InFlow-Line

The Magazine of the CT Section American Water Works and the Connecticut Water Works Associations Summer 2017

RECAP

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Cover photo: Newport, Rhode Island – location of the 2017 Annual Joint Conference. Photo by Kathy Fortin.

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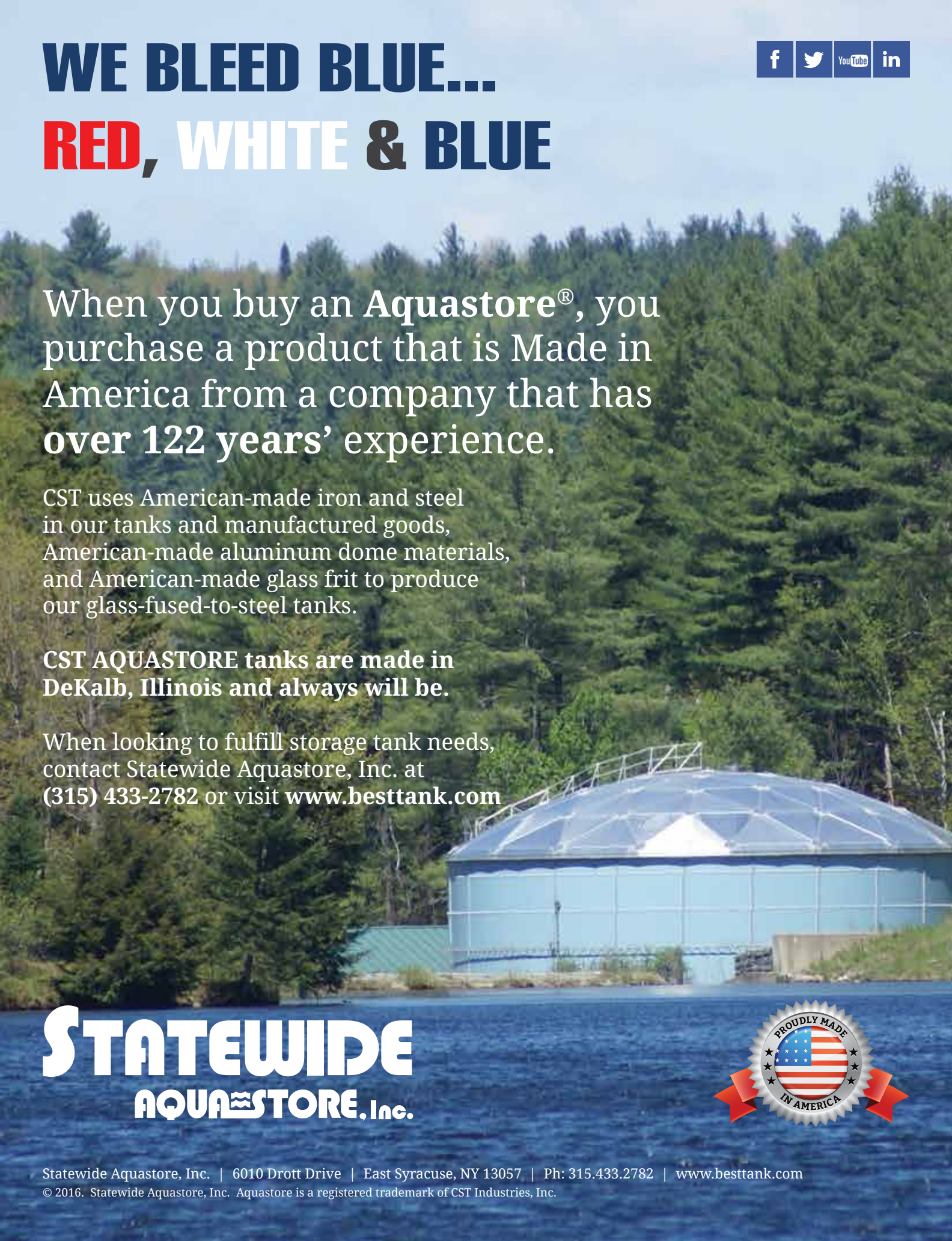
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Brad Kargl



A Good **Balance**

As we wrap up another summer season, I am relieved to see that the widespread drought issues of 2016 are behind us and that water utilities across the state were able to resume more typical summer operations. Working in a shoreline community, it is the time of year when the seasonal population nearly doubles. As if this doesn't stress our water supplies enough, like clockwork, usually around July 4th, the streams drop below their trigger levels and wells have to be shut off to maintain compliance with diversion permits. Then the real summer fun begins. By that time, in prior years, the mandatory water conservation notices have been issued and contingency plans put into place. There were a couple of years when emergency declarations had to be issued by the state regulators to allow the operation of the restricted wells in our system.

Things are better now with completion of a regional interconnection and water banking project to help manage our water supply and meet peak summertime demands. I can't help to think, however, about the times leading up to project approval, and the debates at the local level over environmental policy, fishery resources, water supply needs, and socioeconomic impacts due to regulatory constraints. I am not sure if the science was ever exact enough to determine the effects of pumping on the ability of the alewife to make their inland and seaward migrations. Such debates have occurred on a larger scale throughout the State Water Plan development process over the last year, as stakeholders search for balance and consensus on how to best manage the state's water resources.

"This bill is being closely monitored by CWWA, because it is expected that some form of funding in the way of water company fees will be included in the state budget and negotiated in special session."

One can be assured that the plan, when adopted, will impact the water industry for years to come and will likely affect us on a personal level as we manage our systems and serve our customers.

I would like to thank CWWA's past president, John Hudak, for his leadership over the past year. I know the Board will continue to rely on his knowledge and expertise as we move forward in the upcoming year. His direct involvement with the State Water Plan development process has brought insightful discussion to the table, and he has kept the Board well informed on this important matter.

In 1998, the Water Utility Coordinating Committee (WUCC) in the southeastern region convened. I can remember the contentious meetings that occurred as water utilities seemed to jockey for position and make their cases for exclusive service area designations. That was when the state was divided into seven WUCC management areas. With the reconfiguration of the WUCCs into three areas or regions, the planning process for the new WUCCs is well underway. By now, the Water Supply Assessments have been completed, and the Exclusive Service Area designations filed. Work has begun on the Integrated Reports and Executive Summaries. The planning documents for the three management areas will ultimately be compiled into the state-wide water supply planning document.

Of particular note with the adjournment of the 2017 regular session, HB-7221 was given final

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approval by the senate. The bill revises the Freedom of Information Act (FOIA) exemption for certain water company records. It changes the water security provisions to now identify specific water company records which are confidential and protected from disclosure. Also, the bill gives water companies the ability to limit disclosure of information if the state Department of Administrative Services determines that there are reasonable grounds that disclosure may result in a safety risk. And, finally, the bill requires that when water companies submit water supply plans to the Department of Public Health, a redacted copy of the plan that meets the bill's provisions must also be submitted.

There was a bill, SB-797, concerning water company fees to help support staffing in the Department of Public Health Drinking Water Section, that died in the Public Health Committee during the regular session. This is being closely monitored by CWWA, because it is expected that some form of funding in the way of water company fees will be included in the state budget and negotiated in special session.

With 2018 being an "even-numbered" year, the next regular session of the general assembly will be shorter than the previous but, none-the-less, every bit as important. As usual, I expect that our experienced legislative tri-chairs, Maureen Westbrook (Connecticut Water Company), Lori Vitagliano (Regional Water Authority), and Pat Kearney (Town of Manchester), will stay on top of emerging legislation with the help and guidance from Betsy Gara, CWWA Executive Director. We will continue to rely on their abilities to sort through the myriad of legislative initiatives to assure that our membership's interests are well represented. We also look forward to working with anyone in our membership who may have any issues that they would like addressed.

In sports, a good team has a consistent balance of new players coming in, players that are staying, and the ones that are leaving. Similarly, while we bid farewell and extend our thanks and appreciation to departing board members, Steve Pratt and Art O'Neill, we welcome two new members, Neil Amwake (Wallingford) and Kevin Schwabe (Avon Water Co.). We hope that they find the CWWA Board to be a rewarding endeavor and that they embrace what it has to offer. A majority of the Board members are returning and include Steve Cerruto, Vice-President, John Hudak, Past President, Michael Elliot, Treasurer, John Herlihy, Beth Nesteriak, Greg Patla, and Dave Banker. Their return will provide continuity and familiarity with the Board's agenda. Also, I am pleased that Mark Decker (Norwich Public Utilities) is returning to fulfill the position of secretary. He has served on the CWWA board in the past and will be a valuable resource in our efforts to achieve the Board's goals and objectives.

I would like to thank Guy Russo for his continued leadership and coordination of the National Drinking Water Week Scholarship award ceremony, which was held at the Legislative Office Building this past April. He brings passion and purpose to this important event. CTAWWA along with CWWA should also be acknowledged for providing funding and logistics to help support the scholarship program. I had the opportunity to be on the Scholarship Committee and was truly amazed at the talent and aspirations of the candidates. Perhaps they will one day become interested in a career in the water industry.

I am looking forward to seeing you all at the Annual Fall Conference at the Aqua Turf in Southington on October 24. In the meantime, enjoy your summer and stay safe.

CWWA Officers & Directors for 2017–2018

Directors & Officers

Name	Organization	Position	Type
Brad Kargl	East Lyme	President	(municipal)
Steve Cerruto	Torrington Water Co.	Vice President	(private)
Mark Decker	Norwich Public Utilities	Secretary	(municipal)
Michael Elliott	Norwalk First	Treasurer	(municipal)
John Hudak	Regional Water Authority	Past President	(regional)
John Herlihy	Aquarion Water	Director 1	(private)
Beth Nesteriak	Regional Water Authority	Director 1	(regional)
Dave Banker	Metropolitan District	Director 2	(regional)
Craig Patla	Connecticut Water Co.	Director 2	(private)
Neil Amwake	Wallingford	Director 3	(municipal)
Kevin Schwabe	Avon Water Co.	Director 3	(private)

Legislative Committee Officers

Pat Kearney	Manchester	Tri-Chair	(municipal)
Lori Vitagliano	Regional Water Authority	Tri-Chair	(regional)
Maureen Westbrook	Connecticut Water Co.	Tri-Chair	(private)

Steve Rupar



A Continued Strong Partnership

I am deeply honored to return to the position of CTAWWA Chair for a second time. During my first term as Chair (2015–2016), CTAWWA underwent a lot of change as we first hired, and then lost, a new Administrative Manager. CTAWWA was effectively without any staff for half of the year. As I return to a second term, CTAWWA is in a much more stable position than during my first term, and I congratulate Tom Loto on completion of a successful term as chair. Among many accomplishments, Tom led the effort to recruit Romana Longo as our Administrative Manager, and she has been doing a great job since coming on board. I am looking forward to working with the Romana and the Board to continue to improve our services as we address the changing needs of our members.

