Buckeye Bulletin

Ohio Water Environment Association | Volume 83:4 | Issue 4 2010

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Ohio Water Environment Association
Preserving & Enhancing Ohio's Water Environment

www.ohiowea.org

Sludge Minimization

Microconstituants in Biosolids

Dewatering Improvements

Solid Waste Rule for Incinerators

. . . and more

Register for OWEA's Biosolids Workshop
December 9th in Columbus *page 19*

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On the Front Cover: Sludge photo by Judi Henrich.

Contact Hour Information: All OWEA training is submitted for contact hour approval.

Check out OWEA's website *ohiowea.org* for a complete listing of OWEA approved training.

Article Deadlines: 1st day of January, April, July, and October

Publication Dates: Spring, Summer, Fall, and Winter

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The ideas, opinions, concepts, and procedures expressed in this publication are those of the individual authors and not necessarily those of the Ohio Water Environment Association, its officers, general membership, or staff.

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Water Environment Federation®
Preserving & Enhancing the Global Water Environment

2010 - 2011 Calendar of Events

November 2010
17 Executive Committee Meeting
18 NESOWEA Section Meeting
18 SWOWEA O&M Seminar/Section Meeting

December 2010
9 Biosolids Workshop
15 Executive Committee Meeting

January 2011
14 NWOWEA Executive Committee Meeting
19 Executive Committee Meeting
20 SWOWEA Industrial Pretreatment Seminar
27 OWEA Webinar
27 NESOWEA Operations Seminar
27 SWLAC Meeting

February 2011
24 NESOWEA Industrial Wastes Meeting
24 OWEA Webinar

March 2011
10 Government Affairs Workshop
16 Executive Committee Meeting
16 NWOWEA Section Meeting
31 OWEA Webinar

April 2011
8 NWOWEA Executive Committee Meeting
28 NESOWEA Watershed Seminar

May 2011
5 Collection Systems Workshop
19 Executive Committee Meeting
24 2011 Ohio Operations Challenge and Hands-On Operator Training Day

June 2011
20 OWEA Annual Golf Event
20 Executive Committee Meeting
21-23 Annual Conference and Exhibit Expo

Please send all calendar updates to *info@ohiowea.org*. Your event will be noted in the Buckeye Bulletin and on OWEA's online calendar at *www.ohiowea.org*.

2010-2011 Executive Committee

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NE Delegate	Ted Baker, Baker and Associates 440.461.4577 *kingsnu@aol.com*

Executive Committee Meeting Dates

Nov 17, 2010 - Conference Center at NorthPointe
Dec 15, 2010 - OWEA Office
Jan 19, 2011 - OWEA Office
Mar 16, 2011 - OWEA Office
May 19, 2011 - OWEA Office
Jun 20, 2011 - Kalahari Conference Center

Check the OWEA website for meeting details.

Committee Chairs

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President's Message

Dear Friends,

Dale Kocarek
OWEA President

As President of the Ohio Water Environment Association, I have taken on the theme of "sustainability" during my term. For our organization, I have defined sustainability through the establishment of programs, directions, and activities marked with a sense of continuation, vitality, relevance, and member satisfaction. During the last few months, I have taken initial steps to ensure this. Many of my ideas were discussed in my President's Address on June 16, 2010 and restated during our recent "Mega Meeting" held for OWEA and section leadership on September 9, 2010.

The years between 2005 and 2010 were marked by the period of growth for our organization – much like the years 1980 through 2000 were for the American economy. However, I believe that we are at a point where the continued vitality of our organization cannot be guaranteed without taking steps to ensure that our member services remain responsive to the demands placed on us. To this, I offer the following as evidence:

- The availability of "free money" to build and upgrade our infrastructure appears to be a "thing of the past", at least for the time being, forcing us to do more with less. Our industry has evolved to help manage this crisis through tools such as asset management, which allows utilities to match investment based on criticality and consequences of failure. I consider this to be smart thinking, and born about by the necessities of our current age. I am pleased to say that OWEA has been responsive to this need by producing a three part series on asset management in webinar form at no cost. The presentations done by the City of Dayton, City of Columbus, and Cincinnati MSD were first rate.
- Budgets are being cut to the bone. This imposes hardships in getting travel requests approved by employers to attend workshops and meetings. Fortunately, our four sections offer local training at an affordable cost. The Training and Development Committee will be looking into ways to help OWEA provide more remote training opportunities.
- Changes to the Ohio Public Employees Retirement System (OPERS) are encouraging a wave of new retirements, beyond what could have been anticipated as recently as two years ago. While I would hope that this would not impact our membership base, I believe that it will. If our new reality may be 1,400 members versus our current 1,750 members, we must plan accordingly. I am convinced that the cause of failure is not changing conditions, but the failure to adapt and change.

During the first three months of my presidency, I have sought to effectively utilize our Executive Committee through the use of the Governance Committee and by the establishment of several new Ad Hoc Committees. Permit me to explain how each is intended to work as we move forward.

The Governance Committee is used at the discretion of the President to undertake special investigations on topics of immediate interest or concern to the organization, particularly where resolution must be accomplished in a relatively short period of time, and where some research is required. The members of the Governance Committee are normally members of the OWEA Executive Committee.

The primary benefits of the Governance Committee are essentially twofold: 1) to evaluate a task or issue quickly and efficiently through the engagement of a knowledgeable group of individuals; and 2) when it is necessary for the OWEA Board to take action (usually as a motion presented to the Board), the final recommendations are typically well conceived. Over the last three months, I have established the following tasks for the Governance Committee:

#	Title	Task Manager(s)
1	Wilo Pump SOP/Insurance	Doug Clark
2	Office Computer Systems	Tom Angelo
3	Staffing and Compensation	Michael Frommer
4	Sponsorship	Ted Baker Dan Sullivan
5	Financial Capability and Practices	Jane Winkler Steve Morrison
6	Membership Cost/Services	Elizabeth Wick Dale Kocarek

For tasks which are longer in duration or more exploratory in nature, I have established four Ad Hoc Committees. Ad Hoc Committees are similar to traditional standing committees. However, Ad Hoc Committees are established at the discretion of the President and are intended to explore a topic of special interest. Occasionally, Ad Hoc Committees are promoted to Standing Committees, but at other times, they are disbanded after the completion of a task or period of time. I have formed four Ad Hoc Committees this year – all or several will likely be continued by Doug Clark next year. These are:

Name	Chair	Affiliation
Strategic Planning	Dianne Sumego	ARCADIS
Training & Development	Phil Anderson	ARCADIS
Publicity	Cindy Jacobsen	Malcolm Pirnie
Small Systems	Roberta Acosta	RCAP

I am pleased to report that despite the recession and impending retirements by many in the public sector, our membership numbers have been holding steady and attendance at OWEA events has been good. The feedback that we received on the OWEA 2010 Annual Conference and recent Plant Operations 2-Day Workshop was very good. Also, as I mentioned above, our Utility Enhancement Committee has recently completed a series of three webinars on "asset management." The production quality of this series was excellent and my sincere thanks to those on the Utility Enhancement Committee and our webinar presenters for putting on a series that was second to none. This series is available for download at *www.ohiowea.org* from the Presentations tab.

On another note, OWEA will be seeing some changes to the Water Environment Federation (WEF) House of Delegates (HOD) this fall. Steve Morrison has completed his three year term as our representative to WEF and Kim Riddell of Smith Environmental (recently of the City of Delphos) will be taking his place. Steve leaves a legacy of good service to OWEA, which began as the SW Section Delegate in 1999, as OWEA President in 2005-2006, and most recently as WEF Delegate 2007-2010. Steve did a good job in keeping us informed on WEF. Through his efforts, I feel that OWEA has grown closer to WEF during his tenure, and we have a better understanding of WEF. Fortunately, Steve will remain as the Chair of the OWEA Finance Committee. When you see Steve, please be sure to thank him for his tenure of dedicated service to our organization.

The second appointment to the WEF HOD is that of Dianne Sumego. Dianne was nominated and accepted to one of the At Large HOD seats, which is an honor in itself. In the past, the At Large seats were held for persons in specialty areas to represent WEF. Many of you know that Dianne is active in the WEF Collections Committee. As OWEA President in 2009, Dianne worked with USEPA to enter into a Memorandum of Understanding (MOU) on resource sharing for special projects. This was a unique and special accomplishment.

Lastly, I would like to remind you that OWEA will be holding its annual Biosolids Workshop on December 9, 2010 at the University Plaza Hotel. The technical content of this workshop, put on by Jamie Gellner, promises to be a "can't miss" event. For those of you who need contact hours or professional development hours, please go to our website and check it out.

Until next time, I will close by borrowing a line from the famous 5S induction ceremony, *"Is there no rest for the weary sludge shoveler?"*

Dale Kocarek
dale.kocarek@stantec.com

WEF LAu NCh ES NEW DAt AbASE

The Water Environment Federation will launch its new, state-of-the-art customer database (Personify) and online shopping experience in mid-November 2010.

To prepare for the launch all order processing, membership record updates, and the "Shop WEF" section of the WEF website will be unavailable from Monday, November 1, 2010 until Thursday, November 18, 2010.

During this time, for immediate assistance to place an order or to modify a customer record, individuals may contact WEF's Customer Service team:

800.666.0206 (toll-free in U.S. and Canada)
571.830.1545 (outside of the U.S. and Canada)
Email: csc@wef.org

OWEA ASSOCIAt ION NEWS

OWEA Exhibits at Ohio RCAP "Small Towns, BIG Futures" and Ohio Section AWWA Annual Conference

The Ohio Water Environment Association shared information regarding its goal of preserving and enhancing Ohio's water quality environment, training and educational opportunities, and the benefits of involvement in the organization. We staffed a booth August 24-25 at Ohio RCAP's "Small Towns, BIG Futures" and on September 21 at the Ohio Section AWWA Annual Conference.

Dan Sullivan (SW Delegate) and Jane Winkler (OWEA Secretary-Treasurer) work the OWEA booth at September's AWWA conference.

Presentations and Webinars Available

The presentations from the 2010 Plant Operations and Laboratory Analysts Workshop and the Utility Enhancement Committee's three part webinar series on Asset Management are now available for your viewing and download on OWEA's website. Visit *www.ohiowea.org* and click on Presentations (left margin list).

Tour of Fairfield County Tussing Road WRF

OWEA fall term intern, Ashley Johnson, a senior Ohio State student, and Judi Henrich, OWEA Ex. Admin., toured the Fairfield County Tussing Road Water Reclamation Facility, guided by Brandon Fox, Chief Water Reclamation Officer. This facility, compactly located on a smaller than usual footprint, is featured in the Plant Profile article on page 37. It was a beautiful autumn day to learn about the different processes involved in the wastewater treatment process.

Brandon Fox (Fairfield County) and Ashley Johnson (OWEA Intern)

WEF DELEGAt E REPORt

Phil Anderson, Sr.WEF Delegate

Kim Riddell, Jr.WEF Delegate

As you read this, WEFTEC 2010 is in the books and the planning for WEFTEC in Los Angeles is well under way. This year the Water Environment Federation's (WEF) 83rd annual technical exhibition and conference was at the New Orleans Morial Convention Center in New Orleans, Louisiana. WEFTEC 2010 had a total of 17,515 water professionals and 984 exhibiting companies occupying a record breaking 295,295 net square feet of exhibition booth space. This year's record-setting exhibition exceeded the previous record set at WEFTEC.08 in Chicago by more than 5,700 net square feet.

The conference provided attendees from around the world with a high-quality technical program of 112 technical sessions, 33 workshops, and several high profile events, including a special session featuring Robert Perciasepe, Deputy Administrator for the U.S. Environmental Protection Agency (EPA). The Deputy Administrator updated attendees on the agency's current policies, priorities, and programs as well as announced the issuance of EPA's new Clean Water and Drinking Water Infrastructure Sustainability Policy. "Through cost-effective, resource-efficient techniques - like green water infrastructure alternatives - this policy aims to make our communities more environmentally and economically sustainable," explained Mr. Perciasepe "These smart investments in our water infrastructure, along with increased awareness of the importance of these investments, can keep our water cleaner and save Americans money."

The well-attended Opening General Session featured author Steven Solomon who also shared insights from his book, *Water: The Epic Struggle for Wealth, Power, and Civilization*. Specifically, Solomon called for a new paradigm of sustainable water management and recognized water professionals as leaders in the effort to avert an impending water crisis. Other opening session highlights included remarks from 2009-2010 WEF President Paul Freedman, recognition of WEF's most prestigious awards, and the introduction of the 2010 Stockholm Junior Water Prize winners.

On Tuesday, October 5, Freedman ceremoniously "passed the gavel" of Federation leadership to incoming President Jeanette Brown and inducted the 2010-2011 WEF Officers and Board of Trustees. The ceremony culminated with the remaining awards presentations in recognition of the outstanding achievements of the most talented and dedicated professionals in the water quality community. In all, over 25 awards were presented at various events throughout the conference.

House of Delegates (HOD) Business

Many ongoing projects were discussed at the 2009/2010 and 2010/2011 HOD meetings on Saturday October 2, 2010 at WEFTEC. However, we want to focus here on one project that is moving forward.

The Operator Outreach Workgroup was formed at WEFTEC09 as a collaborative group between the HOD, the WEF Plant Operations and Maintenance Committee, and the WEF Students and Young Professionals Committee. Both Kim and I participated in this workgroup. Kim represented the Plant Operations and Maintenance Committee as their 2010 Chair.

In an effort to identify the barriers to front line operator involvement in WEF and the needs and desires of front line operators, surveys were conducted in the Fall of 2009 and in the Spring of 2010 in conjunction with WEF Staff. After intensive review of the survey results, the Workgroup presented their report to the HOD at WEFTEC and made recommendations. The HOD then voted to present the recommendations to the Board of Trustees (BOT). With those recommendations, the HOD requested the BOT evaluate and consider the implementation (funding!) of the following recommendations:

1. Consider the development a training business model that provides: training materials, course contents, exams and trainer tips, to the MAs at a reasonable price such that MAs can conduct local face-to-face training. Resource materials from MAs currently conducting operator training should be researched.
2. Evaluate resources necessary to develop more varied and topic specific training programs.
3. Evaluate technology improvements to reduce the cost and improve the quality of internet based training such that it more resembles "face-to-face" training programs.
4. Take the lead in establishing a national standardized certification and annual recertification for Operators in the Water Environment Profession.
5. Investigate the establishment, development, and implementation of a designation of a "Certified Water Professional (CWP)" for operators, similar to the BCEE program by the American Academy of Environmental Engineers.

6. Request that the Program Committee of each Specialty Conference and WEFTEC identify the six (6) to eight (8) most operations-focused paper/presentations and develop a "Best of the Conference" to be delivered to operators via webcast.
7. Request the Membership Committee to review the PWO Membership Category and the implementation of the Municipal Partner program.

The BOT will take this up at their next meeting and evaluate the recommendations and determine the ability of WEF to fund the above tasks. We'll keep you informed as to those deliberations when they become available.

