water

4:30PM-5:00PM

Making the Most of Limited Resources: Development of an Asset Management Plan for the Piscataway Wastewater Treatment Plant of the WSSC

Mert Muftugil - GHD, Inc. mert.muftugil@ghd.com

Gage Muckleroy - GHD, Inc.

Dale Belschner - Washington Suburban Sanitary Commission

John Stullken - GHD, Inc.

Charles Card - Washington Suburban Sanitary Commission

Room 206 - Process

9:00AM-10:00AM

Using a Local Industrial Wastewater as a Denite C Source

Steve Kim - Genesis Environmental Technologies, Inc.
genesisenvironmental@comcast.net

Kenneth Bradstreet - AECOM

Terry Smith - Department of Public Utilities, Town of Wallingford, CT

Steve Kim - Genesis Environmental Technologies, Inc.

Thomas Wilson - TEW Environmental Engineers

11:00AM-12:00PM

What Can ANAMMOX Deammonification Do for You? An Overview of the Pros and Cons of Various Side-stream Deammonification Facilities (Suspended, Attached and Granular Processes) and Discuss the Potential to Successfully Implement Main-stream Anammox

Beverly Stinson - AECOM Beverly.Stinson@aecom.com

1:30PM-2:30PM

Operation of a Three Sludge Biological Nutrient Removal Process to Achieve Limit of Technology in Effluent Nitrogen at the Western Branch WWTP

Nikhil Shirodkar - Washington Suburban Sanitary Commission
nshirod@wsscwater.com

3:30PM-4:30PM

Enhanced Nutrient Removal Upgrade of the Winebrenner WWTP Using BioMag™ Technology

Kevin Nash - RK&K kevin.w.nash@gmail.com

Robert Andryszak - RK&K

Kelly Duffy - RK&K

Jeff Culton - Buchart Horn Inc.

Julie Pippel - Washington County Department of Environmental Management

THURSDAY—TECHNICAL SESSIONS

Room 201 - Collection Systems

9:00AM-9:30AM

Development and Application of a Wastewater Buried Asset Management Plan

Christopher Weaver - GHD, Inc. chris.weaver@ghd.com

Calvin Farr - Washington Suburban Sanitary Commission

9:30AM-10:00AM

The Evolution of Collection System Mapping within DCWater

Aaron Hughes - Greeley and Hansen, LLC
ahughes@greeley-hansen.com

Barry Lucas - DCWater

Michael Thorstenson - Greeley and Hansen, LLC

10:00AM-10:30AM

Interceptor System SCADA in the 21st Century: Planning System Optimization for the Hampton Roads Sanitation District

Terry Draper - Westin Engineering, Inc.
terry.draper@we-inc.com

11:00AM-11:30AM

Categorizing WSSC's Pump Station Capacities

Srinivasa Gadiparthi - CDM gadiparthi@cdm.com

11:30AM-12:00PM

Challenges and Successes in Developing and Managing a Wastewater Force Main Inspection and Assessment Program

Paul Sayan - EA Engineering, Science & Technology, Inc.
psayan@eaest.com

Thomas Kiefer - Baltimore County Department of Public Works

12:00PM-12:30PM

Sewer Cleaning Effectiveness – Increasing Productivity while Reducing Cost

Paul Batman - Malcolm Pirnie, The Water Division of
ARCADIS pbatman@pirnie.com

2:30PM-3:00PM

NASSCO Updates – Moving Manhole Inspections to the Next Level

Ted DeBoda - NASSCO, Inc. director@nassco.org

3:00PM-3:30PM

Iterative Modeling for Alternatives Evaluation and A Screen Process for Recommendations

Lu Zhang - RJN Group, Inc. lzhang@rjn.com

3:30PM-4:00PM

Modeling for Level of Service Determination

John Gresh - RJN Group, Inc. jgresh@rjn.com

Lu Zhang - RJN Group, Inc.