Despite the rainy weather, the 2017 annual conference at the Viking Hotel in Newport, RI was a great experience, thanks to the leadership of Tom Loto, the work of Romana Longo, the Education & Program Committee, our Associates Committee, and many other volunteers. This year's conference featured some enhancements to our normal program. On Wednesday, the weather cooperated to allow our dinner to be held outside in the hotel courtyard. Thursday featured an all-day technical program including nationally recognized speakers Amy Vickers and Mary Ann Dickinson, who spoke about water conservation programs. On Friday, our program featured a special two-hour seminar presented by Kate Kaynak, who spoke about the importance of recognizing personalities in management communication. We learned how to identify "red," "green," and "blue" personalities and to appreciate what motivates each personality to succeed. A conference summary appears on page 17 of this issue.

"I hope that all of you will take the time to complete our survey regarding the annual conference. Did you know that we have held this conference every year since 1972? We are interested in hearing from our entire membership – those who have attended faithfully for many years, and those who have never attended."

I hope that all of you will take the time to complete our survey regarding the annual conference. Did you know that we have held this conference every year since 1972? We are interested in hearing from our entire membership – those who have attended faithfully for many years, and those who have never attended. We need your input as we work to continuously improve our conference while retaining those features that have made the conference a "must attend" event for 46 years.

Besides the annual conference, the Board has several other challenges this year. We see the effects of demographic change in our towns and our workplaces, and CTAWWA is no exception. It is vital that we engage more younger people in our work as more and more Baby Boomers and Generation X retire from the workforce. In April, we held a "Committee Showcase," an open forum and discussion at which our various committees presented their work with a focus on young professionals to interested attendees. We will look to make this an annual event and have already attracted new members into our Education & Program Committee.

If you are a young professional, and want to know more about how to get involved, I encourage you to give me a call. We need your help!

I would also like to recognize the services of two extraordinary individuals that left our Board this year. Kathy Fortin has been our Secretary, maintainer of our website, and unofficial photographer for many years.



We will miss her encyclopedic knowledge of all things AWWA and her extensive volunteer work behind the scenes to make our conferences happen. We are fortunate that Judy Soda has volunteered to serve as Secretary for this upcoming year. Dan Lesnieski has provided many years of service to CTAWWA, including serving as Chair in 2003–2004, before returning as Director for a just-concluded three-year term, and also returning for a stint as Past Chair. We will miss his guidance and experience.

The Board and I would like to offer congratulations and best wishes to Brad Kargl, CWWA President. We look forward to our continued strong partnership.

As always, please feel free to contact me (203-456-2259 or *srupar@tataandhoward.com*) at any time with questions, comments, and ideas on how we can work together to improve the value of CTAWWA for all members.

CTAWWA Officers for 2017–2018

Chair	One-Year Term	Steve Rupar
Vice Chair	One-Year Term	Jennifer Muir
Past Chair	One-Year Term	Tom Loto
Secretary	One-Year Term	Judy Soda
Treasurer	One-Year Term	Rochelle Kowalski
2nd Year Trustee	2nd of a Two-Year Term	Gerry McDermott
1st Year Trustee	Two-Year Term	Tom Barger
National Director	Three-Year Term	Ray Baral

Other Board Positions for 2017–2018

Trustee at Large	Joe Fazzino
Trustee at Large	Scott Bonett
Administrative & Policy Council Chair	Peter Bocciarelli
Associates Council Chair	Mark Anderson
Education & Public Affairs Council Chair	Rob Page
Technical & Standards Council Chair	Ken Skov
Water Utility Council Chair	Tom Barger



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Sarah Bounty



CTAWWA activities
I am a new member of CTAWWA and have recently joined the Water Treatment Plant Operations and Maintenance Committee, and look forward to being involved with the young professionals as well. I presented at ATCAVE for the first time earlier this year.

Day job
Project Engineer at Tighe & Bond in Middletown, CT.

Personal stats
Originally from the small town of Ashford, CT, I currently reside in West Hartford, CT with my husband. Prior to living in West Hartford, I was a resident of Boston, MA; Boulder, CO; and Portsmouth, NH. Outside of work I enjoy all things outdoors including backpacking, camping, hiking, skiing, and running.

Recent accomplishments
Passed the PE exam in April, what a relief!

Why volunteer for CTAWWA?
It is great to have the opportunity to meet others in the water industry who I might not have a chance to work with on a project – to learn about other perspectives from different parts of the industry. Also, I look forward to contributing to a group that works to improve and increase awareness about the profession of working in water.





What was your first job in the water industry?
I worked at Weston & Sampson in Peabody, MA, as an Engineering Assistant for the Water Group between my undergraduate degree (University of New Hampshire) and master's degree (University of Colorado).

What would you like to share?
I am happy to be a part of CTAWWA and look forward to being more involved – I moved back to CT last year and am enjoying meeting other water professionals in my home state.

Favorite water memory
During my master's degree, I researched UV disinfection of drinking water in the lab. I think my favorite memory was applying this directly to a couple of backpacking trips in Glacier National Park in Montana and Kauai, Hawaii – using my own portable UV system to disinfect my water while camping and not getting giardia (or anything else!).



Water Security and the Freedom of Information Act

New Law Effective July 1, 2017

To address longstanding concerns raised by environmental advocates and state agency officials, the state legislature adopted changes to the law governing the confidentiality of water company information under the state's Freedom of Information Act (FOIA). The new law, Public Act 17-211, went into effect July 1, 2017.

State agency officials pushed for changes to the law because the process for determining whether the release of certain information poses a security risk was cumbersome and time-consuming. In addition, environmental advocates have long argued that the law made it difficult to access water supply data to support state water planning and other activities.

CWWA negotiated changes to the legislation to ensure that the law continues to protect water security related information disclosure. Instead of requiring state agency officials to determine which records are security related on a case-by-case basis, the law specifies the information that must be protected from disclosure to the public.

The following is a partial list of records protected from public disclosure under Public Act 17-211: 1) cybersecurity plans and measures; 2) vulnerability assessments; 3) security manuals; 4) operational and design specifications of water and sewage treatment facility security systems or risk management plans; 5) emergency contingency and emergency preparedness plans; 6) sabotage prevention and response plans; and 7) dam specifications or safety documents.

In addition, the law specifies that design drawings or maps identifying *specific locations*, detailed schematics and construction details of wells, source water intakes, water mains, tunnels, storage facilities, water and sewage treatment facilities or pump stations and pressure reducing stations, and other distribution system pressure and flow control valves and facilities, are protected from public disclosure. However, information regarding the *general location* of water mains, wells and interconnections are subject to disclosure. The law also provides that drought management and response plans are subject to disclosure. For a complete list of records protected from disclosure, please refer to the Public Act 17-211 (*https://www.cga.ct.gov/2017/ACT/pa/2017PA-00211-R00HB-07221-PA.htm*).

In addition to the records specified in the act, CWWA was successful in including a provision in the law which would protect the confidentiality of any other water company record filed with a public agency if there are reasonable grounds to believe that disclosure may result in a safety risk. If a water company believes that certain information should be protected from disclosure, it may request that the record be reviewed by the state Department of Administrative Services, in consultation with state agency or municipal water or sewage treatment entity that has custody of the record, to determine if reasonable grounds exist.

Water Supply Plans – Redacted Copies Required

The new law requires water companies, when submitting their water supply plan or an update to their plan with the state Department of Public Health, to submit a copy of the plan which redacts the information which should be protected from disclosure in accordance with Public Act 17-211.

CWWA is coordinating a workshop to assist members in understanding the new law and what they need to do to ensure compliance. Visit *cwwa.org* for additional information.

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Register today. To reserve your space or register as an individual, go to *www.eventbrite.com/e/cwwactawwa-fall-conference-2017-registration-36187678320*.

Questions? Contact CWWA's Betsy Gara, *gara@gmlobbying.com* or 860-841-7350.





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46th Annual Joint Conference

RECAP

The 46th Annual Joint Conference at the Viking Hotel in Newport at the end of May was a big success, despite some rainy weather. We had more than 100 conference attendees this year.

Many thanks go out to those involved in planning the event, as well as to the speakers, volunteers, exhibitors, and all our attendees.

Photos by Kathy Fortin













46th Annual Joint Conference RECAP

Photos by Kathy Fortin























Peter Galant with past Fuller awardees.



Photos by Dave Kuzminski

Awards Presentations

AWWA Gold Water Drop Award

The Gold Water Drop Award is awarded on the basis of a 50-year cumulative membership in CTAWWA.

Congratulations to this year's recipients:
James McInerney John A. McManus



Gold Water Drop Award to Jack McManus presented by Jackie Torbert.



Gold Water Drop Award to Jim McInerney, accepted by Maureen Westbrook.

AWWA Silver Water Drop Award

The Silver Water Drop Award is awarded on the basis of a 25-year cumulative membership in CTAWWA.

Here are this year's recipients:

Karl Acimovic
George Ayotte
James Bancroft
Larry Bingaman
Chris Bogucki
Dennis Bove
Thomas Braun
Terrance Cassidy
Stanley Cop
Jeffrey Farrell
Joseph Farrelly
Kevin Flood
James Flynn
Kathy Fortin
John Hohider
John Jolls
Patrick Kearney
Robert Kortmann
Robert Lamonica
Dan Lesnieski
Ted Lund
Greg Lyons
Kenneth Marzi
John McGuire
Steve Melanson
Ed Michalek
James McCarthy
Keith Nadeau
John Naso
Ted Norris
William Phelan
James Richardson
Aaron Schwartz
James Sima
Kenneth Skov
Adam Soltys
Karen Stockno
Eric Thornburg
Thomas Villa



Silver Water Drop awards. (L-R) Kevin Flood, Kathy Fortin, Jackie Torbert (AWWA VP), Steve Rupar (CTAWWA Chair), Dan Lesnieski, and Jack Jolls.

2017 Fuller Award Winner

At the joint annual conference each year we recognize a distinguished colleague with the AWWA George Warren Fuller Award. This year's deserving recipient was Peter Galant, Vice President at Tighe & Bond. A highly respected professional who has been active in the water supply field for years, Peter been involved in both the Connecticut Section AWWA and the Connecticut Water Works Association (CWWA).