Congrats to the City of Wooster and City of Bowling Green Operations Challenge Teams

OWEA fielded two Operations Challenge Teams (Wooster - Division I and Bowling Green - Division II). OWEA, the Plant Operations Committee, and many of our Sponsors supported their travel to New Orleans to compete in the 2010 WEF Operations Challenge Competition on October 4 & 5, 2010. Both teams represented Ohio well by placing in the top 10 in each of their respective divisions. Many OWEA members watched and rooted on both teams as they competed in five areas - laboratory, process control, safety, maintenance, and collections. In addition, several of our members assist annually in judging the national event and a special "thank you" goes out to them for their time as well. Congratulations to both teams for their hard work and dedication!

We look forward to the 2011 OWEA Operations Challenge Event and to seeing who will represent Ohio next year in Los Angeles!

Congrats to:

Kim Riddell, OWEA's newest member of the HOD, and to Dianne Sumego, OWEA's Past President, who was nominated and elected to the HOD as a "Delegate at Large." Both new delegates are as focused and dedicated as any who currently serve on the HOD and will do great work with WEF and OWEA.

Special Thanks to:

Past President Steve Morrison who has represented OWEA very well as your Delegate to WEF these past three years. Steve has been on the OWEA Executive Committee for the past 11 years. During that period, Steve was very involved with monitoring and overseeing the finances of our organization. When Steve became a Delegate, he volunteered to do the same oversight as a member of the WEF Finance Committee. Steve tells us he will continue to be part of the OWEA Finance Committee. This is great news as OWEA has become a financially sound organization under his mentoring.

Start planning to attend WEFTEC 2011. Scheduled for October 15-19, 2011 in Los Angeles, California, the 2011 Call for Abstracts is now open. Visit *www.weftec.org* for details.

Phil Anderson
phil.anderson@arcadis-us.com

hOW OWEA DEFINES It S RELAt IONSh IP WIt h WEF

by Dale E. Kocarek, P.E., BCEE - OWEA President

As I emerge from my latest experience at WEFTEC, I am again reminded of how fortunate I am to be an active member of an organization as illustrious and important to the water environment as the Water Environment Federation (WEF). This time I was fortunate to attend a pre-conference workshop, present at Session 29 on Monday, October 4th, and then participate at the WEF Leadership Day Training on October 5th.

As I begin, I wish to acknowledge that some of the information in this article was provided to me by WEF through my association with the organization's staff, officers, website, and through my experiences as an officer of a large Member Association of WEF. For this knowledge, I wish to thank Phyllis Ross, Dianne Crilley, and Kelsey Brown of WEF for their assistance as well as WEF House of Delegates (HOD) members Phil Anderson, Steve Morrison, Dianne Sumego, and Kim Riddell and Board of Trustee (BOT) member Deborah Houdeshell.

Who is WEF?

The first question that often arises in discussion with new members is who exactly is WEF and what do they do? The Water Environment Federation was formed in 1928 as a not-for-profit technical and educational organization. Currently, WEF has approximately 36,000 individual members and 75 affiliated Member Associations (MAs) across the world lending credence to many of my previous statements that WEF is truly a worldwide organization!

As a leading source of water quality expertise, WEF is committed to advancing the water profession by providing unparalleled access to the world's best science, engineering, and technical practices in the water environment field. WEF continuously evaluates its programs and services to maintain alignment with its overall goal of ensuring clean water for the protection of public health and a sustainable water environment. This is done in a variety of ways, but WEF actively embraces the concept of strategic planning, which I have come to learn must be a near continual process. I could go on and on to extol the virtues of WEF, but in the interest of brevity, I will direct you to the WEF website at *www.wef.org*.

WEF's Table of Organization

Through the years, I have had to answer many questions on how WEF is managed and its organizational structure.

The actual WEF organizational structure is a bit hard to define as it is interactive between principal functions and seeks to assist and work interactively with MAs and committees as opposed to being the "CEO." See the WEF Table of Organization (right)

The true governing board of WEF is the Board of Trustees (BOT), which is a 12 person board. The BOT includes the President, President Elect, Vice President, and Secretary Treasurer in addition to a number of BOT members.

The House of Delegates (HOD) is a body of 140 persons, made up of representatives from all MAs. Depending on their size, each MA will supply one, two, or three representatives to the HOD. Besides representing MAs, the HOD also has five At Large HOD seats. Work in the HOD is largely done through work groups and is supposed to establish the direction of WEF. One recent activity of the HOD was to perform direction and policy setting initiatives for WEF. For example, one recent evaluation was to study the means and methods to improve the MA-WEF relationship.

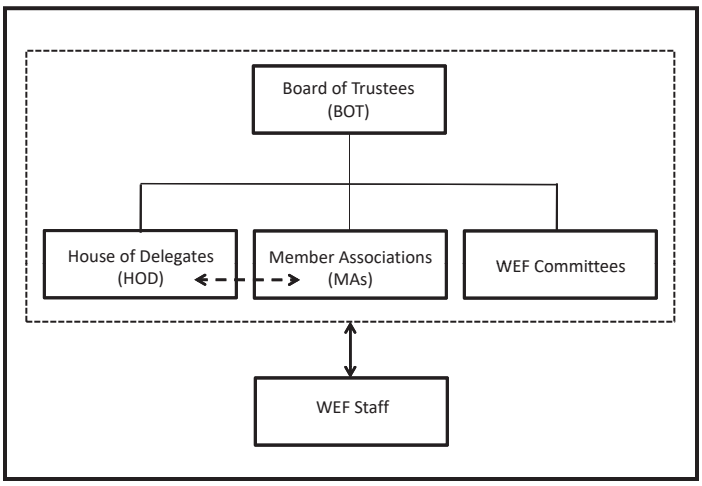
Day to day operations for WEF are handled by the administrative staff housed at 601 Wythe Street in Alexandria, Virginia and managed by an Executive Director. Bill Bertera the current Executive Director of WEF, is leaving WEF for other opportunities at the end of 2010. WEF is currently searching for a replacement for Bill to take over the duties of Executive Director in early 2011.

WEF Services

WEF's diverse membership includes scientists, engineers, regulators, academics, plant managers and operators, and other professionals working in the United States and around the world. MAs are a large part of the service delivery mechanism for WEF targeted for "local delivery."

As a membership organization, WEF uses the collective knowledge of its membership to further a shared goal of improving water quality. Together, WEF and its members perform an impressive array of tasks. In addition to support of MAs, other services provided by WEF include:

- Strong standing committees
- Provides research and publication on the latest information on wastewater treatment and water quality protection. The MOP series, which is an industry standard, is a good example of the work that WEF does.
- Bookstore (large source of revenue particularly at WEFTEC)
- Educational Resource Materials (webinars in a "can")
- Publications (WE&T magazine)
- Financial support of WERF
- WEFTEC (large source of revenue)
- WEF Specialty Conferences
- Education to Capitol Hill
- Support to other organizations ("Friends of the Court" filings)



WEF engages in limited amounts of lobbying on selective issues, but never for political candidates

WEF's presence and gravitas is so strong as to give them the reputation and professional profile to speak on a plethora of clean water issues, making them a sought after resource.

The WEF-MA Relationship

The Ohio Water Environment Association is a Member Association (MA) of WEF. Ohio WEA is not a mini WEF or subordinate to it in terms of formal authority. Rather, MAs maintain their own identity, but have aligned themselves with WEF to fulfill a common mission, purpose, and function in an alliance type of relationship.

- The WEF-MA relationship is not straight forward
- WEF is not a "top down" organization where they are the CEO and the MAs are lower tier entities, and directives flow from the top to the bottom
- OWEA is recognized by WEF as the designated organization in Ohio to provide a vehicle for extending their service into a particular geographical region
- MAs are bound to WEF through a set of Rules and Regulations (formerly Bylaws and Constitution), which is in harmony with WEF's Bylaws and Constitution, and a common mission and purpose to work together
- The WEF-MA relationship is also analogous to the United States between 1781 and 1789 when it was governed through the "Articles of Confederation and Perpetual Union."
- MAs draw from WEF's resources, and the MAs provide "front line" delivery of service to members—largely in the form of training to members and guidance to Board Members – we need each other
- Some MAs consist of one state or province – Ohio, Michigan, Indiana, Illinois, New Jersey, Texas, and Ontario, while others such as New England, Western Canada, Kentucky/ Tennessee, or Rocky Mountain, or Central States consist of multiple states or provinces
- All MAs are different; some are in close alignment with WEF while others are more "state focused" and tend to view themselves as more autonomous from WEF
- Some MAs are affiliated with WEF and AWWA, as one "voice of clean water." Georgia takes this a step further and is the "one stop shop" for clean water organizations including WEF, AWWA, and others

MAs such as OWEA are important to WEF in that we serve as an important local service provider. WEF is important to OWEA through their worldwide expertise and knowledge in business practices. Our collective challenge is to find the best ways OWEA and WEF can mutually assist each other.

WEF is aware that MAs differ in size, staffing, complexity, and service. Some MAs are so small that their main purpose is to hold one annual conference, while others have very large budgets and multiple staff persons. OWEA is in the middle, trending to the larger size.

These differences pose a dilemma to WEF. Large MAs are virtually self-reliant, while others need tutorials in basic functions, such as understanding insurance requirements, how to hold meetings, and how to recruit volunteers.

OWEA Core Services

Core services and principal sources of revenue have been delivered through the following means:

- Workshops (Total net is approximately $25,000 to $40,000)
- Annual Conference (Net Revenue is approximately $50,000 to $90,000)
- Sections (OWEA derives no income from the four sections)
- Sales (Negligible)

To date, OWEA has not charged for webinars, although it is anticipated that we will begin to do this in the future once we establish an effective means to track attendance and assign contact hours. As President of OWEA, I deem this a priority.

About the Author:

Dale E. Kocarek is an Associate with Stantec Consulting Services, Inc. in Columbus, Ohio, the President of OWEA, and Chair of the Government Affairs Committee.

Dale may be reached at Dale.Kocarek@Stantec.com

WELCOME

new members who joined OWEA in July, August, and September

Matt Anderson	Bob Kovach
Abigale Antoine	Donald Morrison
Gary Arthur	Helen Muga
Mitchell Beckner	Jim Pelton
Brandon Buck	Scott Phipps
James Cramer	Jack Rennekamp
Robert Desmarais	Gina Sacco
Jeff Gober	Anna Santino
Dale Goebel	Louis Schramm
Rupert Heirs	Aaron Schwarber
Amy Hoerst	Matt Shoaff
Mary Ivan-Garza	Steve Statler
Charles Johnson	Bennett Thayer
Anne Kennedy	Encil Webster

Thank you for joining the Ohio Water Environment Association. We welcome your contribution to preserving and enhancing Ohio's water quality environment.

NE SECt ION

Mike Welke, President

As summer has ended and fall is in full swing, the Northeast Section is hard at work setting up several contact hour meetings. In September, the section had their annual Clam Bake. Members and friends enjoyed a beautiful evening of great food, homemade desserts, bonfire, lively conversation, and a killer corn hole tournament with our winner and two year champions, Denise Semen and her son.

The Industrial Wastes-Pretreatment Committee had a meeting on October 26, 2010 at the OEPA Northeast District Office in Twinsburg. The Laboratory Analysts Committee has put on a couple of training events for contact hours, the most recent was on October 29, 2010 in Elyria.

The November 18th Section Meeting will be in Wadsworth to tour their facility and earn contact hours. In January, we will be in Richfield and we decided to mix up one of our smoothest running and best attended meetings. Because the Northeast has always been willing to try different things, we are going to have a concurrent hands-on seminar. At this seminar, attendees can spend a half hour participating in various Operations Challenge events. We hope that this will give attendees a better feel for what is involved with Operations Challenge and even interest some in participating in the Ohio Operations Challenge. I would like to thank Jim Borton and Kim Riddell for helping us with this.

Northeast Section Annual Clam Bake in September.

On February 24, 2011 we are back in Richfield for the Industrial Waste Seminar. The Industrial Wastes-Pretreatment Committee is putting together a good slate of speakers and enlisting vendors for this meeting. In March we will be in Twinsburg to tour their facility and also provide contact hours. On April 28, 2011, the Watershed Committee will be putting on a seminar at the Furnace Run - Brushwood Pavilion in Akron. In May we are planning to be in Wooster to tour their facility and also have our annual business meeting, awards luncheon, and contact hour meeting.

Please check out our web site for more information on any of these events at *nesowea.org* or at *ohiowea.org*. Again let me take the time to thank the Northeast Executive Committee and all of our committees for all of their hard work.

Mike Welke, *mwelke@warren.org*

Visit ***ohiowea.org*** to register online for your section's meetings and events

NW SECt ION

Kim Riddell, President

The Northwest Section held the Annual Spouses and Friends Day at Put-in-Bay, atop Mr. Ed's Bar and Grill, on Friday, August 6, 2010. The Jet Express ferried the 74 attendees across Lake Erie to South Bass Island for a wonderful day of fun in the sun. Mike Maringer, with IFM, gave a presentation entitled "Understanding the Carbon Credit Process in Wastewater Treatment" which was approved for 0.75 hours. Several guests brought their children, all of whom participated in the activities at Adventure Bay. After the meeting, many members spent the day together enjoying the shops and eateries on the island. A "great job" goes out to John Motycka, our outgoing Northwest Section President, for planning such a fun event! Thank you, John, for all of the hard work and dedicated service you have provided to the organization over the past year.

A Northwest Section Executive Committee meeting was held at the OEPA District Office in Bowling Green on September 10, 2010. All EC members and many committee chairs were in attendance. As part of this meeting the EC voted on our section award winners and our nominees for OWEA and WEF awards for 2011. Please consider nominating your staff members, engineers or others that you respect in the business for these awards in the future. They are a wonderful way to honor those we know for the service that they provide to this industry!

While there is not a fall OWEA Collection System Committee workshop scheduled in the Northwest Section as in years past, the committee is planning to have a section workshop due to popular demand later in the year. Please stay tuned for a date and time. Other upcoming meetings include the OWEA Government Affairs Workshop which is scheduled for March 10, 2011 in Columbus, Ohio. Please continue to check the OWEA website for future meeting notices and upcoming training events.

Northwest Section Spouse and Friends Day at Put-in-Bay in August.

By the time this article goes to print, the Northwest Section will have had its October meeting in Napoleon, Ohio. More details will follow in future reports. The next Northwest Section Meetings are tentatively scheduled for March 16, 2011 in St. Mary's and May 18, 2011 in Delphos.

We look forward to seeing you at our meetings!

Kim Riddell, *kim@go-smith.com*

SW SECt ION

Jeff Olsen, President

The Southwest Section's newly installed Executive Committee has been busy. Just as the Treasurer and Secretary were becoming acclimated to their roles, they had to adjust to new duties. As a result of a work relocation and subsequent resignation of Vice President Todd Warrix, the Executive Committee met and in accordance with the Rules and Regulations, the chairs advanced one level up, and based upon the recommendation of the Nominating Chair, Tom Brankamp was voted in as 3rd Year Director. Welcome aboard Tom!