Kevin Penozo - New Castle County Department of Special Services

Jason Zern - New Castle County Department of Special Services

4:30PM-5:00PM

Advancing Urban Flood Mapping: Application of 2-Dimensional Surface Flow Model to Support Flood Management in Urban Settings

Eric Harold - Malcolm Pirnie, The Water Division of
ARCADIS eric.harold@arcadis-us.com

Paul Bahs - Malcolm Pirnie, The Water Division of
ARCADIS

5:00PM-5:30PM

Rehabilitation Effectiveness – Using Flow Meter Data to Determine Rehabilitation Rainfall Derived Infiltration and Inflow Reductions

John Travis - Malcolm Pirnie, The Water Division of
ARCADIS johnpaul.travis@arcadis-us.com

Room 202 - Water Distribution and Water Quality

9:00AM-9:30AM

Considerations for the Design of HDPE Pressure Pipe

Ahmad Habibian - Black & Veatch Corporation
habibiana@bv.com

9:30AM-10:00AM

Cathodic Protection & Environmental Applications for Horizontal Directional Drilling (HDD)

Donald Conrad - Corrpro Companies, Inc.
dconrad@corrpro.com

10:00AM-10:30AM

Ten Times In Ten Years: Design and Construction of Critical Water Transmission Main Relocation Tie-ins

Tom Wilson - Greeley and Hansen, LLC
twilson@greeley-hansen.com

11:00AM-11:30PM

Ecological Restoration Pilot Projects to Improve Water Quality in Jamaica Bay, New York City

Edward Weinberg - O'Brien and Gere Engineers, Inc.
Ed.Weinberg@obg.com

John McLaughlin - NYCDEP

Robert Will - NYCDEP

Sandeep Mehrotra - Hazen and Sawyer, PC

William Leo -Hydroqual, Inc.

Tim Burkett - Biohabitats, Inc.

11:30AM-12:00PM

Chemically Enhanced Sustainable Phosphate Recovery Technology to Improve Water Quality

Edward Weinberg - O'Brien and Gere Engineers, Inc.
Ed.Weinberg@obg.com

Priya Heerwani - O'Brien and Gere Engineers, Inc.

12:00PM-12:30PM

Utilizing Ultraviolet Light in Water Reclamation/Reuse

Patrick Bollman - Engineered Treatment Systems (ETS),
LLC pbollman@ets-uv.com

2:30PM-3:00PM

Construction Challenges at the Montebello Plant 2 Finished Water Reservoir

Karen Moran - Whitman, Requardt & Associates, LLP
kmoran@wrallp.com

Brian Gresehover - Whitman, Requardt & Associates, LLP

Larisa Feldsher - City of Baltimore Water Facilities Engineering

Remi Urbonas - City of Baltimore Water Facilities Engineering

3:00PM-3:30PM

50-Year Old Water Storage Tank – To Rehab or Not To Rehab?

Christopher Weaver - GHD, Inc.
chris.weaver@ghd.com

Jeff Sturdevant - GHD, Inc.

Lachelle McKay - Leonardtown

3:30PM-4:00PM

Environmentally Friendly Tank Recoating Project

Tim Davis - Tank Industry Consultants
davis@tankindustry.com

4:30PM-5:00PM

Mission Impossible? Siting Elevated Water Storage on a National Historic Landmark

Dominic Tiburzi - Whitman, Requardt & Associates, LLP
dtiburzi@wrallp.com

Christopher Morrison - Cunningham Quill Architects

Roger Gans - DC Water

5:00PM-5:30PM

DC Water's Outreach Strategy for Upcoming Pressure Increases: A Case Study

Gary Geck - Hatch Mott MacDonald gary.geck@rcn.com
Getachew Melsew - DC Water

Room 203 - Research

9:00AM-9:30AM

Achieving Very Stringent Nutrient Discharge Limits at the ECI Wastewater Treatment Plant

Tiffany Witwer - Hazen and Sawyer, PC
twitwer@hazenandsawyer.com

Brian Reed - University of Maryland - Baltimore County

Mohamed Mohamed - MES

Duane Wilding - MES

Ellen Frketic -MES

9:30AM-10:00AM

Optimization of Denitrifying Filters using a Dynamic Modeling Tool at Northwest Valley Water Reclamation Facility

Yanjin Liu - American Water yanjin.liu@amwater.com

Continued on page 34

Conference Sessions

Continued from page 33

THURSDAY (Cont'd)

10:00AM-10:30AM

Pilot Testing of Odor Control Systems for Difficult Odors at Three HRSD Treatment Plants

Brian Balchunas - Atkins
brian.balchunas@atkinsglobal.com

11:00AM-11:30PM

Understanding Extreme Weather Impacts on Infrastructure Integrity, Operations and Maintenance, and Water Quality