Peter is a past president of the Connecticut Water Works Association (CWWA), where he continues to provide guidance on key water industry legislative and regulatory issues. He serves on the Water Resources Committee of the CT Section AWWA. He has worked closely with the Connecticut Department of Public Health, Department of Energy and Environmental Protection, and Public Utilities Regulatory Authority on numerous industry issues, including the current Connecticut State Water Plan.

Peter joined Tighe & Bond in 2005 and is the firm's technical director for its water business. He has more than 30 years of experience in water system planning, engineering, and operations. Peter has led diverse public water supply projects including water resource planning and asset management, master planning, and water quality and treatment improvements, as well as infrastructure design and construction. He also has tackled one of the industry's toughest new challenges – drought management.

"Peter's knowledge and ongoing commitment to serving clients, the public water supply industry, and our communities is exceptional," says Tighe & Bond's President and CEO, David Pinsky. "Peter is very deserving of this special honor."



Peter Galant receiving the Fuller Award pin from AWWA VP Jacqueline Torbert.

A licensed engineer in Connecticut, Massachusetts, and New York, Peter holds a Master of Science in Environmental Engineering & Science from Stanford University. He also has both a Bachelor of Science in Civil Engineering and a Bachelor of Science in Biology. He received his official award plaque at AWWA's national conference in Philadelphia in June.

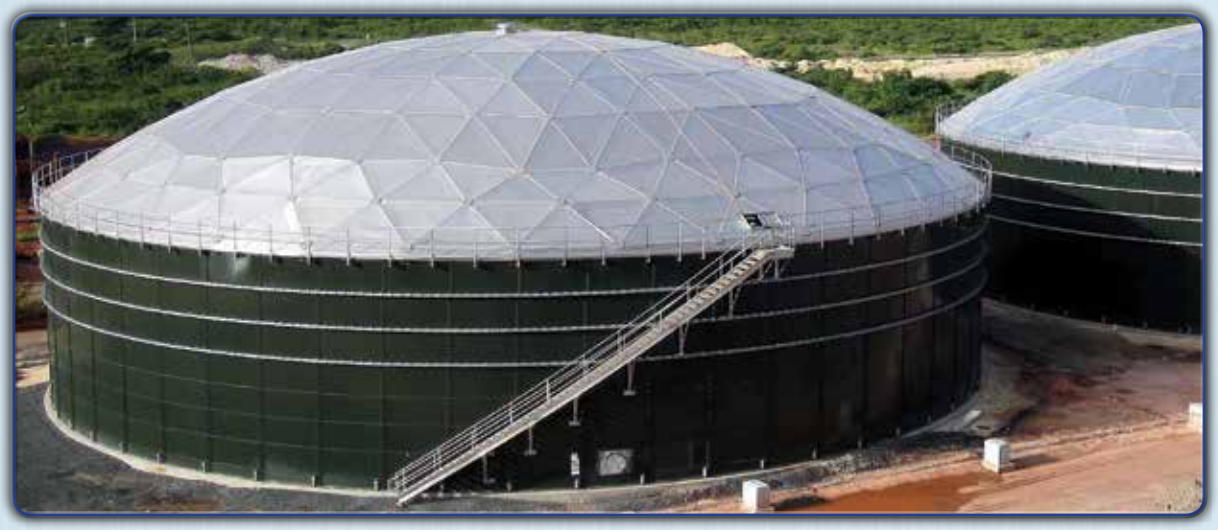
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Draft State Water Plan Available for Comment

Connecticut's draft State Water Plan is now available for review. Comments on the plan may be submitted through November 20, 2017.

"The draft plan recommends a framework for managing Connecticut's water into the future and for achieving balance with our many human and environmental needs as climate trends emerge and new needs develop. It addresses the quality and quantity of water for drinking, ecology, recreation, business, industry, agriculture, energy, and wastewater assimilation," the state's Water Planning Council (WPC) said in releasing the draft plan.

The WPC members stressed that the input of Connecticut's citizens is crucial to the development and implementation of the plan to ensure it is fair and effective at balancing the needs of all water users while protecting a valuable resource.

The creation of the State Water Plan was required following the adoption of a new state law, Public Act 14-163, which directed the WPC to formulate a plan that will help planners, regulators, and lawmakers make decisions about managing Connecticut's water in a manner that is consistent throughout the state. The group's draft plan reflects the input of various stakeholders, committee members, and public participants. They intend to present a final document to the Governor and various legislative committees in 2018.

The council will hold public hearings on the draft plan across the state during late summer and fall, and they will also use technological resources to advertise and educate the public on the plan throughout this period. Details of the WPC's public outreach efforts, information on how to comment, and links to other resources will be available in the coming weeks at *www.ct.gov/water*.

The WPC is comprised of four members: John W. Betkoski (Chair), Vice Chairman, Public Utilities Regulatory Authority; Garrett Eucalitto, Undersecretary, Office of Policy and Management; Betsey Wingfield, Bureau Chief, Department of Energy and Environmental Protection; and Lori Mathieu, Drinking Water Section Chief, Department of Public Health.

Water utility representatives have been involved in the process as the State Water Plan has been in development. Members have served on the Water Planning Council Advisory Group, the Steering Committee, as well as the Policy and the Technical and Science Committees. Their input has been critical in the process, and we now need to ensure that others review the final document and provide comments on the plan.

A copy of the draft plan and associated resources can be found at *www.ct.gov/water*.

CWWA will be coordinating a meeting in late September to discuss the plan and any issues of concern or interest for public water suppliers. Contact CWWA's Betsy Gara at gara@gmlobbying.com *or 860-841-7350, for more information.*

EPA Releases Materials for Cyanobacterial Bloom Management in Recreational Waters

EPA has released several materials to assist public health officials, states, and communities interested in monitoring and responding to cyanobacteria and cyanotoxins in recreational waters. These materials also include a recreational water communication toolbox for cyanobacterial blooms and a recommendations document for monitoring for cyanobacteria and cyanotoxins in recreational waters.

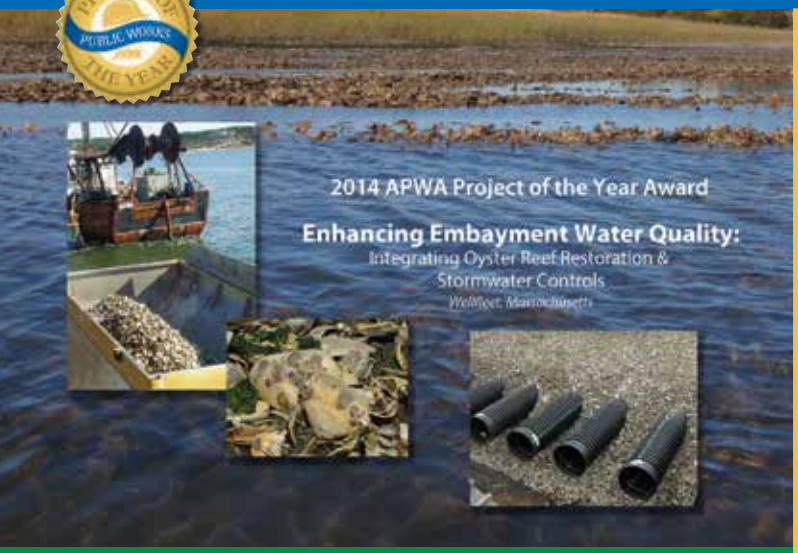
For more information on cyanobacteria and their toxins in recreational waters please visit the EPA's CyanoHABs website at *www.epa.gov/nutrientpolicy-data/guidelines-and-recommendations#what3*.



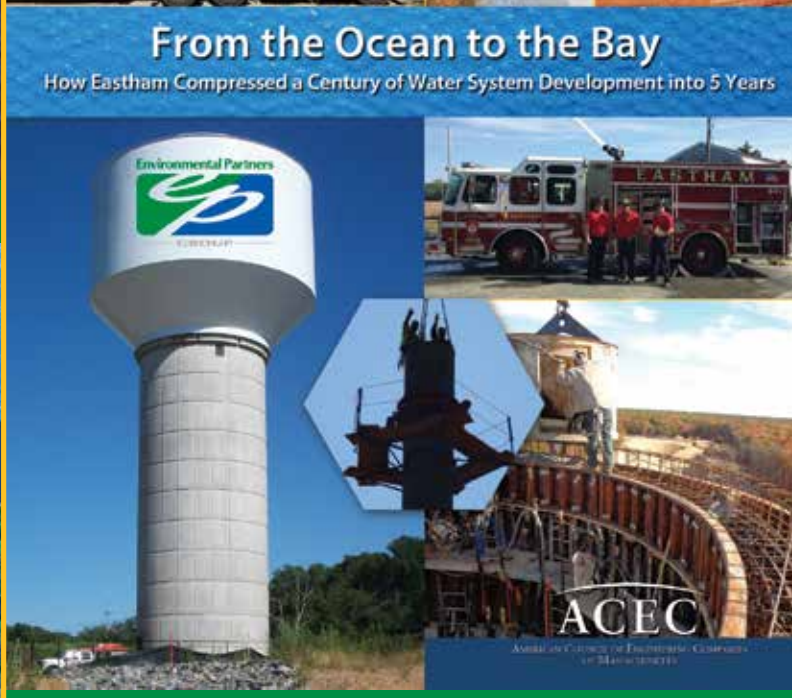


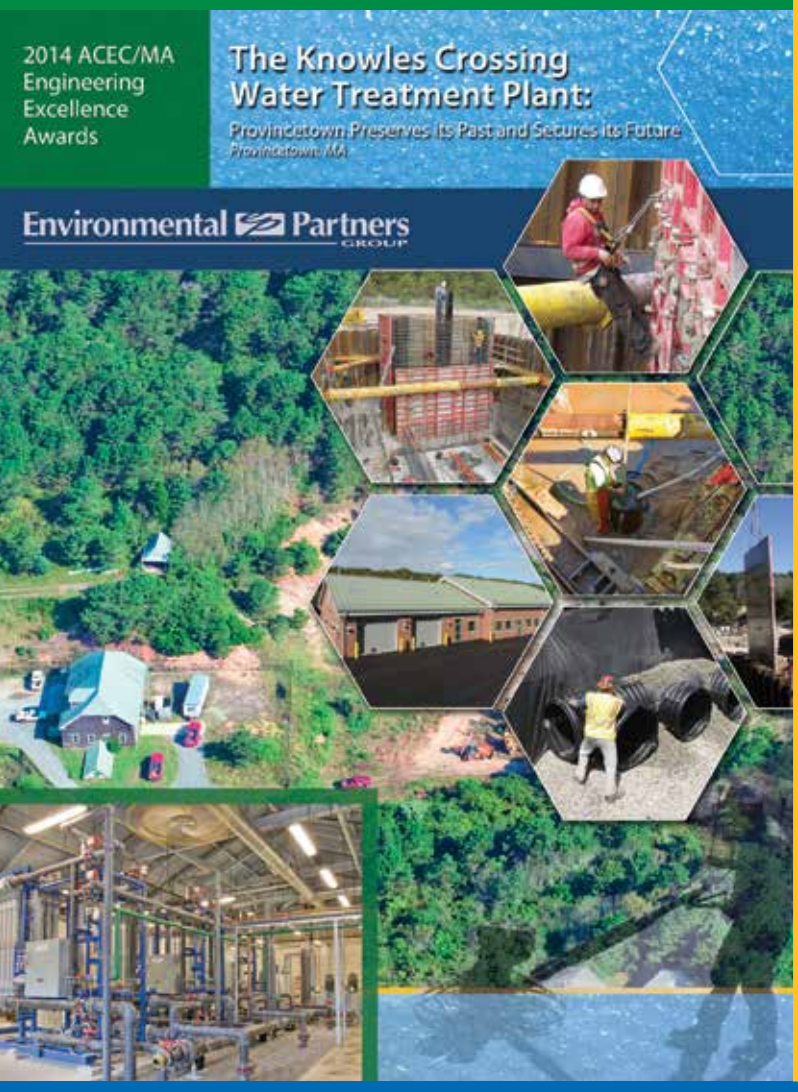
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Celebrate Water

Today & Tomorrow

The fifth annual "Celebrate Water" event heralding National Safe Drinking Water Week was held on May 2 at the Legislative Office Building in Hartford.