We had beautiful weather for our September 16th section meeting that was hosted by the City of Fairborn. Sixty-two attendees enjoyed the weather while touring Fairborn's facility, enjoyed a wonderful meal and networking opportunity, followed by great technical sessions and door prizes. We also recognized our section members that won OWEA and WEF awards. Thanks again to Tony Branham, Frank Barosky, and all the Fairborn staff for a great plant tour and meeting.

SWOWEA's Operation Education Day was held on October 21st at Montgomery County. These continue to be a low-cost opportunity for operators preparing to take the OEPA Wastewater Class 1, 2, 3, or Collection exam to work through a sample exam with instructor provided solutions.

Our 9th Annual O&M Seminar & Section Meeting takes place on November 18th at the Crowne Plaza Hotel in Blue Ash. This session will offer over 6 Contact Hours to attendees administered by local, regional, and national experts in the industry, as well as great networking opportunities.

After the holidays, we return to the Great Wolf Lodge in Mason for the 22nd Annual Industrial Wastes Seminar.

For details about these and other upcoming meetings, please visit the SWOWEA website at www.swowea.org, as well as view our latest Southwest WAVE.

Jeff Olsen, *Jeff Olsen@hdrinc.com*

OWEA Sections offer regional opportunities for water quality education and professional networking.

SE SECt ION

Steve Elliott, President

The SEOWEA Executive Committee met on July 23, 2010 at City of Newark WWTP. The officers for 2010-2011 are Steve Elliott, President; Greg Otey, Past President; Bryan Curry, Vice President; Tyler Linton, Second Vice President; Fred Smith, Treasurer; Matt Boone, Secretary; Brandon Fox, Third Year Director; Jennifer Emerick, Second Year Director; John Owen, First Year Director and Michael Frommer, Delegate. The Committee discussed the rules and regulations of the SEOWEA, the policies and procedures, and section bylaws.

The committee was briefed by OWEA President Dale Kocarek regarding the need to make some revisions to the bylaws, constitution, rules and regulations to reflect changes required under the OWEA umbrella so the sections and OWEA are more in sync and not in any potential conflicts, legal or otherwise. We also discussed SEOWEA section specific policies and procedures and we agreed we should look at some revisions and formally document in more detail the duties of the officers, delegation of workload among section officers, and various assignments. We concluded the workload of section officers needs to be more evenly split and better defined, in order to be more productive while at the same time allowing everyone to contribute in a more meaningful manner. We are currently planning the next SEOWEA Executive Meeting in November of 2010.

Southeast Section Meeting attendees tour the Olentangy River Wetland Research Park at OSU.

Two members of the SEOWEA Executive Committee, Matt Boone and Fred Smith, have volunteered to become members of the OWEA Strategic Planning Committee. Bryan Curry and I attended the OWEA Mega Meeting September 9, 2010.

On October 21, the SW Section held their October meeting in Columbus at the Fairfield Inn with three technical sessions:

1. A Watershed Approach to Clean Streams: The Effect of TMDLs on You and the Environment
2. Getting wet with WET: An Overview of Aquatic Toxicity Testing for NPDES Permits
3. Designing an Emergency Combined Sewer Overflow Treatment System with Household Materials.

The meeting concluded with a tour of the OSU Olentangy River Wetland Research Park, with a comprehensive tour given by Professor William J. Mitsch, Ph.D.

We are currently in the process of planning future section meetings in February, April, and May. No firm dates have been set at this point as we are still confirming the locations. In the past, the section has attempted to have a different theme for each meeting such as Pretreatment and Industrial in February, Collections and Plant Operations in April, Safety/Biosolids/Regulatory and awards in May, and Watershed in October. We plan to stick with the themes as much as practical this year.

Steve Elliott, *steveelliott@mariettaoh.net*

Don't Miss Out On Important News
Update Your Membership Profile

Maintain an accurate mail and email address so you receive timely communications from OWEA regarding upcoming events, important news affecting water environment issues, and your copy of the Buckeye Bulletin.

Please check your member profile at: *www.wef.org* by clicking on the Membership link. You can also make changes to your OWEA/WEF membership account by contacting WEF directly at 1.800.666.0206 or by email at *csc@wef.org*.

YOu NG PROFESSIONALS COMMIt t EE

by Dan Martin

The Young Professionals (YP) Committee is pleased to announce an opportunity for selected YPs and System Operators to receive free admission to part or all of OWEA's State Conference in June. This Young Professional/System Operator Award includes at least one night free stay at the Kalahari resort in Sandusky during the Conference. (Award varies slightly by Section. Contact your Section representative below for additional details.)

To enter this competition, just submit a one-page abstract on an interesting project you have worked on. For operators this might be a piece of equipment you optimized. For other YPs it might be a model or challenging design you worked on. Four winners will be selected. In order to be considered for the award, you must meet the following criteria and/or guidelines: You must either be a young professional or a system operator; you must prepare and submit to your section YP Committee Chair a brief presentation abstract for a topic related to the water environment by November 8, 2010 (Chairs listed below). If selected for the award, you agree to provide a 30 minute presentation at OWEA's State Conference in June and to submit a paper suitable for publication of the Buckeye Bulletin prior to the conference. To be considered for this award you must be a WEF/OWEA member.

Notable Happenings

- A State YP Summit is planned in Central Ohio this spring. The event will be centered around a "green" activity such as planting a rain garden. Participants will learn key aspects of sustainable "green" design while earning contact hour credit as we literally roll up our sleeves and dig in to this seminar. Further updates to come.
- Northeast Section held its first event June 23rd at the Gorman-Rupp Company facility in Mansfield. Gorman-Rupp manufactures high performance centrifugal, submersible, trash, and rotary gear pumps for long lasting service in the municipal, water, wastewater, sewage, industrial, and construction markets – as well as package lift stations and booster stations. The event featured a tour of the manufacturing and assembly facility, technical education sessions covering pump and system hydraulics, including pump selection, maintenance, and performance issues, as well as full size demonstrations of pump cavitation and performance diagnosing. Certificates for continuing education credits were awarded to all event attendees. A special thanks goes to Vince Baldasare and the entire Gorman-Rupp Company for opening their facility to the YPs and providing great technical knowledge – and lunch! A networking hour at Old Bag of Nails Pub followed the event, sponsored by Malcolm Pirnie.
- Engineers in the Southwest Section have been preparing in a study group for their Principles and Practices of Engineering Exam on October 29th. The study group has helped participants drill on questions in preparation for the exam. Thanks to SW OAWWA YP Chair Keshia Kinney for coordinating a September 7th tour of Fairfield's Water Treatment Plant. Attendees gained contact hour credit for the technical presentations during the tour. We are planning a "green" tour event for the spring.

Contact your Section YP representative to become more involved in the Young Professionals Committee:

Southeast Representative
Brandon Fox
bfox@co.fairfield.oh.us.

Southwest Representative
Dan Martin
dmartin@raconsultantsllc.com.

Northwest Representative
Walter Ariss
Walter.Ariss@epa.state.oh.us.

Northeast Representative
Nick Bucurel
NBucurel@pirnie.com.

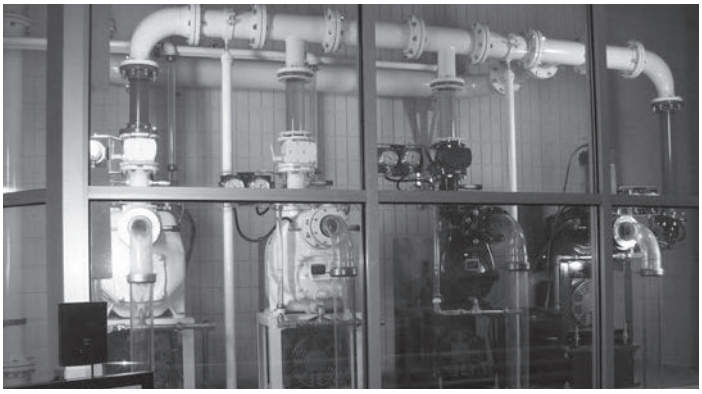
Ohio State University Student Chapter Representative
Nick Elmasian
nelmasian@gmail.com
Please contact Nick if you or a Student/YP you know is interested in developing a student chapter at a local university.

Special thanks to all the committee volunteers who make the YP committee vibrant! As always, if you have any suggestions or questions, please contact:

Dan Martin
513.469.6600
dmartin@raconsultantsllc.com

Kris Ruggles
614.835.0460
kris.ruggles@strand.com

NE Section YP Technical Session



NE Section YP Tour of Groman-Rupp Company

LAbORAt ORY ANALYSt COMMIt t EE

by Chairs Eva Hatvani and Denise Seman

Committee Chair Change

Hi Everyone! I would like to start with a special thanks to Nancy Taylor. Nancy is resigning as Co-Chair of the Lab Analyst Committee to serve the OWEA in another capacity. She will be the Chair of the Public Education Committee. Nancy and I have served on the committee for several years. She has been a great asset to the committee. I will especially miss her creativity, resourcefulness, skill and sense of humor, in addition to being a great friend. We had a lot of fun times together serving on the committee. She did tell me that she would still be involved in the lab activities whenever possible. The Public Education Committee is gaining a great Chair person.

I would like to welcome Denise Seman as the new Co-Chair of the LAC Committee. For those of you that have not met her yet, she is with the City of Youngstown. Denise has been very active as the Chair of the NE Section LAC over the past several years and also with the State LAC committee. She and her fellow lab committee members have put together an excellent study guide for the WW Analyst Exams. She has been involved and worked with me and Nancy on many of the lab activities including the Lab workshops and Operations Challenge. Denise is and has been a great asset to the committee.

The lab committee started the fall with a great workshop held on September 1-2, 2010 in Columbus. The meeting was a joint meeting with the Plant Operations Committee. The meeting was well attended and also had many positive reviews from the attendees. If you attended both days, there was an opportunity to obtain 13.0 contact hours. You obtained 6 contact hours if you attended the lab topics.

Thanks to the speakers that made this event successful. The topics and speakers from the meeting were:

- How a POTW Conquered Clean Sampling for Trace Level Mercury Using EPA Method 1669 and 1631 - *Cheryl Soltis-Muth, NEORSD*
- Pharmaceuticals and Personal Care Products in Waters of Ohio and the United States - *Ralph Haefner, USGS*
- Overview of basic Methods and Analysis Tips - *Amy Starkey, Stark County*
- The Exception to Playing in the Lab - *Nancy Taylor, Newark/Eva Hatvani, NEORSD*
- Plugging the Brain Drain: Cultivating the Next Generation of Environmentalists - *Nancy Taylor, Newark*
- Meeting the E. coli Requirement Using mColiBlue24 & Luminescent DO Technology - *Shaun Beauche and Wes Griffith, Hach*

If you would like to be a speaker or would like to hear a specific topic, please submit your ideas to one of the sectional committee chairs, to Denise, or to me.

2011 Exam Dates

April 22, 2011 (Application Deadline: March 18, 2011)
Cleveland and Columbus - Location TBD

October 21, 2011 (Application Deadline: September 16, 2011)
Cleveland and Columbus - Location TBD

1. Lab Certification information is posted on the OWEA website *http://www.ohiowater.org/owea/For_the_Lab/*
2. Applications can be obtained by calling Eva Hatvani at 440.846.8220 or downloaded from the OWEA website.
3. Please see the ABC testing site link for the "Need-to-Know" criteria.
4. Please note new rules for certification section on the Lab Certification web page. The test fee is $95.00.

Reinstatement of Certificate

1. If you did not renew your certification by Dec. 31, 2009, you are no longer certified. To be reinstated, you must provide proof of holding a certificate and submit a fee of $95.00. If you cannot provide proof of certification, you must retake all tests in sequential order.
2. If you have moved, please contact Eva Hatvani at ehatvani@yahoo.com or 440.846.8220, otherwise we have no way of contacting you.

Northeast LAC- Kathy Richards

October 2010
There was meeting on October 29 in Elyria. Steve, Vicky & Rich were good hosts. Thank you to our speakers. The topics will earn 3.0 contact hours which are still pending. The topics included:

- In House Training of New Lab Personnel - *Kasey Carlisle, Industrial Fluid Management*
- Ohio Integrated Report (an why you should care) - *Trinka Mount, Ohio EPA*
- Mercury Analysis (how low can we go?) - *David Pfeil, Teledyne Leeman Labs*

We are actively seeking venues for our LAC section meetings! If you are interested in volunteering some space (enough to hold 30-50 people) with minimal technical requirements (we need an electrical source) please get in touch with any of the NES committee members:

Kathy Richards	*KRichards@AkronOhio.gov*
Denise Seman	*DSeman@CityofYoungstownOH.com*
Dale Holmes	*DaleH@MCLW.com*
Lisa Feigle	*LisaF@GCDWR.org*
Amy Starkey	*AJStarkey@Co.Stark.Oh.US*
Trevor Jones	*TJones@DOES.SummitOH.net*

continued on page 17

Additional training events will be announced in future Buckeye Bulletin articles, Sparkling Waters newsletters, and online at *www.ohiowea.org* and *www.nesowea.org*. While you are visiting these websites, consider responding to the NESOWEA LAC Questionnaire. The information we compile will go a long way towards building a networking database that will enable analysts to better connect with each other and share experiences and support. If you would like to be added to our NES membership directory (now numbering over 200), please send your contact information to me at NESOWEALAC@Gmail.com.

Southwest LAC - Roger Rardain and Jim Davis

On 15 July 2010, the SW Section Laboratory Analysis Committee held a meeting at the beautiful Fairfield Community Arts Center in Fairfield, OH. Attendance was excellent, with 57 people from 20 organizations present.

Technical sessions included the following presentation:

- NPDES Laboratory Compliance Inspections presented by Bob Ostendorf and Joe Reynolds, Environmental Specialists, and Martyn Burt, Supervisor, OEPA Division of Surface Water
- Question and Answer Session, with Don Knife, Village of West Milton and Joe Hamiel, City of Brookville relating their experience with a compliance inspection.
- Tour of the Fairfield Wastewater Treatment Plant and Laboratory, 4799 Groh Lane, Fairfield, Ohio, 45014

2.25 contact hours were approved, and 31 people applied for contact hours. A boxed lunch and refreshments were provided by City of Fairfield.

Fall LAC Meeting
The October 14the meeting was hosted by Greene County Sanitary Engineering in Xenia, Ohio.

Presentation subjects included E. coli analytical methods, with 3.5 contact hours approved.

A tour was conducted at the Greene County Sanitary Engineering facilities (Beavercreek WWTP and Lab) at 422 Factory Road, Xenia, 45434

Winter LAC Meeting
January 27th, 2010 – YSI, Inc., Yellow Springs, OH

To inquire about being added to our e-mail list or to get information about attending, hosting, sponsoring, or presenting at a future LAC meeting please contact:

Roger Rardain *roger.rardain@ci.fairborn.oh.us*
Jim Davis *davisji@mcohio.org*

Southeast LAC-Diana Liston

A meeting is in the planning stages.