Ben Wright - Hazen and Sawyer, PC
wright_b_a@yahoo.com
Ben Stanford - Hazen and Sawyer, PC
Jan Routt - Jan Routt & Associates, LLC
Jean Debroux - Kennedy/Jenks Consultants
Stuart Khan - University of New South Wales

11:30AM-12:00PM

Review of the Potential for Lead Release Following Partial Lead Service Line Replacements

Greg Welter - O'Brien and Gere Engineers, Inc.
Greg.Welter@obg.com
Abigail Cantor - Process Research Solutions, LLC
Daniel Giammar - Washington University at St. Louis

12:00PM-12:30PM

Determination of Increased Brominated Trihalomethanes Resulting from Gas Drilling Water Discharge

Nicholas Rossi - Penn State University
nrossi82@yahoo.com

2:30PM-3:00PM

Removal of Perchlorate at Low Concentrations from Water using Perchlorate-Selective Membrane

Po-Yen Wang - University of Delaware
pywang@udel.edu
C. P. Huang - University of Delaware

3:00PM-3:30PM

The Removal of Hazardous Chemicals from Water Using Solar-energy Driving Nitrogen-doped TiO₂ Thin Films

Yen-Ping Peng - University of Delaware
yppeng@udel.edu
Yunta Yeh - University of Delaware
Emre Yassitepe - University of Delaware
Ismat Shah - University of Delaware
C. P. Huang - University of Delaware

3:30PM-4:00PM

The Treatment of Ammunition Wastewater by US-Fenton Process

Yangang Li - University of Delaware yangang@udel.edu
Wenpin Hsieh - University of Delaware
Rovshan Mahmudov - University of Delaware
Brian Hubbard - US Army
Donald Yee - US Army

4:30PM-5:00PM

Small but Deadly? On the Eco-Toxicity of Carbon Nanotubes

Marielle Remillard - Johns Hopkins University
marielle.remillard@gmail.com

Room 204 - Wastewater Treatment

9:00AM-9:30AM

WWTP Renovation to Nutrient Removal on a Small Site

Mark Prouty - URS Corporation
mark_prouty@urscorp.com

9:30AM-10:00AM

Joppatowne Wastewater Treatment Plant Enhanced Nutrient Removal Upgrade

James Havey - Hatch Mott MacDonald
James.Havey@hatchmott.com
David Pergrin - Harford County DPW

11:00AM-11:30AM

Real Time Dissolved Oxygen Control Based On Estimating Oxygen Uptake Rate

Allen Twiford - BioChem Technology Inc.
rockyhollowus@yahoo.com
Matthew Gray - BioChem Technology Inc.

11:30AM-12:00PM

Disinfection Utilizing an Innovative Microwave UV System - Construction and Performance Update

Daniel String - Green Stone Engineering, LLC
dstring@greenstone-eng.com

12:00PM-12:30PM

The First Municipal Application of a Microwave-Energized Ultraviolet (UV) Disinfection System to a Sequencing Batch Reactor (SBR) Process in the United States

Phillip Brath - ARRO Consulting, Inc.
phillip.brath@thearrogroup.com
Matthew Warfel - ARRO Consulting, Inc.
Peng Chen - ARRO Consulting, Inc.

2:30PM-3:00PM

Operational Strategies and Innovative Techniques for handling High Phosphorus and Solids Loading within an Enhanced Nutrient Removal Plant

Edward Talbot - O'Brien and Gere Engineers, Inc.
talboter@obg.com

3:00PM-3:30PM

Development of Full-Scale Design Criteria from Pilot Testing of Four Tertiary Phosphorus Removal Processes to Achieve Ultra-Low Phosphorus Limits

Christine deBarbadillo - Black & Veatch Corporation
debarbadilloc@bv.com

3:30PM-4:00PM

Technology Evaluation and Membrane Pilot Study to Achieve Low-Level Phosphorus Limits for Barrie, Ontario

Kristi Perri - GHD, Inc. Kristi.Perri@ghd.com
Rip Copithorn - GHD, Inc.
Thor Young - GHD, Inc.
Grame King - City of Barrie

4:30PM-5:00PM

Process Modeling for a Comparison of Sludge Dewatering Sidestream Treatment Alternatives for a Large Municipal Wastewater Treatment Facility