The event, sponsored by CWWA and CTAWWA, highlights the water industry's commitment to protecting the quality and availability of safe drinking water. The event also serves as a wonderful way to recognize the achievements of students and water industry professionals and encourage support for careers in the water industry.

Commissioner Jack Betkoski, Vice Chairman of the Public Utilities Regulatory Authority (PURA) and Chair of the state's Water Planning Council, discussed the importance of encouraging young people to pursue careers in the water industry, noting how vital water resources are to the state's public health, safety, environment, and quality of life. Raul Pino, M.D., M.P.H., Commissioner of the state Department of Public Health, also spoke about the importance of protecting the integrity of Connecticut's public water supplies to meet the needs of residents and businesses.

CWWA and CTAWWA awarded three general scholarships to the following individuals who were selected from a talented pool of applicants based on academic performance, community service, and an essay with water as a central theme: Rebecca Feldman (Woodstock, CT); Jonathan Kelly (East Granby, CT); and Lydia Krahn (Trumbull, CT).

"The water industry is honored to recognize these students who have demonstrated an appreciation for and understanding of the importance of protecting the state's water resources," said Guy Russo, PRIME AE Group, Inc., who chaired the event.

Ingrid Jacobs of Environmental Partners Group, Inc., on behalf of the CTAWWA Associates Committee, presented scholarships to the following outstanding students whose family members are directly affiliated with the industry: Jennifer Triana (Prospect, CT); Nicholas Serrambana (East Hartford, CT);



Photo by Dave Kuzminski

Kate Rupar (Woodbury, CT); Brendan Rowley (Beacon Falls, CT); Cassandra Pagliaruli (Berlin, CT); and Kaitlyn Barber (Shelton, CT). Career scholarships were also presented to Joseph Nault (Guilford, CT) and Camilo J. Huneeus (New Haven, CT).

This year's Kevin J. Walsh Scholarship was awarded to Kevin Beeney, Jr. of Groton, CT.

In addition to the scholarships, the Connecticut Department of Public Health Drinking Water Merit Award was presented to Bruce Morton of Goodwin College for his efforts in promoting water-related educational programs.

"We congratulate all of our scholarship winners and award recipients," said Russo. "As water, health, and environmental professionals, we realize that, in the words of President John F. Kennedy, 'the torch is passed to a new generation.' Our faith in you is strong."

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Avon Water Company Takes Action on Lead & Copper in Public Schools

"Lack of orders is no excuse for inaction"
– General George Patton

It was with this sentiment that Avon Water Company (AWC) proactively opted to perform an evaluation of the water quality within schools served by the Company in the Town of Avon. During the course of 2016, more than 100 lead and copper water samples were collected, primarily from drinking fountains in the Town of Avon's five public schools. The impetus for this project was the crisis in Flint, MI, and the growing national interest in the matter. On a local level, last summer, NBC Connecticut aired an "investigation" into why schools are not required to have water samples collected.

Therefore, AWC contacted the Avon Board of Education to coordinate this project. A meeting was held with the Board of Education at which time, AWC was able to share the following:

1. Lead and copper are not innate in the water supplied by AWC. To demonstrate this, AWC presented the Board of Education with 2016 laboratory results documenting that samples from all of its eight water supply wells exhibited non-detectable concentrations of lead and copper. It was further explained to the Board that the presence of lead and/or copper in any of the samples was a function of the content of school plumbing materials and the effectiveness of AWC's corrosion control product (zinc orthophosphate). AWC felt it was prudent to establish this point due to the fact that much of the national/local reporting on lead was being presented in such a way to depict the supply as being contaminated.
2. The basis of this project was completely voluntary. There is no federal or state law requiring the testing of drinking water in schools (unless the school operates as its own public water supply system under the EPA's Safe Drinking Water Act). It was important to convey that the Board of Education was not under any scrutiny, nor was AWC acting defensive about the lead/copper content of its water supply. Given the climate, questions from the community regarding lead in school drinking water should be expected. This was expressed as a partnered, fact-finding mission with the ultimate goal of community stewardship.
3. The project procedures, financial obligations and documentation would be handled solely by AWC. Should the project identify unsafe levels of lead in any of the schools, AWC would aid the Board of Education in investigating such issue(s) and offer direction on how to mitigate.

With the goal being to achieve a six-hour stagnation period before sample collection, AWC met with a Board of Education representative early in the morning before teachers, students, and custodial staff were present at each school. Samples were collected from every drinking fountain and kitchen faucet at the schools during August and September, 2016. A total of 119 samples, from 108 sampling points were collected as part of this investigation. Throughout this investigation, it was noted that many of the school fountains contained tags labeled "NSF 61 Low Lead" or "Lead Free."

More than 100 sample points did not contain lead or copper at concentrations exceeding the respective Action Levels. However, in instances where either lead or copper exceeded the Action Level, AWC immediately notified the Board of Education and had the sample point removed from service until further evaluation could be conducted. Lead and/or copper concentrations above the Action Limit(s) were only detected on three drinking fountains. Following these detections, AWC performed the following evaluations:

1. Collected a resample of the fountain. This sampling event also included two upstream sample points and two downstream sample points. In each of these resamples, the presence of lead was limited to the fountain. No elevated concentrations were identified in the two upstream or two downstream sampling points of each fountain.
2. Performed a thorough inspection of the drinking fountain, including the documentation of its make, model, and serial number for future research. This was done in an attempt to identify a trend and provide insight as to where the fountains were manufactured. While the USA has stringent criteria on the type of material allowed, AWC suspected that foreign manufacturers may not be subject to such criteria. Nonetheless, these fountains were manufactured by American-owned companies. Of the three suspect drinking fountains, AWC was surprised



"AWC took great pride in limiting student exposure to lead and copper in three of the drinking fountains through its close communication with the Board of Education."

to learn that two of these fountains were labeled "NSF 61 Low Lead."

3. Characterized the plumbing materials feeding these fountains. In some cases, ceiling panels were removed, and AWC performed inspections of plumbing materials to ascertain the type of copper and any nearby solder material. AWC was able to confirm that the fountains were being fed with the appropriate Type 'M' copper.
4. Collected solder samples on nearby plumbing fittings to determine the potential lead content. No lead solder was detected in any of the scrape samples collected in the vicinity of the suspect drinking fountains.
5. Hired an electrician to ensure that each school's electrical service was properly grounded and that electrolysis (corrosion of plumbing materials and subsequent leaching into the water) was not occurring. Ultimately, the electrical grounding at each school was found to be in satisfactory condition by AWC's electrician.

Although unable to uncover the "smoking gun" source of contamination, AWC prepared a report to the Board of Education which documented the chronology of events and sample results. AWC recommended that the suspect fountains remain out of use until future testing could confirm their return to service. As a proactive measure and to prevent against water quality degradation, Avon Water Company suggested that a fountain flushing program be enacted. AWC was of the opinion that, much like water main flushing, it was important to generate a high rate of flow through the copper lines feeding the fountains. AWC suggested that such fountain flushing could be performed toward the end of school vacation periods to minimize the disruption to the schools and to develop a routine schedule.

The Board of Education was able to present AWC's report to a third-party consultant that now handles all sampling going forward. As of May 2017, the Board of Education's consultant had collected several resamples from the suspect fountains and forwarded the samples to multiple laboratories for analysis. Ultimately, results from two of the three fountains came back below the Action Levels for lead and copper, and these fountains were subsequently returned to service. The remaining fountain remains out of use and is pending replacement.

"Always do more than is required of you"
– General George Patton

A significant amount of time and resources were volunteered by AWC as part of this investigation in an effort to advise the Board of Education on this matter. AWC took great pride in limiting student exposure to lead and copper in three of the drinking fountains through its close communication with the Board of Education. Moreover, AWC was able to provide a sense of security to the Board of Education for the majority of the drinking fountains and food preparation faucets at the schools. This investigation provided the Board of Education with a valuable piece of information to handle questions from the inquiring public. Perhaps most importantly, this investigation raised awareness on the Board of Education's part. Such awareness has led to the Board of Education enacting a plan to have the water quality at the schools investigated on more of a regular basis by the Board of Education's third-party consultant.

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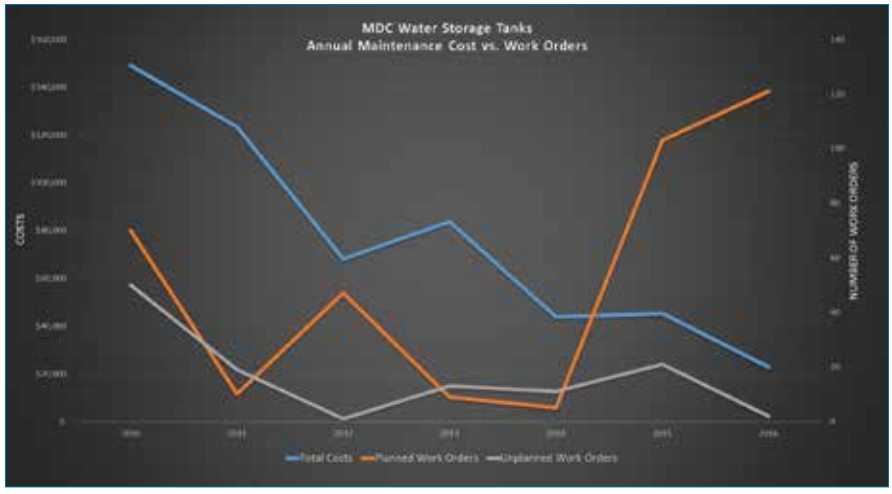
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How Following **Scheduled Preventive Maintenance** Reduces Costs, Improves Service

By Carlos Cruz and Elizabeth Baldwin, P.E.