Northwest LAC-Kevin Hughes

No report

STATE LAC COMMITTEE MEMBERS

State Chairs
Eva Hatvani, 440.846.8220, *ehatvani@yahoo.com*
Denise Seman, 330.742.8820, *dseman@cityofyoungstownoh.com*

Northeast Chairs
Kathy Richards, 330.928.1164, *NESOWEALAC@gmail.com*

Northwest Chair
Kevin Hughes, 419.488.5440, *watertreatment@tiffinohio.gov*

Southwest Chairs
Roger Rardain, 937.754.3075, *roger.rardain@ci.fairborn.oh.us*

Southeast Chair
Diana Liston, 614.864.3370, *dliston@co.fairfield.oh.us*

Utility Enhancement Committee

by Doug Clark, Chair/OWEA President-Elect

The Utility Enhancement Committee recently held a three part webinar series on Asset Management.

In Part One of this series, held on July 29, 2010, Nick Dailey (P.E., City of Dayton) shared with us the City of Dayton's efforts in starting an asset management plan. Nick informed us how Dayton answered the questions: "what is asset management, can it help us improve operations and how do we get started?"

In Part Two, held on August 26, 2010, Kevin Campanella (P.E., City of Columbus) informed us of the City of Columbus' progress in implementing their asset management program. Kevin shared with us results Columbus is starting to see due to their asset management program, what their next steps are, and defined "Triple Bottom Line".

In the final part of this series, held on September 30, 2010, Biju George (Deputy Director MSDGC), Eric Saylor (Project & Business Development MSDGC), Cheryl Braun (Wastewater Collection MSDGC), and Scott Maring (Wastewater Treatment MSDGC) informed the audience regarding Greater Cincinnati Municipal Sewer District's asset management program. They shared with us how they started, their integrated approach, accomplishments, challenges and lessons learned, and what their next steps are.

All three of these presentations, along with the recorded webinars, can be viewed at *www.ohiowea.org* by clicking on ***Presentations***.

The Utility Enhancement Committee is planning a three part webinar series on Nutrient Removal during the first quarter of 2011. Please help the Utility Enhancement Committee achieve the goal of hosting relevant webinars by suggesting topics of interest to you. Together, we can achieve this goal and continue to bring you informative and quality webinars!

Doug Clark
douglas.clark@bgohio.org

Thank You 2010 Webinar Presenters


Nick Bailey


Kevin Campanella


Biju George


Eric Saylor


Cheryl Braun


Scott Maring

Residuals Committee

by Jamie Gellner, Co-Chair

The OWEA Residuals Management Committee continues to remain active in the monitoring of issues related to biosolids management and to seek opportunities to serve the membership of OWEA. Since our last update, we have remained active in several main focus areas, including the following:

- Farm Science Review – This year the Farm Science Review was held on September 21st through September 23rd. The Residuals Committee provided manpower and educational materials on the benefits of biosolids land application at the OWEA sponsored booth. A large number of attendees visited the booth. Promotional flower pots with wildflower seeds and a small amount of potting mix containing biosolids (provided by City of Warren – Nature's Blend™) were offered to participants that answered biosolids related questions from the "Wheel of Trivia". Thanks to Bruce MacLeod and the rest of the residuals committee for their involvement in this effort.


"Wheel of Trivia" at the 2010 Farm Science Review

- Biosolids Workshop – The 2010 workshop will be held on December 9th in Columbus. This year's workshop will be focused on emerging trends and issues and will feature presentations on energy recovery, innovative processes, and the anticipated changes to the land application rules. We hope you will join us for this workshop.

The Residuals Management Committee is focused on serving the OWEA membership through education, promotion of effective biosolids management, technical information on biosolids, and interface with the Ohio EPA on regulatory issues. We always welcome new membership and we would love to have you at our next meeting. If you are interested in becoming involved or if you have any questions about the committee, please contact me.

Jamie Gellner
513.317.0337
jgellner@hazenandsawyer.com

Ohio Water Environment Association
Preserving & Enhancing Ohio's Water Environment

2010 Biosolids Workshop

Thursday, December 9, 2010

7:45-8:15 Registration, Coffee, and Pastries

8:15-8:30 Opening Remarks
- *Jamie Gellner, Residuals Vice-Chair*

8:30-9:15 Sludge Minimization – a Paradigm Shift in Sludge Management
- *Dr. Sam Jeyanayagam, CH2M Hill*

9:15-10:00 Grit Collection and Classification Case Studies
- *Brian McNamara, Hampton Roads Sanitation District*

10:00-10:15 Break

10:15-11:00 LMI Mixing of Digester Tanks
- *Brian Schultz, City of Sidney*

11:00-11:45 Microconstituents in Biosolids - What Does It Mean for the Future of Land Application of Biosolids?
- *Dr. Lakwinder Hundal, MWRD of Greater Chicago*

11:45-12:45 Lunch (provided)

12:45-1:30 Dewatering Improvements - Clarksville Case Study
- *Dan Miklos, Hazen and Sawyer*

1:30-2:15 Update on Solid Waste Rule for Incinerators
- *Jim Welp, Black &Veatch*

2:15-2:30 Break

2:30-3:15 Energy Conservation and Recovery in Wastewater Treatment Facilities
- *Jim Smith, Malcolm Pirnie, Inc.*

3:15-4:00 Basics of Aerobic Stabilization
- *Bryen Woo, Ovivo*

4:00 Adjourn

OWEA Refund Policy

- Cancellations within 24 hours of the workshop, or no-shows the day of the workshop will still be billed in full and will NOT receive a refund.
- Any Cancellation 72-24 hours prior to the workshop will receive a 65% refund minus any credit card processing fees.
- Any Cancellation 72 hours or more prior to the workshop will receive a full refund minus any credit card processing fees.

Earn up to 6 Contact Hours

Save Time and Postage
Register Online at www.ohiowea.org

If unable to register online,
complete below and mail or fax to OWEA,
or register via telephone by calling 614.488.5800.

Biosolids Workshop Registration Fee	
Member:	☐ $100
Enter OWEA/WEF #	
Non-Member:	☐ $150
☐ I have read & agree to the OWEA refund policy	
Badge Name:	
Company:	
Address:	
Email:	
Phone:	
Method of Payment	
Check #	☐
P. O. #	☐
Credit Card:	☐

If you select credit card, you will be emailed a secure link to enter your credit card payment. Be sure to enter a valid email address. Or you may call the OWEA office with your credit card number.

Submit completed registration form to:

Ohio Water Environment Association
1890 Northwest Blvd, Suite 210
Columbus, OH 43212

Phone: 614.488.5800 Fax: 614.488.5801
E-mail: info@ohiowea.org

University Plaza Hotel
and Conference Center

Conveniently located in central Columbus,
west of I-71 and along 315, north of OSU campus.
www.universityplazaosu.com 877.677.5292
The conference rate is $99/night (+ tax).
Request the "OWEA Specialty Workshop" rate.

PLANt OPERAtIONS COMMIt t EE

by Jim Borton and Kim Riddell, Chairs

The Plant Operations Committee, along with the Laboratory Analyst and Safety Committees, hosted the Plant Operations, Lab and Safety Workshop on September 1st and 2nd. Over 115 Ohio wastewater professionals attended the two day event and earned up to 13 contact hours. Presentations from Ohio's own experts as well as nationally known experts received high praises from attendees and generated significant interest in the 2011 version.

If you missed the workshop, you missed 13 of the most interesting technical sessions offered in Ohio during 2010. In addition to separate Laboratory and/or Safety presentations, attendees heard from Tom Kutcher on converting secondary plants to BNR processes, Phil Anderson on startup issues, Dan Miklos on problematic wastes, Jamie Gellner on design/modeling of plants, Woodie Murihead on phosphorous removal, Jason Tincu on plant management concepts, Elizabeth Wick on pretreatment programs/ inspections, and Encil Webster on submersible pump maintenance (using the hands on training system OWEA has purchased for use by the members). Each presentation had something for both the beginner as well as the most seasoned operator to take home and think about or try. The workshop organizers extend a sincere thank you to those that took the time to attend and share their knowledge with Ohio's operators, consultants, and regulators.

Plan on attending next year's version on September 21 and 22, 2011. It will be held at the Conference Center at NorthPointe near the US 23/Polaris Road intersection north of Columbus. Workshop topics will be published in the spring, so put some money in the training budget and save it for next year's workshop.

The committee is in the planning stages for the 2011 Operations Challenge / Operator Education Day Event. The 2011 event will be held on Tuesday, May 24th at the Jackson Pike Wastewater Treatment Plant in Columbus. The format for the day will be the same as this year's with the incorporation of an Operator Education Day prior to the contest, good for approximately 2 hours. Attendees to the Operator Education Day would then be permitted to participate in a non-competitive, non-timed, and easier version of the Operations Challenge for additional contact hours. Also, the Northeast Section is putting on a mini-Ops Challenge consisting of the same events that are simplified for one or two person teams. If you have any interest at all in seeing what Operations Challenge is about, keep an eye out for their workshop dates.

Operators, Lab Technicians, Consultants, Ohio EPA, Manufacturers Reps - are you ready to go for bragging rights? Start preparing now! Look for more details at *www.ohiowea.org*, your email inbox, and future Buckeye Bulletins. Rumor has it that the Young Professionals are gearing up a team (or two). Maybe the "old" professionals want to give the whippersnappers a run for their money?!

For those of you that have been asleep for the past few years or are new to OWEA, Operations Challenge is an event in which team members compete in one of two Divisions (I for previous winners and II for new teams or non-winning returning teams). The 4 member teams compete in events designed to demonstrate the skills an operator uses in day-to-day work. All team members are eligible to earn up to 12 contact hours and the winning teams earn the opportunity to represent OWEA at WEFTEC 2011 in Los Angeles! OWEA and its sponsors support this event and cover the team's expenses (to a preset budgeted amount) for representing Ohio at WEFTEC, so managers, don't worry about how much it costs to send a team to L.A., encourage them to sign up!

If you have interest in putting a group together, please contact Kim Riddell at 419.234.4507 or Jim Borton at 330.263.5293. There are people out there that are willing to help you get started and Kim or Jim can put you in touch!

A huge thank you to the Operations Challenge sponsors! Without you the Ohio Operations Challenge wouldn't exist. You can see the list of sponsors on page 21, please take a moment to thank them for their support of the operators within OWEA. Also, congratulations to both of Ohio's teams (Bowling Green and Wooster) on their placings at WEFTEC 2010. Both Ohio teams scored top 10 honors in their respective divisions showing signs that Ohio will soon return to the podium at the contest.

The Plant Operations committee is looking forward to seeing you on May 24, 2011 at the Challenge and again at the Plant Operations/ Lab Analyst Workshop on September 21 - 22, 2011.

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Plant Operations and Laboratory Analyst Committee Chairs (l-r): Kim Riddell, Nancy Taylor, Jim Borton, Eva Hatvani

Process Control Panel Discussion (l-r):Woodie Murihead, Phil Anderson, Elizabeth Wick, Dan Miklos, Tom Kutcher, Jamie Gellner

The Wooster Scrappers and Bowling Green Wastewater Rangers
(l-r) D.J. Reichert-WS, Matt Nissen-BG, Joe Tillison-BG, Kevin Givens-WS,
Jim Graham-BG, Steve Carathers-WS, Brad Tussing-BG, Bob King-WS

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OWEA MEMbERS VOLu Nt EER At 2010 bOY SCOu t JAMbOREE

by Vicki Smith

Among the over 45,000 youth and staff attending the 2010 National Boy Scout Jamboree were two enthusiastic OWEA volunteers. Don Corwin, of Bellefontaine, and Leon Smith, of Archbold, endured temperatures over 100 degrees and heat index of nearly 120 degrees to educate over 9,000 Scouters about the water environment. The Jamboree ran from July 26-August 3 and was held at Fort A.P. Hill near Fredericksburg, Virginia. Although the Jamboree is typically held every four years, this year's Jamboree was delayed a year to coincide with the 100th anniversary of Boy Scouting in the U.S. The mammoth event used 5,000 acres of the Army base to provide a once-in-a-lifetime experience for Scouts from all 50 states and 29 other countries. This portion of the Army base is transformed with nearly 20,000 camping tents, circus-size refreshment and souvenir tents, performance stages, archery and riflery ranges, motocross bike trails, and much more.

The conservation/environment area included WEF and 24 other private groups and government agencies. The exhibit developed by WEF's Public Education Committee included a map for those going through the exhibit to place a pin in the watershed in which they lived as they learned what a watershed is. After learning about the importance of wastewater infrastructure, current conditions of the U.S. water/wastewater infrastructure, and oil and grease prevention, Scouts were invited to crawl through a clean 30" sewer pipe to the treatment plant area. This station demonstrated schematic treatment plant processes and showed a model plant depicting the activated sludge process. Scouts also tested water quality. Between the three interactive stations, WEF volunteers spread their message in a total of about ten minutes.

Both Don and Leon also volunteered at the 2001 and 2005 Jamborees. Their positive experiences prompted them to again volunteer to share their passion and commitment to protecting the water environment.

"It was a rewarding experience to help educate youth about the water environment and a fun opportunity to meet and work with other WEF professionals from around the country," Leon commented. "Don and I enjoyed renewing acquaintances with WEF professionals from Florida, Virginia, Nebraska, and other states who have also repeatedly stepped up to build awareness of water's importance."

As Don noted, "What better chance to share the importance of our profession with young people specifically and the general public—definitely better exposure than an open house at the treatment plant. The WEF members enjoy the part they play in getting the message across: there is only so much water so we must all use it wisely."

Leon and Don encourage OWEA members to be part of the 2013 Jamboree experience. Don is looking forward to participating again. Although Leon enjoyed the experience, he said he's waiting to see if his body is willing.

Leon Smith and Don Corwin volunteer at the 2010 Boy Scout Jamboree

CLIFFORD A. MERRIt t RECEIVES WEF'S Ru DOLFS INDu St RIAL WASt E MANAGEMENt AWARD

OWEA member Clifford Merritt was awarded the Rudolfs Industrial Waste Management Award in October at WEFTEC for his article published in WEF's *Industrial Wastewater*, Volume 8, Number 6 (dec 2009/Jan 2010). The article, titled "A Clear Difference," discussed adding fixed-film media to a sequencing batch reactor to maximize treatment without increasing either footprint or operating costs at Owens Corning Newark, Ohio, facility.

The Rudolfs Medal was established in 1949 and is named after Willem Rudolfs, an active WEF member and primary force in industrial waste research. The Rudolfs Medal recognizes noteworthy accomplishments in any aspect of industrial waste management research published in a WEF or WEF Member Association periodical.