Morton Orentlicher - ThermoEnergy corp
morent@att.net
Gary Grey - HydroQual Corp

5:00PM-5:30PM

Innovative Landfill Leachate Treatment Processing

Curtis Miller - EA Engineering, Science, and Technology, Inc.
cmiller@eaest.com

Room 205 - Utility Management

9:00AM-9:30AM

Strategic Planning for Energy Management – from Concept to Reality

Peter Thomson - Black & Veatch Corporation
thomsonpj@bv.com
Paul Kohl - Philadelphia Water Department
Steve Tarallo - Black & Veatch Corporation
Adrinne Nikolic - Black & Veatch Corporation

9:30AM-10:00AM

Chicago's Award Winning 1MW Photovoltaic System

Norbert Viranyi - Greeley and Hansen, LLC
nviranyi@greeley-hansen.com

10:00AM-10:30AM

Energy Management - Towards Energy Neutral Wastewater Treatment

Stephen Tarallo - Black & Veatch Corporation
tarallos@bv.com
Lauren Fillmore - Water Environment Research Foundation
Lori Stone - Black & Veatch Corporation

11:00AM-11:30AM

The Paradigm Shift: Wastewater Plants to Resource Plants!

Robert Wimmer - Black & Veatch Corporation
wimmerb@bv.com
Chris deBarbadillo - Black & Veatch Corporation
Cindy Wallis-Lage - Black & Veatch Corporation
Andrew Shaw - Black & Veatch Corporation
Stephen Tarallo - Black & Veatch Corporation

11:30AM-12:00PM

Security for SCADA and Control Systems: A post Stuxnet View

Jacob Brodsky - Washington Suburban Sanitary Commission
jbrodsk@wsscwater.com

12:00PM-12:30PM

Charles County Tackles Utility Business Challenges with Integrated Approach to Technology

William Lloyd - Westin Engineering, Inc.
bill.lloyd@we-inc.com
William Shreve - Charles County Department of Public Works

2:30PM-3:00PM

Doing More with Less: Using Asset Management Principles for Top-Level Facility Planning

Michael Oppelt - GHD, Inc. michael.oppelt@ghd.com
Thor Young - GHD, Inc.
John Stulken - GHD, Inc.
Jacqueline Ludwig - Harford County DPW
Dave Pergrin - Harford County DPW

3:00PM-3:30PM

How Much Do You Really Know? Using Inspection Data to Better Understand How Wastewater Buried Assets Fail

David Kerr - GHD, Inc. david.kerr@ghd.com
Chris Weaver - GHD, Inc.
Gage Muckleroy - GHD, Inc.

3:30PM-4:00PM

How the Prince William County Service Authority IT Master Plan Review Supports Effective Asset Management

Bryan Oldham - MWH
Bryan.K.Oldham@us.mwhglobal.com

4:30PM-5:00PM

Utility Assets Management - Municipal Water Storage Tanks

Erica Whorley - Heery International, Inc.
ewhorley@heery.com

5:00PM-5:30PM

The Future of Wet Weather Treatment at Wastewater Treatment Plants - Between a Rock and a Hard Place

Lawrence Jaworski - Brown and Caldwell, Inc., Inc.
ljaworski@brwncald.com

Room 206 - Process (6 @ 1 hour)

9:00AM-10:00AM

Maximizing Direct Filtration Performance - Achieving AWWA Partnership for Safe Water Goals

Kevin Castro - GHD, Inc. kevin.castro@ghd.com

11:00AM-12:00PM

Clearing Things Up: Client Workshops and Basis of Design Process Flow Diagrams - Manasquan Surface Water Treatment Plant - NJ Water

Ramkripa Natarajan - O'Brien and Gere Engineers, Inc.
ram.natarajan@obg.com
Narayan Venkatesan - O'Brien and Gere Engineers, Inc.
Craig Benson - O'Brien and Gere Engineers, Inc.

Room 206 - Water Treatment

2:30PM-3:00PM

10 MGD at \$1.5 Per Gallon - Planning or Expansion to Control Costs - The Crofton Meadows Ground Water Treatment Plant

Narayan Venkatesan - O'Brien and Gere Engineers, Inc.
narayan.venkatesan@obg.com
Craig Benson - O'Brien and Gere Engineers, Inc.