Many utilities work on razor-thin margins, squeezed between rising costs and customers' reluctance to accept rate increases. A leak in a major pipeline, broken pump, or other major expense can put the utility into crisis mode.

Conventional wisdom is to force maintenance costs as low as possible. Yet, experience at the Metropolitan District Commission (MDC), serving the greater Hartford area, has found that scheduled preventive maintenance, backed by effective use of a Computer Maintenance Management System (CMMS), can make costs more predictable, prevent crises, and reduce costs over the long term.



Unplanned work orders at the Hartford Water Pollution Control Facility decreased from 471 in 2010 to 16 in 2016, while planned work orders increased from 1,712 to 6,429 over the same time period.

Implementing a disciplined approach leads to success in CMMS

Data entered into the CMMS can guide the utility's managers so that preventive maintenance gets carried out on a regular and effective basis. This includes scheduling lubrication of all equipment as recommended by the manufacturer, along with inspection of the equipment and adjustment if needed. Work orders, lists of equipment needed and the skills required to do the job can all be generated in the CMMS to help with planning.

Back when MDC did not have a formal CMMS program, the reality at the time was high cost, more equipment failures, and difficulty planning for the work and for the budget required.

Now, MDC's maintenance costs are lower and the work is more predictable. For example, consider how the picture has changed with regard to MDC's vehicle fleet. The MDC went from performing an average of 14 or 15 transmission replacements every five years – at a cost of between $12,000 and $20,000 each – to perhaps one single replacement every five years. That change came from performing transmission oil flushes – and using the right lubricant. In another example, MDC now inspects each vehicle thoroughly twice a year with a rigorous safety check. Having more deliberate and planned maintenance and vehicle inspections has helped MDC to reduce staffing, which reduced salary and benefits costs.

MDC performs these functions for the water and wastewater treatment plants, the vehicles, the generators, and everything else. MDC also has an inspection process for the water storage tanks and water and wastewater pump stations. MDC is regulated; therefore, periodic inspections of these facilities are required. However, MDC takes pride in executing these inspection programs so we can improve equipment reliability,

> "Having more deliberate and planned maintenance and vehicle inspections has helped MDC to reduce staffing, which reduced salary and benefits costs."





Water storage tank repairs.

lifespan, and uptime. From where MDC started, we are extremely successful in terms of improving reliability, or conversely, reducing *unreliability*. As a result, MDC is reducing overall longer-term costs.

The cost curve looks like this: high costs at the start, as the organization learns how to use the CMMS and it catches up on the backlog of service work and maintenance. Then, the savings kick in as there are fewer breakdowns and emergency repairs, and equipment has a longer service lifespan due to better maintenance. MDC expects that this cost decline, steep at first, will level out over the next few years.

Examining the financial and political hurdles

Implementing a CMMS can do great things for any utility, but it is a case of "short-term pain for long-term gain." That is never an easy sell, particularly as maintenance is so easy to drop off a budget to focus on what seem to be more urgent needs. But any piece of equipment has a lifespan, and that lifespan will be shorter if you do not inspect it, adjust it, balance it, and maintain it.

Some of the financial hurdles you are likely to encounter in implementing a CMMS are:

- The cost of the program itself – MDC utilizes SAP/PM, which is a powerful and reliable platform, but it may be more than many smaller municipalities need; there are less-costly, simpler programs available.
- Training staff to use the system.
- When you set up the system and hit "start," your CMMS will generate a stream of work orders that are part of the catching-up process, particularly if maintenance has not been completed according to the manufacturer's recommendations.
- The work orders will also indicate to you that you need more staff to do the work – and not just any staff, but people who have skills in mechanics, electronics, and other fields.
- The work orders will also call for more parts and supplies, particularly lubricants.

Getting buy-in from everyone in the utility, as well as the municipality's leaders, requires having someone who can convey those benefits in terms that the stakeholders will accept. Sometimes, outside professional expertise can help make this happen, particularly if the firm can describe the benefit that CMMS-based preventive maintenance has provided elsewhere.

It may be best to start with a pilot project. That might mean starting with a small vehicle fleet, because there are programs out there that can help you right out-of-the-box. You enter the equipment into the database and then start executing these preventive maintenance programs. That helps start the change, and builds discipline.

If you can do it with the fleet, you can do it with larger, more complex assets.

Building allies by 'selling' the benefits of CMMS

Any utility will require support from other stakeholders. For political leaders, it helps to point out the increased reliability of the system as a result of maintenance that is scheduled through a CMMS. This translates into higher quality water, fewer service outages, fewer service calls, and fewer surprises when it comes to spending. Leaders can bring forward a budget with greater confidence that the "expected" figures will more closely match the "actual" figures.

Employees like the predictability that a CMMS brings – they are more certain about what they will be doing that day, rather than responding to some emergency which may prevent them from

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getting their other work done. Employees can complete their scheduled work in a timely manner, and they get judged on that. So, you will be wise to get your employees on board with the idea – this builds confidence in the leaders that if they pay for a CMMS system, it will actually get used and will result in better service and lower costs in the long term.

During the first two to three years in any CMMS programming, you are going to see a sharp rise in costs. If you are going to bring a piece of equipment or an organization to a certain standard, it is going to take money and manpower to get it to that standard you are trying to achieve. The organization must understand what is desired, what expectations are, financial implications, and staffing. It helps to think in terms of lifecycle costs, so that Management understands it is not just about the purchase price of the equipment or software. It is about a new and better way of managing water, one of our most precious resources.

In summary – predictive maintenance backed by a CMMS will certainly result in some up-front costs and a learning curve at the start. But the benefits show up quickly, in terms of cost reduction, employee satisfaction, customer benefits, and a less stressed organization. Part of the program's "success" also comes from a focus on annual lifecycle costs, extending equipment lifespans through wiser maintenance investment. These are wise, sound ideas that will probably not be a difficult "sell" to leaders and community stakeholders.

Carlos Cruz is Manager of Maintenance at The Metropolitan District serving the Hartford CT area; Elizabeth Baldwin, P.E., is Vice President at the engineering firm Tighe & Bond, Inc.

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Why Should We Look at the Operating Performance of Pumps?



By Jennifer K. Muir, P.E.

Energy consumption in water and wastewater treatment facilities can account for a significant portion of a local government's operating budget. Pumps and other equipment operating continuously throughout the year make these facilities one of the largest energy consumers – about 4% of the energy used in the U.S. according to the EPA.

Have we reached the limit of pump system performance once variable frequency drives (VFDs) and premium efficient motors have been installed? No! The opportunities for energy reduction and cost savings go well beyond the motor and drive – we must look more closely at the pump itself and take a systems assessment approach.

It is critical to look at the operating performance of pumps as the operating efficiency of these pumps significantly affects the energy consumption of water/wastewater facilities. In wastewater plants, pumping system electrical usage is 20–30% of total energy consumption, and 46% in municipal water pumping systems. Energy costs are an estimated 75% of



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"The additional energy usage associated with this reduced efficiency can increase costs by **as much as 40%**."

pump lifecycle costs, so improving pump efficiency has been proven to reduce operating costs.

Before you can take steps to improve pump efficiency, you must first determine how the pump is operating in your system. If your pump is operating too far away from its best efficiency point (BEP), pump efficiency decreases, operating costs increase, and maintenance issues can arise. If you have a system that requires frequent bearing replacement, has had motor failures, or premature wear of the pump, these maintenance issues may suggest that your pump is operating too far away from its BEP and might be a "red flag" that tells you it's time to performance test your pumps.

Pump performance testing helps identify opportunities for improving efficiency and reducing costs

Performing efficiency testing of pump systems using portable instrumentation is critical not only to maintaining pump performance, but in identifying cost saving opportunities. Many of the pumps JKMuir has tested at water/wastewater facilities are operating at least 15 to 20 percentage points **below** their rated efficiency. The additional energy usage associated with this reduced efficiency can increase costs by **as much as 40%**. Consistent pump testing enables owners and end users to compare data to original pump performance, helping them evaluate efficiency options and quantify cost savings.

How is pump efficiency measured and monitored?

Efficiency testing requires flow monitoring, pressure instrumentation to determine pump head, power (kW) measurements, and data loggers to evaluate energy use changes over varying system conditions. Pump efficiency is measured by performing field readings and assessing the volumetric flow rate of the pump, total dynamic head, and the kilowatt draw of the pump. The equation below shows how pump efficiency is affected by these parameters.

$$\text{Pump Efficiency} = \frac{\text{Flow} \times \text{Head} \times 0.746}{3960 \times \text{kW} \times \text{Motor Efficiency} \times \text{Drive Efficiency}}$$

Improving pump efficiency is worth it!

Consider performance testing your pumps as you look for ways to save energy and reduce operating costs. Monitoring pump operating parameters can not only reduce operating costs, but can also be an important part of asset management and predictive maintenance. Technology is currently available that allows for continuous monitoring and real-time assessment of pump performance, providing optimization for dynamic environments and applications.

To learn more about pump system optimization, go to *http://jkmuir.com/pump-system-optimization.html*.

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3 BARRIERS to Efficiency in the Water/Wastewater Sector

Jen Muir, President of the engineering firm JKMuir, looks at the three current barriers to implementing energy efficiency at water and wastewater facilities, and why it's not always about the money.

Bridging the gap between available technologies and less-than optimal-operations often appears to solely depend on funding, grants, and unattainable capital financing.

But is it really the money that's holding us back from the net zero plants of the future?

1. Effectively Making the Business Case

Making the business case goes beyond assessing the simple payback of replacing a dated, oversized, or inefficient piece of equipment. Life cycle costing of the alternatives incorporates the less obvious savings: maintenance costs, future replacement, labor time requirements, and system reliability. Modernizing and upgrading becomes an easier sell when we present the full picture and true costs. If we take it a step further, can we put a price on the added resiliency of the proposed improvements or future benefit of sustainable operations?