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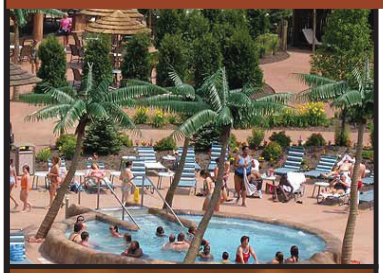
Clifford Merritt is a Senior Principal Engineer at Owens Corning. He has been with Owens Corning since 1980 and works in the areas of wastewater treatment process definition, water sustainability, project management, and landfill/disposal site cleanup. The research at the Newark facility enabled enabled Owens Corning to vary production levels while providing innovative treatment for wastewater containing high levels of color, COD, and ammonia and increasing biological treatment capacity in an industrial wastewater treatment system.

Subscriptions to *Industrial Wastewater*, published six times a year by WEF, are available by visiting *www.wef.org*.

Cliff Merritt may be contacted at *cliff.merritt@owenscorning.com*.



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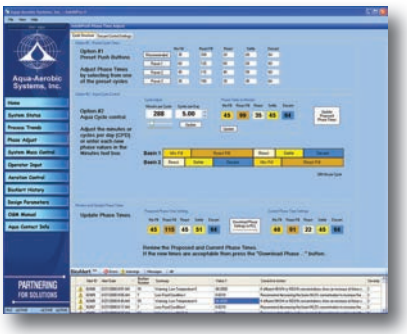

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RESt ORING t h E MIDDLE Cu YAh OGA RIVER

by Tim Gott, Summit County Department of Environmental Services

The Munroe Falls Dam dates to around 1817 and is located on the reach of the Cuyahoga River designated as the Middle Cuyahoga river. Located between the east side of Akron and the northeast side of Kent, Ohio, the Middle Cuyahoga River was the subject of the first USEPA approved total maximum daily load (TMDL) study in the state of Ohio. The TMDL study identified low dissolved oxygen levels and poor aquatic habitat as the sources of non-attainment of water quality standards. Nutrient enrichment (point source discharges) and hydromodifications (the Munroe Falls dam) were cited as contributing factors to the low dissolved oxygen levels and poor aquatic habitat.

Munroe Falls Dam

Summit County Department of Environmental Service's (DOES) Fishcreek WWTP was noted as a major point source discharge into the Munroe Falls dam pool. Facing tighter discharge limits, coupled with the inability to utilize recent upgrades at the Fishcreek WWTP, DOES began looking at alternatives to increase the dissolved oxygen levels and enhance the aquatic habitat in the river. DOES found that by lowering the Munroe Falls Dam, the retention time in the dam pool would be reduced, allowing for an increase in dissolved oxygen levels and that by installing a fish passage around the modified dam, a more diverse aquatic species would be able to navigate the river.

Several different forms of the Munroe Falls dam existed over time until the early 1900's when the 150 foot stone arch dam was constructed to supply water to a local industry. At twelve feet high, the dam created a pool that extended 3.5 miles upstream. By the late 1900's the dam was in need of repair and was no longer providing water to the local industry. In 2003, a plan to lower the dam to six feet high with a fish passage was approved by the City of Munroe Falls and DOES. The plan was to retain the dam's aesthetic features yet increase the velocities in the river subsequently enhancing oxygen levels and the aquatic habitat.

Funding for the $1.3 million dam modification project was provided by a combination of the EPA's Water Pollution Control Loan Fund (WPCLF), Water Resource Restoration Sponsor Program (WRRSP), and a Summit County DOES EPA Supplemental Environmental Project. In 2002, an EPA Section 319 grant in the amount of $834.000.00, consisting of 60% federal dollars and 40% local match, was awarded to stabilize the 3.5 miles of stream banks exposed by the lower water levels. In 2005, an additional EPA Section 319 grant was awarded for $167,000 (60% federal/40% local) to aid in the stabilization process.

August of 2005 started the slow release of the dam pool behind the Munroe Falls Dam. By September, the bedrock river bed was exposed and the stream channel was defined. Grade changes, the narrow stream channel behind the dam, and rumors of rock ledges led

Inspection of the Munroe Falls Dam

Release of the dam pool

to discussions between the OEPA, the City of Munroe Falls, and DOES about complete removal of the dam. With the assistance of the OEPA, the project was modified to allow for the complete removal of the dam, restoring a free flowing river through Munroe Falls. In conjunction with the removal of the dam, the modification of an existing park was included in the project. A replica of the original north abutment marks the site of the former dam. Adjacent to the replica is a small amphitheater constructed with sandstone blocks removed from the dam in an area previously submerged in the dam pool. Access to both was provided with increased parking and a handicap accessible trail to the river's edge.

A 2007 survey conducted by OEPA confirms an improvement in the river throughout the location of the former dam pool from non-attainment to partial attainment. Aquatic habitat scores throughout the area were more than sufficient to support the warm water habitat fish communities. Models indicate current water quality standards will be met at requested expanded discharges. The aquatic life attainment directly down stream of the dam showed no significant change as a result of the dam removal, which confirms no detrimental effects as a result of the dam removal.

For more information on the Munroe Falls Dam removal project, visit *http://www.co.summit.oh.us/executive/mfd/mfdhome.htm*

Tim Gott
Summit County Department of Environmental Services
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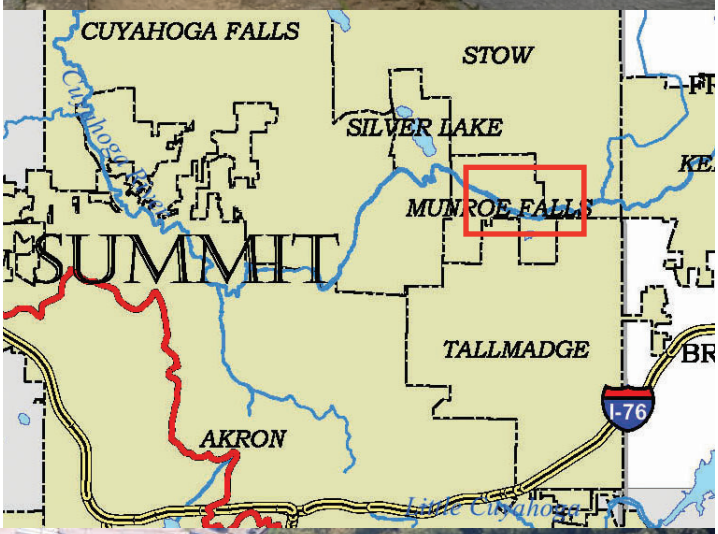

Upper Right: Former dam site

Right: Restoration area in red box

Below: The Cuyahoga River runs through Munroe Falls

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FAIRFIELD COuNtY utILItIES
tuSSING ROAD WAtER RECLAMAtION FACILItY

by Brandon Fox, Chief Water Reclamation Officer, Fairfield County Utilities

Facility History

The history of the Tussing Road Water Reclamation Facility begins in 1976 when it was constructed with a design flow of 0.220 mgd. The plant was originally built by a developer and later purchased by Fairfield County in 1980. The initial plant consisted of an influent pump station, manual bar rack, extended aeration treatment, upflow clarifiers, and chlorination. The plant has been through several renovations to date. In 1988, a plant upgrade consisted of a new influent pump station, modified aeration tanks, effluent sand filters, an expanded chlorine tank, and a new operations building. This upgrade increased the plant capacity to 1.0 mgd.

A 1991 upgrade consisted of an influent pump station modification, a new mechanically cleaned bar rack, fine bubble aeration diffusers, a final clarifier and RAS pump station, expanded chlorine contact tank and an aerobic digester with respective blowers increasing the plant capacity to 1.4 mgd. In 1994, another upgrade consisted of a second final clarifier and splitter box, new Ultra-Violet disinfection, and a sludge dewatering belt press with cake sludge storage pad. This increased the plant capacity to 2.0 mgd.

The current plant process upgrade in 2004 increased the plant capacity to 3.0 mgd and consisted of a new influent pump station, headworks blower building, influent screen, Vertical Loop Reactor treatment tanks, post aeration tank, UV disinfection and outfall structure, lime stabilization system for sludge treatment, and a new operations building and lab.

Influent

The influent reaches the plant through three sewers: one 15 inch gravity, one 12 inch force main, and one 18 inch force main. The 15 inch gravity sewer flows to the influent pump station while both force mains pump directly into the headworks building, entering the screen channel.

The influent pump station is a 6' diameter by 20' deep duplex submersible pump station. The initial pumps installed in 2004 were Fairbanks Morse 7.5 hp, 4 inch, 1750 rpm pumps. During the first year of service, the pumps were prone to plugging with debris because the impeller did not rotate at high enough rpm's and the impeller was not designed correctly to handle the rags and debris in the raw sewage. A portable six inch pump was installed into the pump station to handle the influent flow during the pump failures. At times the pumps were pulled and cleaned three to four times per week due to plugging. These pumps were in service until the fall of 2005, when they were replaced with 10 hp pumps of the same manufacturer. Current operation allows approximately 650 gpm with one pump and 900 gpm with two pumps operating. The pump station discharges via an 8 inch pipe that enters the headworks structure.

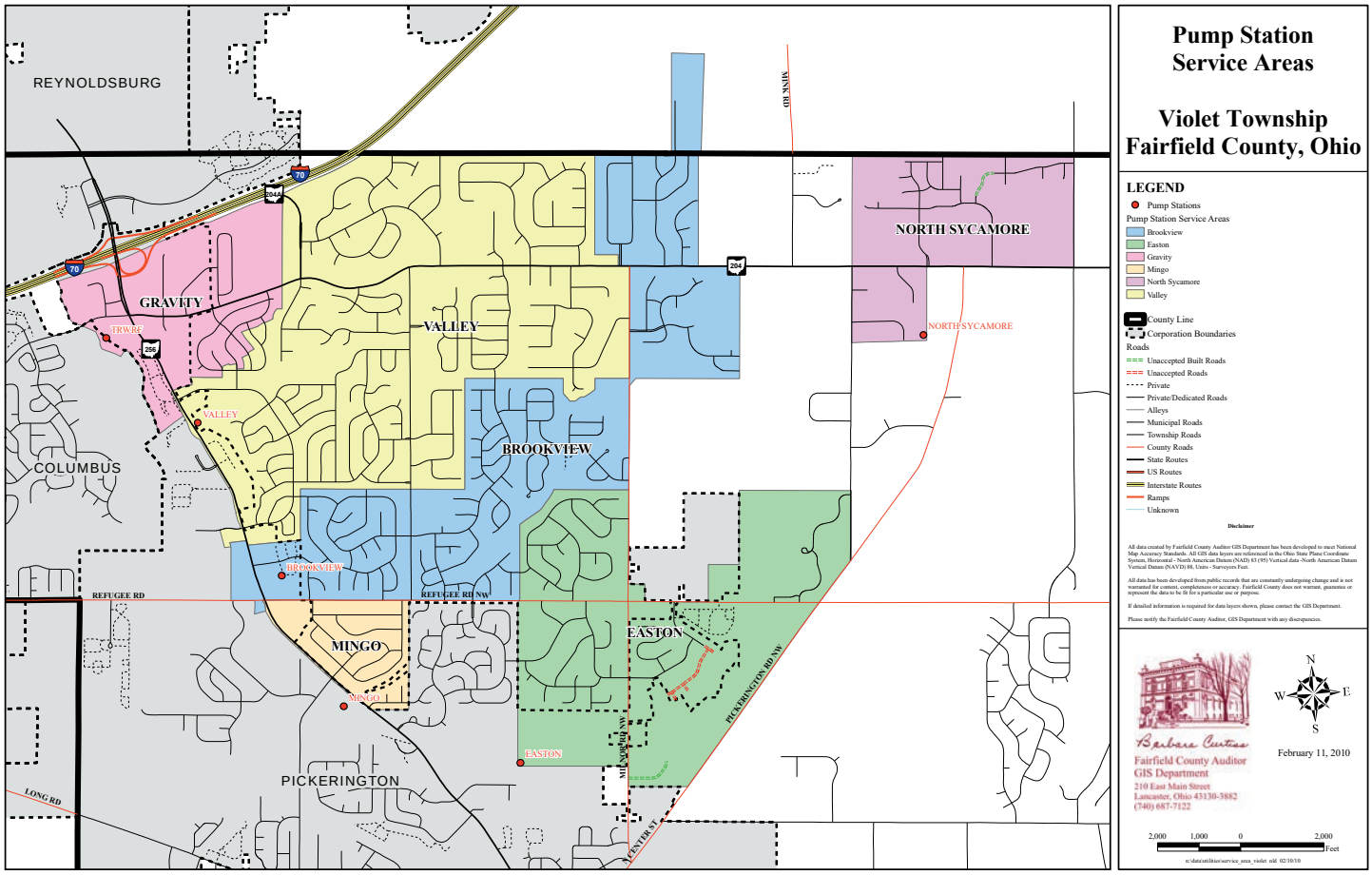
The influent headworks building accepts the flow from the influent pump station as well as the two force mains and this building houses the three aeration blowers and motor control center for the front portion of the plant. The top of the headworks building also contains the influent screen that consists of a manual bar rack with two inch openings for bypass screening and a Westech rotating auger fine screen for normal operation.

The mechanical screen basket has six millimeter holes on the bottom five feet, which is submerged in the raw wastewater. The screen auger is 20 feet long with the bottom eight feet 24 inches in diameter and decreasing diameter to 10 inches for the top 12 feet. The auger decreases in diameter to allow the screened material to be cleaned, compacted, and dewatered in the upper third of the screen before discharging into a dumpster for landfill disposal. Depending on flow patterns, the screen removes approximately 25-30 cubic feet of material per week. The screens shaftless auger has brushes in the basket section that are used to clean the rags and debris off the basket as well as move the screened material upward towards the compaction and dewatering section.

The screen has the option to run based on a timed sequence or on the level of the water in the influent channel, which is how it currently operates utilizing an ultrasonic level transmitter. A high water level alarm is also used in case of high flows or screen failure, which sends a signal to the SCADA for operator notification. Since installation, this screen has not operated as expected. At startup, the screen was designed to handle 7 mgd peak flow, but when 3.5 – 4.0 mgd entered the screen, the wastewater would reach the high level alarm and overflow into the manual bar rack causing decreased screening. The basket design was found to have been deficient; therefore the screen manufacturer removed the screen from service to replace the screen basket. This problem was due to

continued on page 38

Mechanical Screen



the basket not having enough 6mm holes per square inch, thereby causing increased head loss through the screen and insufficient throughput. Since a 2005 redesign, the screen handles peak flows of 7-8 mgd without bypassing.

During the first five years of operation, the screen ran an average of 12-15 hours per day causing excessive brush and basket wear. Following a manufacturer's recommendation, during the summer of 2010, operation staff installed a reversing relay within the electrical controls to allow the screen to reverse for 5 seconds after every forward cycle. Since changing this operation mode, the screen now runs only 3-4 hours per day, decreasing the run time by 75 percent. The reversing action allows bound material to be pulled out of the screen basket as well as straightening of the brushes. After screening, the raw wastewater travels through an 18 inch parshall flume for metering and into the Vertical Loop Reactors (VLR's) for treatment.