3:00PM-3:30PM

Intake Replacement and Sediment Management at GUC's Tar River Water Intake

Robert Teem - Brown and Caldwell, Inc.
rteem@brwncald.com

3:30PM-4:00PM

Replacing and Upgrading One of the Oldest Reverse Osmosis Desalination Plants on the East Coast (ECI, Maryland)

Ben Movahed - WATEK Engineering
movahed@watek.com

4:30PM-5:00PM

Use of Advanced Oxidation Processes to Reduce Drinking Water Taste and Odor

Jamie Shambaugh - Gannett Fleming, Inc.
jshambaugh@gfnet.com
Michael Youshock - American Water

Continued on page 36

Conference Sessions

Continued from page 35

THURSDAY (Cont'd)

5:00PM-5:30PM

Installation of Granular Activated Carbon to Manage a Trace Organic Compound at Multiple Existing Public Waterworks

Christopher Curran - URS Corporation
chris_curran@urscorp.com
Christopher Walker - URS Corporation

FRIDAY—TECHNICAL SESSIONS

Room 201 - Collection Systems

9:30AM-10:00AM

Odor Abatement in the Potomac Interceptor: A Saga of Good Intentions, Hard Knocks and Lessons Learned

James (J.D.) Benoit - Black & Veatch Corporation
benoitjd2@bv.com
Barry Lucas - DC Water
Steven Bian - DC Water

10:00AM-10:30AM

Maintaining the Potomac Interceptor: Pushing the Sipliner Envelope

Jim Sillers - Greeley and Hansen, LLC
jsillers@greeley-hansen.com
Barry Lucas - DC Water

10:30AM-11:00AM

Crossing the Line - Secrets to a Successful Private-side Lateral Rehab Program

Jim Shelton - Malcolm Pirnie, The Water Division of
ARCADIS jshelton@pirnie.com

11:00AM-11:30AM

Fast-track Implementation of a Low-cost Equalization System at the Lehigh County Authority's Industrial Waste Pre-Treatment Facility

Philip McLachlan - Malcolm Pirnie, The Water Division of
ARCADIS, the Water Division of ARCADIS
philip.mclachlan@arcadis-us.com
Charles Hurst - Malcolm Pirnie, The Water Division of
ARCADIS

Room 202 - Water Distribution and Water Quality

9:30AM-10:00AM

Distribution System Sustainability; Mitigating Risk through Asset Reliability and Operational Intelligence

Dave Lewis - Wachs Water Services
npraner@wachsws.com

10:00AM-10:30AM

Managing Baltimore's Infrastructure

Tim Wolfe - KCI Technologies, Inc. twolfe@kci.com

10:30AM-11:00AM

A Comparison of Two Methods of Condition Assessment Used on a Major Water Main - Lessons learned

Essey Woldemariam - DC Water
ewoldemariam@dcwater.com
Getachew Melsew - DC Water

11:00AM-11:30AM

US Route 29 Tunnel

Susan Donnally - O'Brien and Gere Engineers, Inc.
susan.donnally@obg.com
Daniel Davis - Howard County Department of Public Works

Room 203 - Water Reuse

9:30AM-10:00AM

Swimming Against the Current: Water Reuse in Water Rich Regions

Matthew VanHorne - Hazen and Sawyer, PC
mvanhorne@hazenandsawyer.com
Richard Cisterna - Hazen and Sawyer, PC

10:00AM-10:30AM

Expanded Water Reuse Facility for New Energy Project in Charles County, MD

Craig Benson - O'Brien and Gere Engineers, Inc.
craig.benson@obg.com

10:30AM-11:00AM

Stimulus Funded Design-Build Water Reuse Project

Laurel Xiao - AECOM laurel.xiao@aecom.com
Carl Lay - AECOM
Jeff Chapin - Dewberry
Renso Gasparotto - Greeley and Hansen, LLC
Sarah Motsch - Fairfax County

11:00AM-11:30AM

Potable Reuse ASR: Results of National Review and Potential for Chesapeake Region

Cat Shrier - Ph.D., P.G., Watercat Consulting LLC
cat@watercatconsulting.com

Room 204 - Wastewater Treatment

9:30AM-10:00AM

Retrofitting Existing Conventional Gravity Sand Filters with Cloth Media Filters - Increasing Effluent Filtration Capacity without Adding Tankage

Laura Knox - O'Brien and Gere Engineers, Inc.
laura.knox@obg.com

10:00AM-10:30AM

Implementation and Start-up of a Deep Bed Denitrification Filter to Meet 2011 Effluent Nutrient Permit Limits

Scott Phipps - Malcolm Pirnie, Water Division of ARCADIS
Scott.Phipps@arcadis-us.com

10:30AM-11:00AM

ENR Process Startup and Optimization at the Hagerstown: WWTP Challenges for Achieving Compliance with ENR Discharge Limits

Robert Rectanus - Black & Veatch Corporation
rectanusrj@bv.com
Donald Barton - City of Hagerstown

11:00AM-11:30AM

Trickling Filters, Anoxic Reactors, and Aerobic Reactors: Can We Shake Them All Up to Achieve BNR?