2. Managing Risk

We are protecting public and environmental health through water and wastewater treatment infrastructure. The permits and treatment requirements are stringent. We are managing risk. Whether it's real or perceived, risk associated with modifying existing systems or equipment creates uncertainty. Hesitation results in delay, and the cost of delay is real dollars and kilowatt hours (kWhs). We must test, pilot, trial, and prove these technologies and operating strategies are effective and reliable. Most importantly, these results need documentation. We need the manufacturers to continue to invest and partner with us through in-plant trials and performance tests. Acceptance of enhanced automation, embracing technology, and willingness to change will be driven by data and proven results. The message can't only be "energy was saved," but that this goal was achieved without compromising treatment performance or permit requirements.

3. Training

Those who operate and maintain water and wastewater systems are part of a critical backbone of the local community and local environment. Behavior modification has gotten significant attention in energy efficiency for building systems, but in the process world, the focus has been on the mechanical elements. The equipment alone does not create the results. We have all seen the successfully installed, but less than effective, energy efficiency measures: the VFD that operates at full speed or the new age instrumentation that never functioned properly. We have failed to empower the front line. Relying on smart systems, new technologies, and responsive control functions requires an understanding of how it works, what its purpose is, and how to optimize its benefit. Have we truly invested in these new skills and in the people we have asked to make our sustainable future a reality?

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Potential Regulation of **Chlorate**

On November 17, 2016, EPA published Candidate Contaminant List 4, which will consider 97 new chemicals or chemical subgroups plus 12 microbial contaminants for regulation in drinking water including chlorate. Chlorate ion can cause problems in the nervous system and anemia in children and infants. Chlorate forms in drinking water during generation of chlorine dioxide from use of sodium or calcium hypochlorite.

Chlorate is formed from decomposition of hypochlorite ion. The rate of decomposition increases with increasing ambient temperature and light exposure. Use of refrigerated containment rooms or use of black tanks for UV sunlight protection can reduce decomposition rates in bulk chemical storage tanks. Requiring delivery of chemicals within one week of manufacture and maintaining chemical temperature below 68°F prior to bulk delivery can also help.

Dilution of commercial sodium hypochlorite solutions can reduce chlorate formation as long as the solution pH remains elevated (generally above pH 12). Once formed, chlorate is difficult to remove from drinking water. Anion exchange processes are recommended but very costly. Adsorption by granular activated carbon (GAC) is not considered effective but research is continuing in this area.

A good quality control plan is recommended to incorporate these requirements into your utility's bulk chemical delivery specifications. Reassessing your chemical storage spaces (temperature control, reduction of UV decomposition from sunlight) and increased frequency of chemical delivery can also help.

Water utilities that use chlorinated water should begin assessing their chemical handling and quality control procedures as a good practice in anticipation of regulation of chlorate in the future.



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TPS Total Piping Solutions, Inc.



Total Piping Solutions, Inc. is a full line supplier of products used for the repair, connection and tapping of water, sewer, natural gas and industrial piping systems. All products are shipped from our state of the art manufacturing facility located in western New York State. Products include the TX3® Pipe Coupling, the Quick Sleeve Bell Joint Encapsulation Sleeve®, the Triple Tap® Tapping Sleeve and line stop fitting, the T3® Service Saddle, the Quick Cam® Wide Range Repair Clamp, the Quick Cam® Line Stop and Hot Tapping Saddle, galvanized ductile iron compression fittings, and pipe patch clamps.

The newly introduced "TX3"® Wide Range Coupling is a two-bolt Universal Pipe Coupling designed to accommodate pipe repairs and maximum pipe transitions in diameters of 2" through 12". The TX3 includes a fully replaceable gasket system, Easy-Lift® Handle, and superior three stage coating.

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For over 15 years, Total Piping Solutions, Inc. has provided utilities, contractors and distributors high value products with exceptional quality in product sizes ranging from ½" to 48" in diameter.

This includes the best in class wide range Quick Cam® Repair Clamp. This clamp is available in sizes from 2" to 48" in diameter, and carries a working pressure rating of up to 200 psi. All single panel clamps carry an extended range of nearly 1", allowing for a reduction of inventory since more pipe diameters can be covered with fewer sizes. This high value product maximizes performance, minimizes inventory and streamlines the installation process.

The New Quick Sleeve Bell Joint Encapsulation Sleeve® is a ductile iron full joint encapsulation sleeve built to accommodate diameters of 2- 2.5, 4, 6, 8, 10 and 12". Each wide range sleeve covers either 2 or 3 pipe classes and may range from IPS to DIP or CIP pipe diameters. With an epoxy coating and stainless steel nuts, bolts and washers this product is built for the life of the line. By eliminating the need to perform an open cut repair, the Quick Sleeve® for Bell Joint Encapsulation reduces labor, time and material. Since it eliminates the need for an open cut repair, downtime is minimized by removing the need to disinfect and take post repair water samples.

The Triple Tap® Tapping Sleeve and Line Stop Fitting Product line, available in sizes from 4" to 30" in diameter, provides the same exceptional benefits as the Quick Cam® Rapid Seal Repair Clamp. Tapping sleeves and line stop fittings are designed with an extended range feature that allows for maximum pipe coverage, and provides the opportunity for an across the board reduction in inventory.

All Triple Tap products are constructed of Type 304 Stainless Steel and are equipped with heavier than normal band materials, thicker gaskets and bridge plating, plus a unique triple seal configuration. These features combine to create an industry leading product line that works to higher working pressures, provides full beam break resistance, and maximum reinforcement of the pipe. This industry first design delivers value for the distributor, the contractor and the utility. For information regarding sizes to 24" in diameter, contact Total Piping Solutions, Inc.

The Triple Tap® Line Stop Fitting features an equipment interface that works with all industry standard tapping and stopping machines and completion plugs may be ordered in either a threaded or push plug type configuration.

The Quick Cam® Line Stop and Hot Tapping Saddle, in sizes ranging from 3/4" to 4" will help perform both industrial stop and tap requirements on either copper or steel in plant piping applications.

The T3 Universal Pipe Saddle is an industry first tapping saddle. It may used on all pipe materials including polyethylene pipe in sizes to 48" in diameter.

Total Piping Solutions, Inc. is here for all of your piping requirements. Nearly every product ships within 24 hours after receipt of order, and we are happy to work with each and every customer to accommodate any of their special or emergency requirements.

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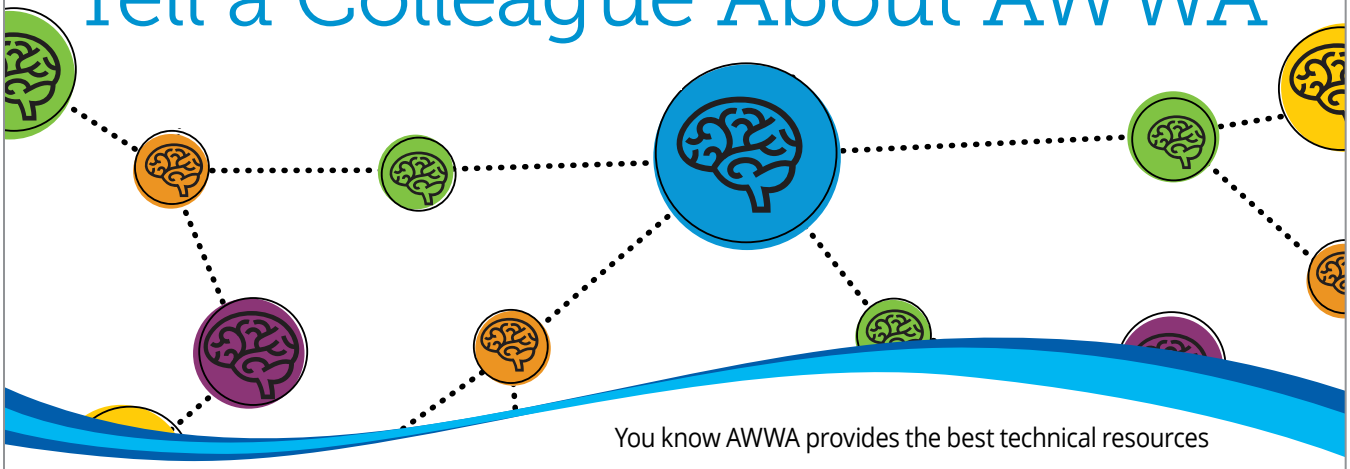
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Heritage Village/Connecticut Water Company Water Makes Donation to Support Pomperaug River Watershed Coalition

Heritage Village Water Company (HVWC), under the new ownership of Connecticut Water, made a $25,000 donation to the Pomperaug River Watershed Coalition (PRWC) in May.

The donation reflects Connecticut Water's history of working closely with the local communities and being good stewards of the environment. HVWC's groundwater sources are located within the watershed of the Pomperaug River, and the company wanted to work with the PRWC to ensure availability of high quality water in the Pomperaug Watershed communities.

PRWC stated it will use the funds to further expand community outreach, watershed protection and water resources planning programs, as well as youth-focused initiatives such as the Dr. Marc J. Taylor Internship and the recently announced Youth Corp Program.

"The company wanted to work with the PRWC to ensure availability of high quality water in the Pomperaug Watershed communities."



Pictured (left to right): Eric Thornburg, President and CEO at Connecticut Water; Len DeJong, Executive Director, Pomperaug River Watershed Coalition (PRWC); Maureen Westbrook, Vice President, Customer and Regulatory Affairs at Connecticut Water; Jeffrey Manville, Southbury First Selectman; and Vince McDermott, Chair of the PRWC Board of Directors.



MEMORIALS
Remembering Our Colleagues

Remembering Paul T. Carver

Paul Carver passed away on April 30, 2017, at the age of 88 in Hartford, CT. He earned his Bachelor's in Civil Engineering at Cornell University before serving as 2nd Lieutenant in the Air Force during the Korean Conflict. He joined CE Maguire, later The Maguire Group, and worked there until his retirement 46 years later. He and his wife Phyllis eventually settled in West Hartford, CT. Paul was a devoted, caring friend to all and an unforgettable character who was quite fond of bow ties.

Paul was a founding member of the Connecticut Water For People (WFP) Committee and an active supporter of the CTAWWA Section. He became a Life Member in 1989, and received the Gold Water Drop Award at the 2009 annual conference in Woodstock, VT. He also won the Water For People Kenneth J. Miller Founder's Award in 2006.





In lieu of flowers, Paul's family suggested making a contribution to Paul's favorite charity, Water For People. The CTAWWA – Water For People Committee has recently sent a contribution of $1,000 to WFP in memory of our colleague Paul.



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Kevin DelGobbo

Kevin DelGobbo, former Legislator and Energy Regulator, passed away on July 3, 2017 in Naugatuck at the age of 53.