Vertical Loop Reactors

VLR Process

The U.S. Filter (Siemens) Vertical Loop Reactors are used for the extended aeration treatment. The tanks consist of three tanks 117' long x 30' wide x 18' deep for a total treatment volume of 1.5 million gallons. The VLR's are designed to give a 12 hour detention time during average design flow of 3.0 mgd, so at current average daily flow of 1.955 mgd, the wastewater is in the VLR's for approximately 15.5 hours. The tanks have a horizontal baffle located nine feet under the water level that divides the upper and lower portion of the tank with both ends open. The purpose of the horizontal baffle is to give the MLSS a division to rotate around as it travels through the upper portion to the lower portion in a circular pattern. The VLR process is comparable to a typical oxidation ditch flipped vertically. The raw screened wastewater enters the VLR on the west end via a 24 inch pipe and sluice gate, and the piping arrangement allows the option to divert flow to any or all of the three tanks simultaneously. Typical operation is to send 100 percent of the influent into #1 VLR as well as 100 percent of the return activated sludge as plug flow and then run the tanks in series from #1 to #2 to #3 and discharge to the final clarifiers. Coarse bubble diffused air can also be fed to any or all of the three VLR's via three Gardner Denver positive displacement blowers located in the headworks building. Each blower is driven by a 40 hp electric motor providing 460 cfm of air each.

The influent and RAS enter the VLR's approximately nine feet below water level and immediately mix with the MLSS in #1 VLR. The mixing and D.O. addition are accomplished by two surface aerators per tank that have 47 plastic disks mounted on a three inch diameter shaft and are submerged 10-17 inches below the water surface. The aerators have two functions: create mixing and

turbulence throughout the VLR basin and add dissolved oxygen. As the aerators rotate, the MLSS becomes completely mixed with the influent and RAS and circulates vertically around the process center baffle. After being treated in the #1 VLR the MLSS passes through a 24 inch sluice gate and enters the #2 VLR, then through a second 24 inch sluice gate into the #3 VLR. After approximately 12-24 hours of treatment, the MLSS discharges the #3 VLR via two 15 feet wide adjustable weirs and flows to the final clarifier splitter box.

Clarifying

Once the MLSS enters the final clarifier splitter box, it is diverted to one of two clarifiers via a 24 inch pipe which diverts the flow to the center feed well of the clarifiers. Both clarifiers are Schreiber systems and are 70 feet in diameter with a 12 foot side water depth. The units are peripherally driven by a ½ hp motor which drives the wheels around the peripheral concrete wall. Once the MLSS flows through the center pipe, it enters the stilling well consisting of a 20 foot diameter by 6 foot deep baffle designed to deflect the solids downward and start the settling process. The flow then exits the stilling well and moves into the quiescent settling zone of the clarifiers, where the solids settle out of suspension and the clear water rises to the top to overflow the V-notch weirs. The bottoms of the clarifiers are tapered to the center and have full radius rotating scrapers that move the settled sludge to the center sump where it is pumped by the RAS pumps.

Floatables such as scum and grease are removed by two adjustable skimmers. The skimmers have a two inch, ¾ hp submersible trash pump that rotates with the clarifier bridge and pumps the skimmings into the bottom of the clarifier where the solids are supposed to be drawn into the RAS suction pipe to be returned to the head of the plant with the RAS flow. The skimmers work satisfactorily although the discharge piping should be changed. By allowing the skimmers to discharge into the bottom of the clarifier, many floatable materials rise to the top again and never get drawn into the RAS flow stream. Also, if the material does get drawn into the RAS flow, it gets pumped directly back to the VLR process instead of being removed from the plant.

The clarifiers are designed to treat 2.3 mgd average daily flow each and 4.3 mgd peak hourly flow. With average flow of 1.955 mgd, typically one clarifier is in operation during the warmer months and the second clarifier is used during the winter months, when flows average around 2.5 mgd. To restrict solids loss and help to divert hydraulic currents, diversion baffles were installed during the 2004 upgrade. The baffles were designed to divert the MLSS flow downward ensuring that the solids settle quickly.

In 2008, a polymer injection system was installed that allows injection of cationic polymer into the MLSS stream prior to the final clarifiers to help maintain solids capture during peak wet weather flows. The polymer pump is incorporated into the SCADA system and can be operated manually or via the SCADA using a 4-20 mA signal from the plant effluent flow meter and can be flow paced to match the effluent flow.

Return Activated Sludge

As mentioned, the return activated sludge is removed from the final clarifiers through the bottom sump and is pumped to one of four Gorman Rupp T-6 centrifugal pumps. The four pumps are interconnected to allow the flexibility to use any pump to withdraw sludge from either of the two clarifiers. The RAS pumps are designed to pump 1,100 gpm and are controlled by Variable Frequency Drives that allows operation of the pumps in manual or automatic mode. The pumps are used in the automatic mode and are controlled by a 4-20 mA signal tied to the plant effluent flow. The pumps will run from 30 Hertz to 60 Hertz based on the inputted value in the SCADA. Typical operation is to return 30 to 50 percent of the effluent flow but during high flow events, this value is increased to 60 to 80 percent depending on flow and settling conditions. By operating the RAS pumps in the automatic mode pacing with the effluent flow, a more uniform sludge blanket is maintained in the clarifiers.

Discharging the RAS pumps, the sludge is pumped through an eight inch pipe to the head of the plant where it enters the VLR's. RAS can be diverted into any of the VLR's but typical operation is to send 100 percent to the #1 VLR. Prior to the sludge being returned to the VLR's, a waste activated sludge valve and meter are teed into the RAS line which allows sludge to be wasted from the system on an as need basis. The WAS flow is controlled by manually opening a 6 inch valve and wasting a portion of the RAS into the sludge thickening tanks (STT's). The WAS flow is controlled by a flow meter and normal wasting ranges from 100 to 300 gpm, depending on the daily volume to waste and the settlability of the sludge.

The sludge thickening tanks consist of three, 30,000 gallon tanks that were converted into sludge holding tanks/gravity thickeners during the 2004 upgrade. The sludge enters the thickening tanks between 0.5 and 1.0 percent; it is given time to settle further and the clear water discharges the tank over a 12 inch overflow valve that flows back to the influent pump station for further treatment. Depending on the settlability of the sludge, thickening can increase the solids content to 1.5 percent but a higher percentage is rarely achieved since no settling agent is routinely added to the sludge. Cationic polymers have been added sparingly to the waste sludge prior to entering the STT's to increase the settlability of the sludge (but only on a trial basis because of the negative side effect the polymer had on the belt press dewatering). Once the thickening tanks are full and will not thicken more, they are gravity drained to a submersible pump station that pumps to the aerobic digester, which will be discussed later.

Effluent

After discharging the final clarifiers, the clean effluent flows to a diversion chamber where it can either flow to the post aeration tank or be diverted to the effluent flow meter if no additional D.O. or disinfection is needed. During the warmer months, when water temperatures are highest, the effluent must flow through the post aeration tank where it is aerated with fine bubble diffused air for approximately 15 minutes to increase the D.O. to above 8.0 mg/l, which ensures at least a 7.0 mg/l D.O. at the outfall. The post aeration blower is a Gardner Denver 15 hp centrifugal blower that is designed to produce 180 cfm. Following the post aeration tank, the effluent flows into the UV disinfection channel to meet disinfection limits as required by the NPDES permit for May 1st through October 31st.

The effluent is treated by UV disinfection mainly because of its reliability and safety versus chlorine. The UV system is a Trojan 3000 Plus installed during the 2004 upgrade. It consists of Bank A

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Post Aeration

and Bank B, each having six modules of 8 lamps for a total of 96 lamps. The modules are located in a 24 inch x 48 inch flow stream with the effluent flow moving horizontally along the submerged UV lamps. The system is designed to treat the design flow of 3.0 mgd with one bank in service and can treat a peak flow of 9.0 mgd. During average daily flows this provides approximately 2 seconds of detention within the UV channel. The UV system is controlled by a Programmable Logic Controller that monitors effluent flow and, alternates banks and UV intensity based on run hours and flow. UV intensity is modulated based on effluent flow and fluctuates between 60 and 90 percent. As the effluent flow increases above 4.0 mgd, the system will start the lag bank and decrease the intensity of both banks instead of just running one at 100%. This guarantees more effective disinfection.

The UV system was a major problem during the first 4 years of operation with multiple lamp, ballast, and control board failures along with general operational problems. During the first four years of operation we spent thousands of dollars for replacement parts per year along with numerous man hours in repairing the unit. During the 2008 disinfection season, after several months of investigation, an electrical engineer from Trojan Technologies conducted three days of electrical monitoring of the UV system and the main electrical power supply to try to determine the cause(s) of the excessive failures. It was determined that many of the outdated lamps needed replaced, rubber o-rings needed replaced to prevent potential water inflow, and wiring harnesses from the lamp socket to ballast needed replaced because of high resistance readings.

During January and February of 2009, plant staff disassembled each module, tested each ballast, lamp, wiring harness, and o-rings and replaced all defective parts. This major repair cost $15,000 in parts and over 200 man hours. However, these repairs were effective, because during the 2009 and 2010 disinfection seasons, we have had no major UV failures.

Following disinfection, the effluent flows through a 18' x 30' x 6' weir tank. This tank maintains the water level in the UV channel to ensure all the UV lamps are submerged during flow fluctuations. The tank has five weirs to maintain only 2 inches of rise during peak flows in the UV channel to prevent the top lamp from being submerged too far under water depleting the disinfection. After overflowing the weirs, the effluent flows into an 18 inch parshall flume used to meter the effluent discharge to Blacklick Creek.

Digester

Once the WAS exits the sludge thickening tanks at 1.5-2.0 percent solids, it is drained by gravity into a pump station where two, 7.5 hp Fairbanks Morse pumps operate automatically to pump the sludge to the aerobic digester. The aerobic digester is a 42 feet diameter by 20 feet deep concrete tank with a working side water depth of 18 feet, for a total of 186,000 gallons. The digester has two rows of coarse bubble diffusers to provide mixing and dissolved oxygen transfer. The diffused air is fed from two positive displacement Spencer blowers at a rate of 1000 cfm each.

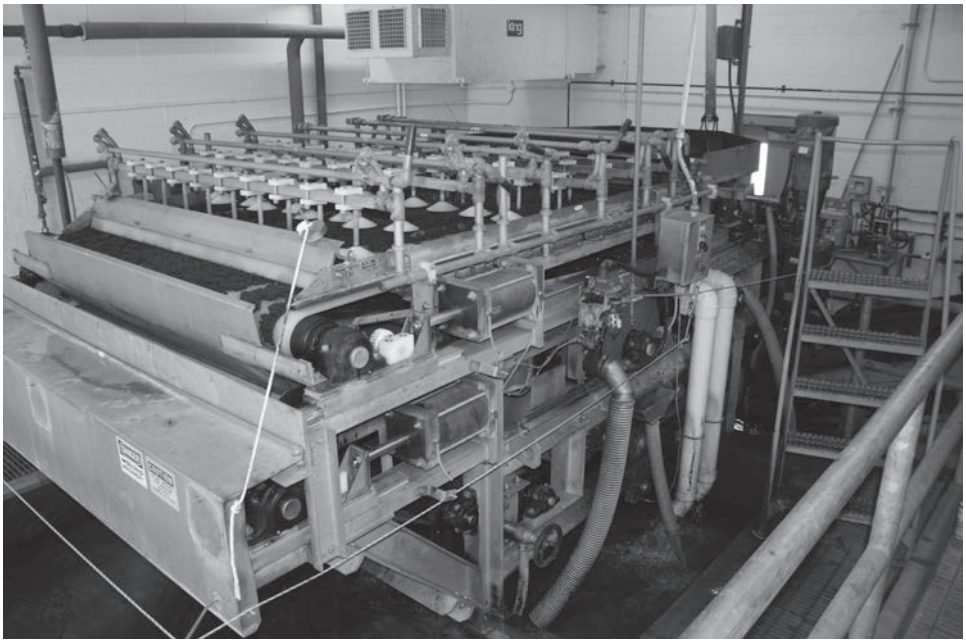
One blower is operated at a time and rotated every six months for preventive maintenance. The digester was designed to provide 8.8 days of detention time at 1.5 percent solids with a wasting rate of 20,000 gpd. Actual operation is approximately 4 to 6 days of detention time at 1.5 percent solids. We currently pump 30,000 to 50,000 gallons of thickened sludge to the digester daily and remove 40,000 to 50,000 gallons of sludge daily to the dewatering belt press. This equates to 5,000 pounds of solids into the digester and approximately the same out. The difference between design and actual loadings to the digester is due mainly to the increased flows the plant receives now versus when the digester was installed.

The digester is operated to maintain a pH between 6.5 and 7.5. On occasion during low flow periods, we are able to supernate the digester and remove a portion of the clear water. To supernate the digester, an eight inch dewatering tube is manually lowered into the liquid and gravity drained back to the influent pump station for additional treatment.

As the sludge is digested, especially during summer months, the pH and alkalinity decrease due to the aerobic process. This often causes problems with the dewatering process if the pH reaches 6.0 or below. To counteract this, a couple days per month the digester blower is turned off for 16 to 24 hours to allow the sludge to enter an anaerobic state thereby increasing the pH and alkalinity. Several years ago, we experimented with adding Caustic Soda to increase the pH but we found that simply shutting the air off accomplishes the same job without the addition of chemicals.

Dewatering

From the digester the sludge is pumped to the dewatering belt press using a four inch Penn Valley positive displacement diaphragm pump. The pump is designed to handle sludge with solids contents as high as 12 percent so it does a very good job of controlling the flow of 1.5 to 2 percent sludge to the belt press. The pump is



Belt Press

controlled by a Variable Frequency Drive that allows operators to pump from 75 gpm up to 160 gpm.

The Komline Sanderson 2.0 meter belt press was installed in 1995 and continues to operate almost flawlessly with regular preventive maintenance. The belt press is designed to handle a loading of 112 gpm with a feed solids content of 2 percent and a solids output of 18 percent with a throughput of 1120 pounds per hour. The liquid sludge is dewatered to 15 to 18 percent solids and discharged onto a conveyor belt where it is transported to the alkaline stabilization equipment. During the last 12 months we have dewatered 461 dry tons of sludge. With the addition of lime, we have land applied 2,200 wet tons of lime stabilized biosolids. The water that is removed during the dewatering process flows into a submersible pump station with one Gorman Rupp 5 hp pump which pumps the filtrate directly into the headworks building via a six inch pipe so it can be retreated.