Kevin Frank, AECOM kevin.frank@aecom.com
Yuefeng Xie - Penn State Harrisburg
Ronald Jager - Gannett Fleming, Inc.

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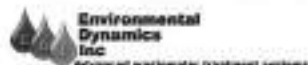
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E&I CORPORATION – Screens, Grit Conveyors, Chain & Flight Collectors, Flocculators

E.E.E. AERATORS – Floating Aerators and Mixers

ENGINEERED FLUID INC. (EFI) – Packaged Booster Pump, Metering, Well Pump, & Disinfection Stations

ENPRO – Polymer Activation Systems Storage and Process Systems, Silo Systems Big Bag Systems, Storage Bin Systems Liquid Chemical Feed

ENVIRONMENTAL FABRICS – Baffles, Covers, Liners

FLYGT – Submersible Pumps and Mixers, Pump Control Systems *(DE Only)*

FORD HALL – Weir Wolf Brush System

FRANKLIN MILLER – Solid Reduction and Removal Systems (Grinders, Comminutors, Shredders, Conveyor Screens), Septage Receiving

GARDNER DENVER – Multi & Single Stage Centrifugal Blowers

HEADWORKS INC. – Automated Fine Bar Screen (Mahr Bar), Fine Perforated Screen, Fine Bandto/Center to Screen, Spiral Screens, Septage Receiving

HYDRO INTERNATIONAL – Headcell, Tea Cup, Slurry Cup, Grit King Grit Removal and Grit Washing Systems and Small Dewatering Unit

JDV EQUIPMENT – Shaftless Screw Conveyors, Belt Conveyors, Digester Covers and Mixers, Gas Holders, Rotary Drum Screen, Grit Classifiers

MITSUBISHI – Ozone Disinfection Equipment

NOREVA – Nozzle Check Valves

OVIVO – Aeration & Digestion Equipment, Clarifiers, Bar Screens, SS Underdrains, Belt Press, Atlantium UV

PULSE HYDRAULICS, INC. (PHI) – Pulse aeration for anoxic zones, wet wells, and water storage tanks

PROCESS SOLUTIONS, INC. (PSI) – On-Site Hypochlorite generation

SANITHERM – Packaged Flat Plate MBR Systems

SIEMENS WATER TECHNOLOGIES

DAVCO – Field Erected WWTPs, Clarifiers, Sand Filters, Dragon Dryer, Retrofit Services

GENERAL FILTER/MICROFLOC – Aerators, Clarification Systems, Water and Wastewater Filtration Components & Systems, Packaged Water Treatment Plants, Clarifiers, Pressurized and Gravity Filters *(DE Only)*

JETTECH – Sequencing Batch Reactors (SBR), ATADs, Jet Aeration, Digester Decanters

MEMCOR – Pressurized & Submerged Membrane Filtration Systems, Membrane BioReactors

RJ ENVIRONMENTAL – Vapor Phase Odor Control Systems, Chlorine Scrubbers, Adsorption systems

ZIMPRO – HydroClear Filters, Inclined Plate Settlers, Aerator Rotors, Screw Pumps, IFAS Systems (AGAR)

SOMAT – Rotary screw dewatering press
S & N AIRFLO – Floating Brush Rotors for Oxidation Ditch or lagoon aeration applications

TENCO-HYDRO – DAF Systems, Oil/Water Separators, Scum Concentrators

THERMA-FLITE – Indirect Sludge Dryer

WALKER PROCESS – Clarifiers, Anaerobic Digestion covers, mixing, and gas holding, Heat exchangers, Scum Classifiers

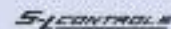
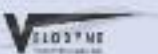
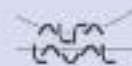
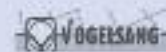
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