At the time of his passing, Kevin was the Director of Revenue Requirements for Eversource Energy. The career that he was the most humbled by was serving the citizens of Naugatuck as the State Representative for the 70th District for 12 years.

Kevin received the CWWA Legislator of the Year Award in 2008 as he was a strong voice and supported many water utility issues in the legislature.



Kenneth W. Henderson – Hingham, MA

Kenneth Henderson was an honorary member of AWWA in Hingham, Mass. He received the Gold Water Drop Award in 2005, the Life Member Award in 1985, the Honorary Member Award in 1977, and was honored with the Fuller Award in 1969.

More information about Kenneth's life is available at *www.legacy.com/obituaries/wickedlocal-hingham/obituary.aspx?pid=184440868*.

Joseph A. Savino – New Haven, CT

Information about Joseph's life is available at *www.wsclancy.com/obituary/Joseph-A.-Savino/New-Haven-CT/1646653*.

Anna Chung Hired as Director of Benefits and Compensation at Connecticut Water

Anna Chung was hired as the Director of Benefits, Compensation and HRIS (Human Resources Information System) for Connecticut Water effective May 2017.

Anna has more than 15 years of compensation, benefits and human resources experience and was most recently a Compensation Specialist at Yale University, where she supported 10,000 internal customers. Anna says she is looking to leverage her past knowledge and experience to serve her new coworkers at Connecticut Water, especially as healthcare and medical insurance regulations continue to evolve.

Anna has a Bachelor's degree from Western New England College, and she is fluent in Korean and English. She currently lives in Waterford with her husband and two teenaged sons.

Heritage Village Water Now a Part of Connecticut Water

Earlier this year, the Heritage Village Water Company (HVWC) became part of the Connecticut Water Service, Inc. (CTWS) family. As part of CTWS, Heritage Village Water is now a sister company to the Connecticut Water Company. HVWC has about 4,700 water customers in the towns of Southbury, Middlebury, and Oxford and 3,000 wastewater customers in Southbury.

HVWC now has access to resources and the technical expertise of Connecticut Water. Customers benefit by being part of larger, regional company, which has a size and presence that provides for operational efficiencies, purchasing power and other economies of scale. CTWS subsidiaries, including Connecticut Water and Maine Water, have long histories of delivering world-class satisfaction to customers and being good stewards of natural resources.

HERITAGE VILLAGE ConnecticutWater

HVWC retains its current name, a local office, and its employees under CTWS ownership.

With the addition of HVWC, CTWS now has approximately 98,000 water customers and 3,000 wastewater customers in 58 Connecticut communities.

Fuss & O'Neill to Combine with NH firm

Manchester engineering firm Fuss & O'Neill recently announced it has acquired CLD Consulting Engineers of Manchester, New Hampshire. The acquisition gives the Connecticut firm a foothold in all six New England states.

Fuss & O'Neill currently has offices in Connecticut, Rhode Island, Massachusetts, and South Carolina. CLD Consulting Services has offices in Vermont and Maine, in addition to New Hampshire.

The agreement brings together 350 engineers, scientists, and planners in 11 offices in Fuss & O'Neill's geographic footprint.

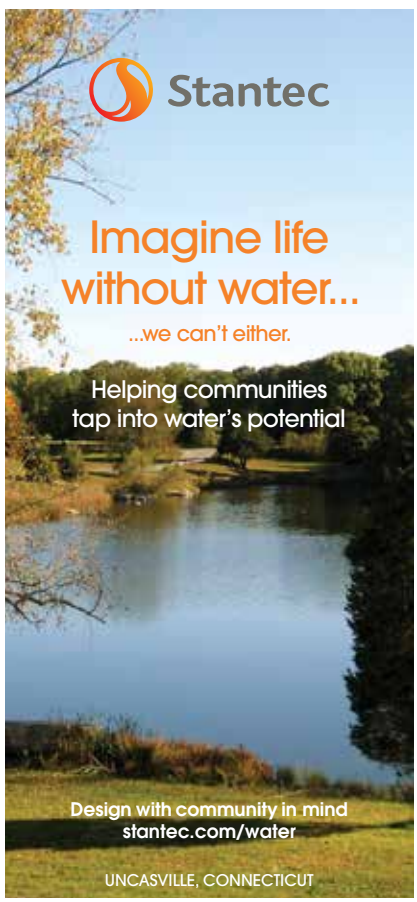
CLD adds expertise in highway and bridge design, traffic and transportation services, municipal engineering and private development to Fuss & O'Neill's experience in land development, traffic/transportation, water resources, environmental services and facilities engineering, the company said.

Fuss & O'Neill Promotes Ten

Civil and environmental engineering firm Fuss & O'Neill, recently announced the promotion of ten employees in its Manchester and Trumbull offices.

Manchester promotions are: Douglas Brisee, a water resources engineer, to senior engineer I; Robin Casioppo, an environmental scientist, to scientist III; Eric Grulke, an environmental engineer, to engineer II; Craig Lapinski, a civil engineer, to senior vice president/ practice team leader; Stephanie White, a landscape architect, to project manager; Stefanie Wierszchalek, a hydrogeologist, to senior hydrogeologist I; and Matt Wujcik, a scientist, to project manager.

In Trumbull, Harl Humphrey, an environmental engineer, was promoted to engineer III.



Environmental Partners Group, Inc.

Environmental Partners Group, Inc. is an award-winning, civil, environmental, traffic and transportation engineering and consulting firm built on the core philosophy that a strict focus on client service through partnership creates added value for our clients.

Now in our 20th year, the foundation of our growth and reputation within the engineering community remains our close partnership with our clients. Our innovative spirit and true partnership orientation allows us to offer technical expertise in a wide array of disciplines, with responsiveness and commitment to our clients.

We have been awarded over a dozen ACEC Engineering Excellence Competition Awards for a diverse array of projects up to $130 million in size. In 2014, one of our unique oyster reef restoration/water quality enhancement projects on Cape Cod was selected as a national Top 25 Public Works Project by the American Public Works Association. Our growing list of awards is testament to our core philosophy. In 2015, Environmental Partners was honored to receive both the Young Professional Employer Support Award, and the Sponsor of the Year Award from the New England Water Works Association. In 2016, Environmental Partners was named to the Zweig Group Hot Firm List which recognizes "the 100 fastest-growing architecture, engineering, planning, and environmental consulting firms in the United States and Canada. These firms have outperformed the economy and competitors to become leaders in their chosen fields."

Headquartered in Quincy, Massachusetts, with offices in Woburn and Hyannis, MA, Environmental Partners opened an office in Middletown, Connecticut in 2016 in order to better serve and respond to our growing list of clients in Connecticut and to support company growth and expansion.



Environmental Partners attends the Connecticut Section – American Water Works Association's Annual Technical Conference and Vendor Expo on February 28, 2017. (From left to right: Bill Murphy, Laura Trahan, Ingrid Jacobs, Paul Gabriel, Nick Rossi, and Dave Patangia.)

Growing steadily, the Middletown office is led by staff members Bill Murphy, P.E., Ingrid Jacobs, P.E., and Nick Rossi.

Bill Murphy, our Regional Office Manager, brings over 30 years of engineering experience in a wide range of projects related to transportation, water/wastewater, geotechnical, environmental services, construction inspection and administration. He has a wealth of experience working throughout New England for both municipal and state agency clients and is a former Connecticut Director for the New England Chapter, American Public Works Association.

Ingrid Jacobs, Senior Project Manager, has 18 years of civil engineering experience in the planning, permitting, design, and construction of water resources and infrastructure projects throughout Connecticut and Massachusetts. Ingrid's experience also includes wastewater infrastructure planning, permitting, design and construction services. Currently, Ingrid is the Chair of the Associates Committee of the CTAWWA.

Environmental Partners has extensive experience in the planning, permitting, modeling, design, construction, operations, maintenance, and management of water resources infrastructure including new source development and source protection, master planning, asset management, treatment, storage and distribution. We are currently working with the Town of Eastham, MA to design and construct a $130 million town-wide water system which entails 120 miles of water main, three municipal wells that each pump

"We are currently working with the Town of Eastham, MA to design and construct a $130 million town-wide water system. The project is the single largest and most ambitious water infrastructure program ever undertaken on Cape Cod."

one MGD, and two elevated storage tanks. The project is the single largest and most ambitious water infrastructure program ever undertaken on Cape Cod. Led by Environmental Partners Group's innovative and fast-paced design and construction management program, the project is ahead of schedule and under budget, resulting in public water available to customers in only 30 months. This system protects public health town-wide, provides sustainable water resources management, and assures the continued vitality of this historic and beautiful community.

Other recent projects include:

- A $6 million new municipal water system including two wells, a 500,000-gallon elevated storage tank, four miles of 8" and 12" distribution piping, 55 fire hydrants, and 300 services.
- Pilot studies, conceptual planning, final design, construction services, and operations assistance for an 8.0 MGD, $35 million state-of-the-art surface water treatment facility. Based on the results of the pilot study, the combination of DAF, intermediate ozonation, and BAC media filtration was selected for design.
- A Groundwater Flow Study for a sole source aquifer. The wellfield supplies 80% of the water for a municipal water district. The project included performing a hydrogeological study of the wellfield for water supply protection, planning, and management purposes. The study included field investigations (soil borings, monitoring wells, stream piezometers, water level monitoring, and aquifer tests) to characterize the hydrogeologic properties of the overburden aquifer surrounding the wellfield and development of a groundwater flow model to examine impacts of current and potential future nitrate sources to groundwater within the capture zone of the wellfield.
- Planning, permitting, design, and construction of a 1.5 MGD microfiltration membrane system.
- Analysis and design for energy efficiency implementation and flow meter replacement at multiple water pump stations for a private water company in Connecticut.

At Environmental Partners Group, we are proud of our continued growth and success in serving our clients as partners while providing sound and innovative solutions to their diverse infrastructure needs. For additional information, please contact Bill Murphy, at (860) 740-6260 or *wgm@envpartners.com*.



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SUEZ Advanced Solutions

Water utilities nationwide are facing a huge challenge with aging infrastructure and the need to make deteriorating water assets comply with new regulations that have resulted from repeated episodes of drought and flooding, as well as environmental concerns. The struggle is often more acute for small and medium-size municipalities because of a lack of resources to plan and execute regular maintenance, and the inherent financial risks of running to failure assets that are critical to the service of the community.