Biosolids

After the press, the sludge cake is then discharged into the lime blender where it is mixed with lime dust to increase the pH of the sludge to above 12.0. The lime system was added in the 2004 upgrade and has made the residual side of the plant process run more consistent for Class B biosolids. The Chemco blender unit is designed to handle 14,400 pounds of material per hour; we currently load the unit with only 5,000 to 7,000 pounds of dewatered sludge per hour. Once the sludge enters the blender, two counter rotating mixers moving at 100 rpm, provide blending between the cake and the lime. Lime is added at a rate of 5 to 10 percent the sludge feed. This equates to approximately 800 pounds of lime used per day. The sludge and lime are thoroughly mixed in the blender for approximately ten seconds and then discharged onto a second conveyor that carries the treated biosolids to the covered storage pad for ultimate disposal.

Lime is added to ensure that pathogen reduction and vector attraction requirements for Class B land application biosolids are met. The addition of lime increases the pH above 12.0 for the required two hours and a pH of 11.5 for an additional 22 hours. The pH is monitored daily when the press is running by analyzing the sludge directly after lime addition, then re-analyzing after two hours and the next day, 22 hours later. At the 10 percent lime feed rate, the pH requirements are always met and is usually above 12.0 after several weeks. Once the treated biosolids are discharged onto the storage pad, it is stored until approximately 300 wet tons are accumulated and a contractor loads, hauls, and surface land applies the treated biosolids for agricultural reuse.

After five years of operation on the upgrade, the facility operates very effectively using the equipment that was discussed above. BUT, I have to give credit and thanks to the dedicated staff that operates and maintains the equipment within our plants, because without tender care and operator know how, the equipment alone cannot work. Thank you to all the Fairfield County Utilities Employees.

Brandon Fox
Chief Water Reclamation Officer
Fairfield County Utilities
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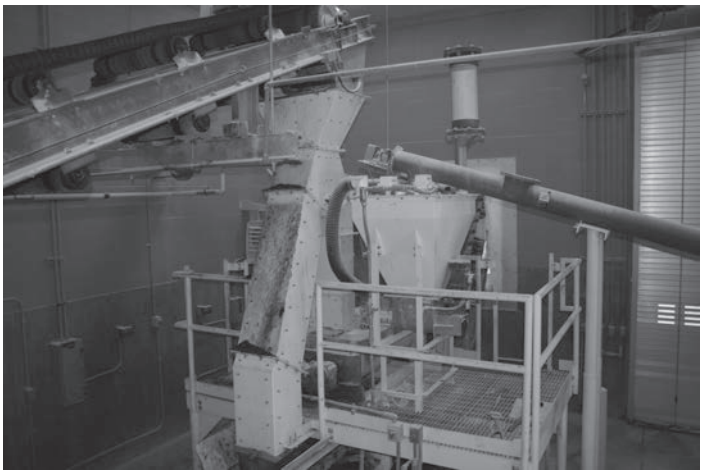


Lime Mixer

Josh Holton, Rick Krueger, Patrick Warner, Larry Stadwick, and Brandon Fox. (Jeffrey Shaw - not pictured)

WAt ER FOR PEOPLE

by Keith Riley

Water For People 2010 Fundraising

I want to congratulate everyone at the 2010 Five Cities Plus conference held in Cincinnati, Ohio who took part in the amazingly successful $17,500 fund raising effort to support Water For People (highlighted below). This is the second largest OAWWA/OWEA event in the history of our joint fund raising efforts.

I hope everyone interested was able to compete for the chance to get prime tickets and preferred parking for the November 27th OSU home football game against Michigan. The winner will be drawn at the November 5th OAWWA Board Meeting. We are hoping to sell 500 tickets and raise $10,000. I hope one of our OWEA members is the winner. Go Bucks!

Thanks to OWEA's Water For People Guardians:

2010 Fund Raisers:

SW Section *(in Memory of Danny Smith)*	$150
Northwest Section Event	$144
2010 Conference and Golf Fundraising	$1500
5S Donation	$500
New York WEA	$20
NE Section Golf Event	$875
MSD Event	$17,500
Current Total	**$20,689**

2010 Five Cities Plus Conference Supports Water for People

by Jack Rennekamp, MSD Greater Cincinnati

How do you move a mountain? Well, you can start piece by piece and make it a fun event! That is what happened at the 2010 Five Cities Plus Conference held in Cincinnati, Ohio in August 2010 when it was decided Water For People would become its charitable cause! At the end of the event, OWEA members Biju George, P.E., Deputy Director, Metropolitan Sewer District Greater Cincinnati (MSDGC); HR Manager Jack Rennekamp, Senior Environmental/ Safety Specialist Aaron Schwarber, and Marty Hubbard (MSDGC); and Don Cuthbert, P.E., Vice-President CH2M Hill Water Business Group, succeeded in raising $17,508 from this conference using several events: a golf outing, shotgun skeet-shoot, sports memorabilia prizes raffle, and a raffle to throw out the first pitch – or catch it – at the August 9th Cincinnati Reds/St. Louis Cardinals baseball game.

The 2010 Five Cities Plus Conference is an annual wastewater utility meeting for the "Big 5" wastewater agencies in the lower Midwest: MSD Greater Cincinnati; Metropolitan St Louis Sewer District; Louisville and Jefferson Co., KY Metropolitan Sewer District; City of Columbus Division of Sewerage and Drainage; and the Indianapolis Department Public Works. First organized in 1989 among these sewer agencies, the "Plus" in Five Cities Plus includes Sanitation District #1 of Northern KY and the City of Ft. Wayne, IN wastewater utilities, among others. Each year, the conference rotates among the five major urban members, with the purpose to share critical operational information on the business of wastewater and feature annual organizational highlights.

This year, host MSD Greater Cincinnati decided that the conference was a perfect opportunity to also give back to the communities we serve. Water For People was chosen as the prime charitable benefactor. Water for People's mission and vision of a world free of water-borne disease concretely aligned with the Five Cities Plus member organizations' charges, missions, and visions. As protectors of the water environment, these various urban sewer agencies know what is required to create a sustainable society. Water for People brings that message and money to create those protections to areas of the world that are not as fortunate.

More than 300 persons attended the conference and participated in its fundraising events. OWEA facilitated the fundraisers through its Water For People Committee. OWEA members at MSD Greater Cincinnati set a major fundraising goal - $10,000 - that was met after a one month campaign, filled with blood, sweat, tears, and a great degree of good will.

The campaign highlight was the conference's annual golf outing, including a "Deputy Director's Foursome" and the First Pitch/

Golfers (L R): D. Pyzoha (Gresham Smith), B. George (MSDGC), D. Cuthbert (CH2M Hill), T. Russo (RJN Grp)

M. Wurschmidt (SD1/KY); M. Wooten, catcher (SD1/KY); R. Hamant, pitcher (MSDGC); E. Speranza, (W4P); T. Parrott (MSDGC); B. George (MSDGC)

E. Speranza (W4P) accepts the $10,000 contribution from B. George (MSDGC)

Catch at the Reds/Cards baseball game. Both of these events served as significant fundraisers for Water for People. The First Pitch/Catch fundraiser was based upon a raffle, with employees from MSD Greater Cincinnati and Sanitation District #1 winning the once-in-a-lifetime chance to be a part of major league baseball. In addition, this Water for People fundraising effort received national broadcast television coverage.

At the conference's end, MSD Greater Cincinnati Deputy Director Biju George presented a check for $10,000 to Water for People Board Chair Elisa M. Speranza. Since the conference, an additional $7,500 in donations came from Five Cities Plus, Inc., the non-profit organizational arm of the conference.

Composting Toilet Implementation a Success for Water For People Partner Rwanda Environment Care

by Esther Nakkazi, Water For People-Africa, Regional Reporter

Walk through the main roundabout in Kigali and you'll see a sight that is unique in the developing world: public toilets that are tidy, clean, inexpensive, and a prime example of how sustainability in sanitation can work. Rwanda Environment Care (REC), one of Water For People–Rwanda's local development organization partners, built and manages the public composting toilets.

The toilets are popular with both users and government authorities. Users find the toilets to be neat and clean and, most impressively, without any odor. The authorities of the city of Kigali and other members of government find these toilets to be a positive alternative to the often-mismanaged public flush toilets and overly full pit latrines while offering protection to the environment. With few to no wastewater treatment options in Rwanda, composting toilets are seen as an effective option.

The technology came about when Valentin Mucyomwiza and some of his classmates from Kigali Institute of Science and Technology (KIST) collaborated to solve a problem: very few public places had toilet facilities.

Utilizing humanure and urine to supplement agricultural crops is being experimented with in Africa. (photo by Water for People)

The few traditional public latrines that did exist were smelly, very dirty, and often full. For that reason, when visiting the market or arriving at the taxi park, people often chose not to use the latrines, preferring to wait or ask a store owner to use a toilet.

Mucyomwiza and his colleagues wanted to find a solution that would not only provide toilets that people would use but also protect the environment. They created REC, an organization of which Mucyomwiza is now the director. During their research for possible solutions, the members were intrigued by research on ecological sanitation (also known as composting toilets).

Composting toilets don't require water to operate. Rather, they separate solid waste, which drops into a shallow compartment, from liquid waste, which is stored in containers. Toilet facility attendants add ash at scheduled times throughout the day to adjust the chemical composition of the solid waste and eliminate the odor. The mixture is also stirred at regular intervals.

Once the solid compartments are full, they are closed up. A large black metal door absorbs sunlight and increases the heat of the contents, helping them break down and become compost. After three to four months the door is opened, revealing a safe, nutrient-rich fertilizer. The fertilizer is removed and the compartment is ready for use again. Urine is stored in a separate container and can be used right away as nitrogen-rich fertilizer after diluting it with water.

However, REC knew that it wasn't enough just to have more public toilets; they had to be managed well. This is accomplished by charging a small maintenance fee—each user pays 50 Rwandan francs (about 9 cents) to use the toilet. The staff collects payment, hands out toilet paper, and ensures soap and water are available for hand-washing. And it works! REC has found that users are willing to pay to use the toilet as long as it's clean and comfortable.

REC has built two sets of public toilets: one at the Nyabugogo Taxi Park, and the other in downtown Kigali (the latter funded by a City of Kigali loan of 14 million Rwandan francs [about $25,000 US]). Each location consists of 12 toilets with showers, used by 1,000 to 1,500 people every day, bringing in more than $25,000 (US) per year, which covers direct expenses, administrative costs, and loan payments. REC expects to pay off the loan by 2010.

And perhaps the most exciting part of this unique demonstration is that the compost taken from the public toilets can be sold to individuals and businesses, adding another stream of income for this effort. That means both more income for future development and more interest from funders and partners. Truly a unique solution in the heart of Kigali.

Mucyomwiza plans to build more latrines in the taxi parks as well as in all public places in the country and is saving up the initial capital costs he will need in order to invest in another set of latrines. He believes that he'll profit from the investment before too long, despite also saving up for the sizable investment in future construction.

In addition to the money collected from users, Mucyomwiza believes there is money to be made from the compost itself.

Mucyomwiza is selling the existing compost mix as well as experimenting with adding the nutrient-rich human compost to

Continued on page 44

chemical fertilizers to create a cheaper alternative. He thinks this will increase his business and further increase his profit margin. He's looking for a chemical fertilizer plant that will buy compost from his toilet facilities on a regular basis. The more toilet facilities he has, the more compost he has to sell. To that end, Mucyomwiza has been out pounding the pavement to drum up business. As a result, REC has several new business ventures in the works.

REC is now in the planning phase to build another set of public composting toilets at the Kimironko Market, one of Kigali's busiest markets. The composting toilets, and the staff to manage them, will replace the existing flush toilets, which are currently badly managed and whose waste is flushed into the creek running behind the market.

REC is working with one of the local associations of motorcycle taxis and the City of Kigali to create this new business opportunity. Mucyomwiza says the city has already given REC permission to transform the market facility. The motorcycle taxi association is providing the materials and REC is providing technical skills and training.

Through Water For People–Rwanda, REC has received another request to build composting latrines for the Rwanda Tea Society (SORWATHE). SORWATHE is purchasing these innovative latrines to enhance access to hygienic toilets for their workers. It plans to use the organic fertilizer produced by the composting latrines to supplement the inorganic fertilizer it buys. The hope is that these latrines, in addition to providing a sanitary toilet for workers to use throughout the workday, will reduce the amount spent on fertilizer over time.

REC is currently working with the Rwanda Revenue Authority and the Ministry of Immigration and Emigration to build ecological toilets behind its main administrative building in the city of Kigali, as well as at all eight border posts around the country. The Rwanda Revenue Authority will provide funding and toilet management will be the responsibility of REC.

Not only has Mucyomwiza created a successful and sustainable business model, but he wants to give back to his alma mater. With the support of Water For People–Rwanda, he will take on undergraduate students from the Kigali Institute of Science and Technology as interns in REC's hygiene and sanitation work. These students will do research on the compost market to help REC better understand how to sell its compost. Mucyomwiza also believes that by inviting students to participate in REC's work as interns, he is helping the next generation of students become interested in sanitation, and is challenging them to find a problem and create a sustainable solution.

COLLECt IONS COMMIt t EE

Bill Horst, Chair

The Collections Committee met at the OWEA office on October 22nd. Officers for 2010-2011 are: Bill Horst - Chair, Don Gallimore - Vice Chair, and Tom Brankamp - Secretary.

The committee will be creating a downloadable version of the 2005 Collection Systems Best Management Practices Manual, which will be available for purchase for $15.00 at *ohiowea.org* in the near future. An updated version of the Collections BMP is in the planning/review process, with a possible combined effort with the Water Environment Federation.

The 2011 Collections Workshop will be held May 5, 2011 at the Conference Center at NorthPointe. Six contact hours will be offered. The Collections Committee set the theme "Collection System Capacity Management" with suggested topics of WIB (water in basements), large diameter inspection and/or cleaning, trenchless technology, sewer inspection, and public outreach. If you are interested in presenting a technical session, please contact the Collections Workshop Chair, Tom Brankamp at *tom.brankamp@woolpert.com*. Abstracts are due by January 14, 2011.

The Collections Hands-On Workshops for 2011 are currently set for the following dates:

SW Section: September 15, 2011
SW Contact: Aaron Zonin, *aaron.zonin@daytonohio.gov*

SE Section: September 29, 2011
SE Contact: Gary Hickman, *glhickman@columbus.gov*

NW Section: October 6, 2011
NW Contact: *Kevin Aller, kaller@co.lucas.oh.us*

NE Section: October13, 2011
NE Contact: Don Gallimore, *dgallimore@does.summitoh.net*

Proposed topics are: Property Side I/I Investigation and Removal, Internal Inspection Technology, Trenchless Sewer Repairs (Pipe Patch), and Sewer Nozzle Selection Technology. Check the OWEA online calendar for future details and locations.

If you are interested in working with the OWEA Collections Committee, contact Chair Bill Horst or your Section Collections Committee Representative.

Bill Horst
horstb@mcohio.org

(l-r) Aaron Zonin, Bill Horst, Kevin Aller, John Schroeder, Don Gallimore, Gary Hickman, Rick Miller, Tom Brankamp, and Tim Pringle

NEW DEWAt ERING DEVICE PROVIDES ECONOMICAL FLExIbILIt Y

by Daniel W. Miller, P.E.