SUEZ Advanced Solutions, formerly known as Utility Service Group, believes no water system should have to choose between a capital expense beyond budget or an unpredictable run-to-failure approach, so they created the Asset Management Program, a packaged offering that bundles in a single contract the rehabilitation and future maintenance of specific water assets. SUEZ Asset Management Program is a peace-of-mind solution that keeps critical water assets – including wells, steel and concrete storage tanks, filtration systems, and water meters in good operating condition and compliant with all applicable regulations. They first restore the asset to its like-new condition and then take full responsibility of its maintenance for the long term. Each contract is designed and executed based on the specific requirements of the customer and the condition of the asset. That means a single point of contact and one call for all service needs. They also provide funding solutions to help finance the initial rehabilitation or upgrade if need be.

"In addition to asset management solutions, SUEZ has a portfolio of technologies focused on energy and water conservation as well as water quality – including in-tank mixers, THM removal systems, and ice pigging."

To optimize the maintenance of distribution networks, SUEZ offers an acoustic pipe assessment technology that measures the average remaining wall thickness of underground water mains to help allocate spending to the right corrective action: replace, rehab, or defer. Once the critical pipes are identified, they repair them using a spray-in-place pipe rehabilitation process. This trenchless technology uses a computer-controlled robotic application rig to apply an epoxy lining inside the pipe. The lining cures in a couple of hours and seals the pipe, preventing leaks and water contamination, improving flow capacity and minimizing future maintenance costs.

In addition to asset management solutions, SUEZ has a portfolio of technologies focused on energy and water conservation as well as water quality – including in-tank mixers, THM removal systems, and ice pigging.

In Connecticut, Torrington Water Company has entrusted SUEZ with the full-service maintenance of eight of their water storage tanks. The contract includes the rehabilitation of all tank interiors and exteriors as well as future annual inspections, repairs and emergency services. The rehabilitation of the last tank will be completed this year. SUEZ also partnered with Tata & Howard engineers and Tnemec distributors, Righter Group, to perform a comprehensive rehabilitation of deteriorated concrete tanks for Avon Water Company. The project, which required a 38-step painting process, solved all cracking issues while meeting the requirements of the Connecticut Department of Public Health. In July 2016, SUEZ Ice pigging specialists cleaned 2,750-feet of water main in the town of Marlborough for Connecticut Water Company. Seventy pounds of sediments were successfully removed, and the system was returned to service in less than an hour.

For more information, visit *www.utilityservice.com* or contact Dick Johnson (401-965-5916, *djohnson@utilityservice.com*) or Adam Szczesniak (860-294-9398, *aszczesniak@utilityservice.com*).

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Welcome New CTAWWA Members!

Jessica Aniskoff,
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Daniel Bolduc

Paul Boutote,
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Jason Chase,
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Caitlin Chiquelin,
Student

Alex Cosentino,
The Metropolitan District

Michael Curley,
The Metropolitan District

Joyce Defelippi,
Bristol Water Department

Dave D'Onofrio,
Connecticut Water Co.

Scott Galipo,
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Joseph Gonzalez

Jeffrey Graham,
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Glenn Guerriero

John Hamm

Jair Henriquez,
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Peter Hornik

Steven Ignatowich

Steven Jabs,
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Humberto Jaramillo,
Yale University

Kraig Keegan,
Bristol Water Department

Paul Keegan,
Bristol Water Department

Maryam Keramati,
Student

Matthew Knickerbocker

Chris McCarthy,
Bristol Water Department

John Mirtle,
The Metropolitan District

Janani Muruganathan

Angelica Quintero,
Student

Kendall Rivera,
Bristol Water Department

Mary Lou Rychling,
Norwich Public Utilities

Amanda Schenkle,
Regional Water Authority

Edward Smith

Ryan Stapleford,
Student

Albert Sylvester,
Southington Waterworks Dept.

Dave Thompson,
Office of Consumer Counsel

Christopher Wojciak,
Connecticut Water Co.



American Water Works Association
ConnecticutSection

Fall 2017 Course Descriptions

For more information on the courses below and to register online, go to *http://ctawwa.org/Fall_Education_Schedule*

Water Storage Tanks – Inspection Through Operations

Course Code: Fall 1701
Date: Thursday, September 14, 2017
Location: Goodwin College, 195 River Room, 1 Riverside Drive, East Hartford, CT 06118
Time: 7:30 am to 12:30 pm
TCH: 4 Applicable for Distribution and Treatment (D and T)

Course Description: Storage facilities and their operation can have significant impacts on water quality in distribution systems. This seminar will provide an overview and background on the types of storage tanks, inspection of storage tanks, sediment removal practices, storage facility water quality impacts, review of the effects of various physical and operational factors, and discussion of technologies and operational practices that can improve water quality.

Registration Fee: **CTAWWA Members: $140.00; Non-Members: $190.00**

CTAWWA/RCAP Small System Training Seminar

Course Code: Fall 1702
Date: Wednesday, September 27, 2017
Location: Goodwin College, Room 311, 1 Riverside Drive, East Hartford, CT 06118
Time: 7:30 am to 4:30 pm
TCH: 5 Applicable for Distribution and Treatment (D and T) (application pending)

Course Description: This small water system training opportunity will present and discuss several of the most common water supply, treatment, distribution, and regulatory issues facing small water systems in Connecticut. **The workshop will focus on operational and compliance issues associated with water systems serving less than 1,000 people.**

Registration Fee: **Free**

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THINK GREEN

Cross-Connection Workshop

Course Code: Fall 1703
Date: Wednesday, October 11, 2017
Location: Goodwin College, Community Room, 1 Riverside Drive, East Hartford, CT 06118
Time: 7:30 am to 4:00 pm
TCH: 6 Applicable for Distribution and Treatment (D and T) (application pending)

Course Description: The CTAWWA is sponsoring a workshop on cross-connections and backflow prevention devices. Come hear from two cross-connection experts and water utility representatives on such topics as cross-connection regulations, updating your testing skills, whether your testing methods are up to the current standards, the cross-connection implications of green technologies and case studies. Become more informed and earn training hours for your water treatment, distribution or small water system license (application pending). Don't miss this exciting opportunity to network and become better informed about your responsibilities and how to protect your water system from cross-connection.

Registration Fee: **CTAWWA Members: $190.00; Non-Members: $240.00**

Water Quality & Treatment Symposium

Course Code: Fall 1704
Date: Wednesday, November 8, 2017
Location: Norwich Inn & Spa, 607 West Thames Street, Norwich, CT 06111
Time: 7:30 am to 4:30 pm
TCH: 6 Applicable for Distribution and Treatment (D and T) (application pending)

Course description is pending.

Registration Fee: **CTAWWA Members: $190.00; Non-Members: $240.00**

Partnership Courses with NEWWA

The following courses are offered in partnership with the New England Water Works Association, a section of the American Water Works Association. To register for these courses, call NEWWA at (508) 893-7979, or visit the website at *www.newwa.org*.
CTAWWA cannot accept registration for these classes.

Where It All Begins: Knowing and Protecting Your Source Water

Course Code: WPW118AC
Date: Wednesday, September 26, 2017
Location: Regional Water Authority, New Haven, CT
Time: 9:00 am to 4:00 pm
CEU: 0.6 CEU;
Applicable for Treatment (T)

Course Description: Drinking water suppliers depend greatly on the quality and quantity of their sources in order to provide ample, safe drinking water. This course will allow students to discover the characteristics and types of sources used to supply drinking water, as well as the methods of protecting possible contamination to those sources.

Registration Fee: **CTAWWA Members: $190.00; Non-Members: $240.00**

Selection, Application and Maintenance of Water System Valves

Course Code: DSV218AC
Date: Thursday, October 12, 2017
Location: Regional Water Authority, New Haven, CT
Time: 9:00 am to 12:30 pm
CEU: 0.3 CEU; Applicable for Distribution (D)

Course Description: This course will present information on the application and selection of different mainline and specialty water system valves; review advantages and disadvantages of several valve types; and present proper procedures for inspecting, testing, and maintaining these mainline valves.

Registration Fee: **CTAWWA Members: $140.00; Non-Members: $190.00**

Sustainable Ways to Manage Your Groundwater Supply

Course Code: RMG218AC
Date: October 26, 2017
Location: MDC Training Center, Maxim Rd. Hartford, CT
Time: 9:00 am to 4:00 pm
CEU: 0.6 CEU; Applicable for Distribution or Treatment (D or T)

Course Description: Groundwater suppliers today must understand the new best practices for providing safe and sufficient drinking water to keep pace with regulations. This course is for water utility superintendents and managers who must meet today's complex and challenging world of total water resource management with a sound understanding of groundwater withdrawal impacts, how to assess them, and how to address them effectively.

Registration Fee: **CTAWWA Members: $190.00; Non-Members: $240.00**

Operational Impacts on At-The-Tap Lead Concentrations

Course Code: TLC218AC
Date: Thursday, November 9, 2017
Location: Regional Water Authority, New Haven, CT
Time: 9:00 am to 12:30 pm
CEU: 0.3 CEU; Applicable for Distribution or Treatment (D or T)

Course Description: This course will present the fundamentals of lead and copper corrosion. It is a basic introduction designed to help participants develop an understanding of the theory and practice of how water system operations can impact at-the-tap lead concentrations. An overview of the current Lead and Copper Rule and the proposed long-term revisions will be presented.

Registration Fee: **CTAWWA Members: $140.00; Non-Members: $190.00**

Chemical Feed Pump Operations, Maintenance, and Troubleshooting

Course Code: TFP218AC
Date: Wednesday, November 29, 2017
Location: MDC Training Center, Maxim Rd. Hartford, CT
Time: 9:00 am to 4:00 pm
CEU: 0.6 CEU;
Applicable for Treatment (T)

Course Description: This course will help participants develop an understanding of how various types of chemical metering pumps operate, and how to keep them in top operating condition. It will cover component parts and terminology, sound pump operation and maintenance procedures, problem solving, and how to increase pump life and maximize equipment down time, all using chemical feed pump cutaways and easy-to-read visuals.

Registration Fee: **CTAWWA Members: $190.00; Non-Members: $240.00**

AWWA & Other Standards: How to Maximize Quality During the Procurement Process

Course Code: WMQ218AC
Date: Thursday, December 14, 2017
Location: Regional Water Authority, New Haven, CT
Time: 9:00 am to 12:30 pm
CEU: 0.6 CEU; Applicable for Distribution and Treatment (D and T)

Course Description: This course will explain the process of AWWA standard development and how their use can support water utilities purchase of water system components and chemicals as well as the installation, testing, and operation of water system assets all that meet minimum industry standards.

Registration Fee: **CTAWWA Members: $140.00; Non-Members: $190.00**

For more information about these courses offered by NEWWA, go to *http://ctawwa.org/Fall_Education_Schedule*.

To register for these courses, call NEWWA at (508) 893-7979, or visit the website at *www.newwa.org*.

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