Biosolids land application costs continue to rise and the time window to land apply biosolids is shrinking with newly proposed regulations which prohibit spreading on frozen ground. As a result, many communities will look to increase their biosolids disposal flexibility and options. The Village of North Baltimore, Ohio was in such a position.

The Village had "as-needed" arrangements with a private biosolids application firm to land apply their anaerobically digested liquid sludge. While their liquid solid storage tank (200,000 gallons) could provide approximately 120 days of storage, the Village still experienced difficulty managing solids between land application periods. Additionally, the Village had also experienced elevated zinc levels in their sludge which could prevent land application of the biosolids.

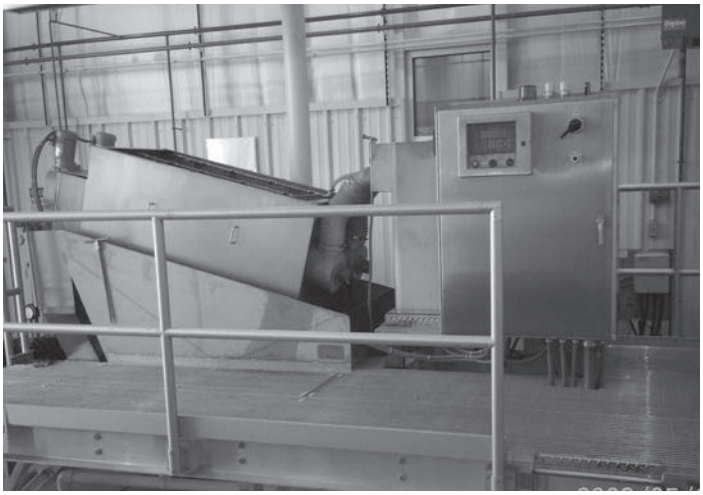
Jones & Henry performed a study and determined that the Village's disposal flexibility could easily be improved by adding solids dewatering to permit land filling of their solids in addition to land application.

The drawback to land filling is that the costs are typically greater than liquid land application. Land filling can be competitive and even affordable, if the cake solids can be produced economically, with a high solids content. Also with land filling, the nutrients contained in biosolids are not recycled.

Traditional dewatering alternatives have been either a belt filter press or a centrifuge. New devices recently on the market include a rotary fan press, screw press, and the volute dewatering press.

While new to the U.S. market, the volute dewatering press was developed in Japan 25 years ago and has over 850 installations worldwide. This track record and the device's claims of high cake solids, minimal operator attention, lower energy consumption and reduced washwater usage, caught the attention of the plant's superintendent, Andy Patterson.

The Village and their egineering firm made a visit to a new installation in Oscoda, Michigan and had a pilot study conducted at the plant by PW Tech. The pilot study was successful and the project moved ahead.



Volute dewatering press

A volute dewatering press is similar to a traditional screw press; however it utilizes a unique "dewatering drum". The drum has a series of fixed and moving rings. The slow constant movement of the rings developed by the internal screw, cuts into the sludge to expose wetted surfaces and allow the passage of filtrate without clogging. As the pitch of the screw narrows and the gaps between the fixed and moving rings decrease, the sludge dewatering increases.

Volute dewatering presses are sized based on dry pounds per hour, and an 850 dry pound/hour unit was selected for North Baltimore, the next to largest unit made. Based on their 107 dry tons of solids generated each year, the device would require approximately 250 hours of operation, or less than one day per week.

North Baltimore's installation also included enclosed storage for their disposal container (to minimize odors and vector attraction) as well as space for vehicle storage adjacent to the dewatering equipment.

As with most dewatering devices, a feed pump, grinder, and polymer feed equipment were installed at the new dewatering facility.

The results have been terrific. The press typically achieves 30-35% solids utilizing 20-30 pounds of polymer per dry ton. The unit requires minimal operator attention during operation, is very quiet, and utilizes only 20 total connected horsepower during operation including all pumps, grinder, and discharge screws.

Disposal costs including landfill disposal, power, and polymer will be approximately $17,300 per year. This equates to approximately $0.031 per gallon. Their current liquid land application program was costing $0.035 per gallon.

The key is flexibility. Biosolids can now be removed from the plant at any time, reducing concerns with land application timing limitations, and biosolids which do not comply with the biosolids regulations. Recently, the plant experienced plugging in its discharge line from the anaerobic digester. In order to unplug it, the entire contents of the digester were transferred to the storage tank. This sludge was not completely digested and could not be land applied. With the new volute dewatering press, the Village pressed the material and delivered it to the landfill at minimal cost.

Daniel W. Miller, P.E.
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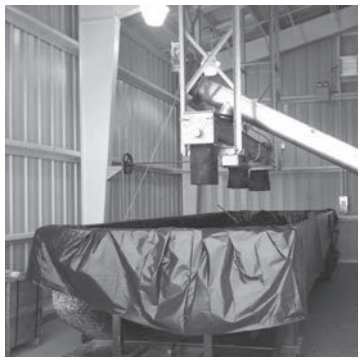

Disposal container with discharge screw conveyor

u RbAN REVIt ALIz At ION u SING Su St AINAbLE PRACt ICES

by Sandy Doyle-Ahern and Travis Eifert

Overview

The City of Columbus' Downtown Business Plan was developed in 2002 with the goal of revitalizing the downtown area for the Bicentennial Celebration in 2012. The revitalization of the district will see the creation of a dense, mixed-use urban neighborhood. The Town Street Revitalization is a $5 million streetscape that is integrated with the redevelopment of the former Lazarus department store building that has been an anchor to downtown Columbus since the late 1800's. The revitalization of Town Street is the first implementation component of two intersecting master plans, RiverSouth and Scioto Mile, designed to bring people to the Scioto River and extend the river's influence into downtown Columbus.

The RiverSouth Master Plan incorporates a redevelopment plan for 25 acres of land anchored on the north by the Lazarus building, to the west by the Scioto River, to the south by Mound Street and to the east by High Street in downtown Columbus. The Master Plan calls for a revitalized, dense urban neighborhood including a residential component of lofts, condominiums, and apartments coupled with neighborhood restaurants and retail. The Scioto Mile Master Plan calls for a continuous, integrated system of parks and green spaces, bike and pedestrian paths, urban streets, and activities along the Scioto River from North Bank Park throughout the historic downtown.

With the initiation of the street rehabilitation, the development of Town Street provides an essential pedestrian street link from the heart of downtown to the Scioto River. Under direction of the Columbus Downtown Development Commission (CDDC) in coordination with the City of Columbus and the Ohio Department of Transportation, the project team developed a comprehensive streetscape design for approximately 870 feet of roadway along Town Street, from High Street to Civic Center Drive in order to make way for development associated with the RiverSouth Master Plan. Engineering, survey, and environmental services were provided by EMH&T.

Building Link

Major renovations to the old Lazarus department store building allowed the Ohio Environmental Protection Agency (OEPA) to reuse the building for office space. One of the primary objectives for the project was obtaining LEED (Leadership in Energy and Environmental Design) certification. The Town Street enineering design team was able to benefit from a green feature of the building – reuse of roof collected rainwater. This harvested rainwater is used to irrigate double rows of trees and a sitting lawn called for in the Town Street revitalization plan. In addition, the lawn is designed to accommodate the loadings of large electrical trucks which occasionally utilize the area to perform modifications to underground vault structures. Typically, an urban irrigated lawn would not be considered a sustainable alternative, but the reuse of the rainwater for irrigation makes this a viable green solution. Converting a ground surface area covered with asphalt and concrete into a functional pocket park for pedestrian use that can provide interim needs for electrical maintenance is a unique utilization of space within a dense urban environment. Currently the Lazarus building is the largest LEED (Leadership in Energy and Environmental Design) building renovation project to have occurred in the state of Ohio.

Before construction

Roadway Design

A major component of the project was to reduce the one-way five-lane road to a two-way two-lane road with parking. In reconfiguring the road, previous traveling lanes were converted to walkable sidewalk space. EMH&T investigations of the existing roadway during the project design uncovered Belgium block cobbles under a layer of asphalt and concrete base. Once the presence of those original materials was known, a decision was made as the project progressed to return the roadway surface to its original luster by exposing, cleaning, resetting and preserving the 120 year old cobbles to create a signature street within the City of Columbus.

Additional design features included parking along the south side of Town Street between Civic Center Drive and Front Street, streetscape elements of landscaping, granite curb, and an 18-foot wide grass landscaped zone. These amenities added to the uniqueness of Town Street and a defined neighborhood for the apartments and condominiums nearby while providing a green connection to the Scioto Mile Park.

Sustainable Stormwater Management

Critical to the revitalization efforts was engineering firm's coordination with other impacted City Departments, including Public Service (Transportation) and Utilities (Sanitary and Storm). This coordination allowed for EMH&T to integrate stormwater runoff treatment into the City's Long Term Control Plan (LTCP) sewer separation program. The team designed an ultra-urban bio-retention system into the streetscape project. The bio-retention system allows for stormwater runoff collection, treatment and redirection out of the combined sewer system.

The design of the streetscape water quality BMP's were verified using the WinSLAMM model and local rainfall data set to determine that the bio-retention basins would 'treat' over 93% of the annual rainfall runoff. Construction costs of BMPs can be higher in an ultra-urban setting, but the "green" savings break-

Constructing bioretention basin

even point for road and roof runoff removal through bio-retention can be realized in less than 7 years when CSO treatment and storage costs are considered.

The bioretention basins were designed in the pedestrian sidewalk with curb inlets to accept roadway generated stormwater. The basins contain an infiltration media with an underdrain. Ornamental grasses and trees were planted within the basins and mulched to create a landscaped appearance. This integrated streetscape water quality treatment system provides for a cleaner, cooler urban runoff to be discharged directly to the Scioto River.

The revitalized Town Street provides a grand introduction to the RiverSouth District and draws pedestrian traffic to the Scioto River. This streetscape designed by EMH&T stands as a "signature" street for Downtown, while unifying downtown revitalization with water quality enhancement.

Bio-Retention Basin Option Evaluation

Within other areas of the RiverSouth district, the application of green infrastructure introduced on Town Street was continued along portions of Front Street. Similar to the initial Town Street improvements, these integrated streetscape bio-retention systems will provide regulatory compliance for the City's LTCP and provide water quality enhancement to urban runoff discharging directly to the Scioto River. Video fly-overs of Front Street were created showing the finished roadway, sidewalk and building elevations with bio-retention incorporated into the sidewalk to provide a graphic image of the completed reconstruction.

The implementation of green infrastructure in the greater RiverSouth district reduces stormwater runoff while considering existing soils and conflicts with existing infrastructure. A water quality best management practice (BMP) selection flowchart was created for the district by the engineering firm to consider uniform selection criteria for basin design. Use of the flowchart required answering several questions regarding site conditions to determine priorities and design factors that would lead to a decision to use or not use bioretention in an ultra-urban setting. Out of the decision tree came several basin designs that could be considered, taking into account drainage area, water quality goals, soil permeability, proximity to building foundations and the presence of public and private utilities. In addition, site specific soils data was collected and analyzed to determine if stormwater infiltration would be possible. Each considered option offered slightly different design parameters that impacted construction cost of the basins. Ultimately, the final design of the green infrastructure selected by the City of Columbus was a basin design that allowed for stormwater to be collected in bio-retention basins and shared with adjacent street tree wells for tree watering. This technique avoided the need for mechanical irrigation. The use of the basins was coordinated with Ohio EPA for compliance with the General Construction Permit requirements for post-construction water quality.

Community Features

The creation of walkable, livable space in downtown Columbus creates a community environment that allows residents, business people and visitors to enjoy the benefits of a revitalized downtown. The incorporation of bio-retention stormwater features into the pedestrian sidewalk joins a sustainable stormwater practice with a landscaped environment, offering a naturalized appearance in an otherwise hardscape setting.

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(l-r)
Bioretention inlet
Bioretention basin
Reclaimed cobblestones

E. COLI hAPPENS!

by Elizabeth Wick, P.E.
Ohio EPA, Division of Surface Water Northwest District Office

On March 15, 2010, revised Ohio Administrative Code Section 3745-1-07 became effective. The following changes were implemented as part of this rule revision:

- Recreation season was changed to May 1st through October 31st;
- Fecal coliform criteria were dropped from the water quality standards;
- The Director was given authority to extend monitoring beyond the recreation season if necessary;
- Definitions of "Bathing Waters", "Primary Contact", and "Secondary Contact" were revised; and
- The primary contact recreation use was divided into three subclasses: Class A, Class B, and Class C. Each of these subclasses has different numeric E. coli criteria.

Table 1 summarizes the requirements and water quality standards for each recreation use category.

Table 1
Summary of Recreation Use Waters: Categories and Bacteria Water Quality Standards

Recreation Use	Description	*E coli* Stds. (counts / 100 ml)	
		Seasonal Geometric Mean	Single Sample Maximum[1]
Bathing Waters	Waters heavily used for swimming. Applies to all waters where a lifeguard or bathhouse is present, and waters designated BW. Applies to Lake Erie.	126	235 [a]
Primary Contact	Waters suitable for one or more full-body contact activities such as wading, swimming, boating, water skiing, canoeing, etc.		
Class A	Waters that support or potentially support frequent primary contact activities. All lakes with improved access points and waters designated in Table 7-16 of rule 3745-1-07.	126	298
Class B	Waters that support or potentially support occasional primary contact activities. All surface waters are designated Class B unless otherwise designated.	161	523
Class C	Waters that support or potentially support infrequent primary contact activities. Includes all water body segments with drainage areas less than 3.1 square miles and defined as a "historically channelized watercourse" unless specifically otherwise designated.	206	940
Secondary Contact	Waters for reasons of insufficient depth and limited access result in minimal exposure to pathogens. These waters are designated in rules 3745-1-08 through 3745-1-30.	1030	1030

1 *Except as noted in footnote* a*, these criteria shall not be exceeded in more than ten percent of the samples taken during any thirty-day period.*

a *This criterion will be used for beach and bathing water advisories.*

How do these numbers translate into NPDES permit limits? The geometric mean values are used as monthly average effluent limits. Seven-day average limits are derived from the 30-day average limits using U.S.EPA's "Technical Support Document for Water Quality-Based Toxics Control" (EPA-505-2-90-001) March 1991. The resulting E. coli limits used in NPDES permits are shown in Table 2 on page 49.

Table 2 Recommended *E. coli* NPDES Permit Limits			
Recreation Use	**Class**	***E. coli* (colony counts per 100 ml)**	
		30-day average	**7-day average**
Bathing Waters	--	126	284
Primary Contact			
	Class A	126	284
	Class B	161	362
	Class C	206	464
Secondary Contact	--	1030	2318

Appropriate limits will be based on the recreation use category for the receiving waters. In most cases, the recreation use category should be relatively easy to determine. Many streams are designated in the various rules for each basin. In addition, Table 7-16 of OAC 3745-1-07 lists all the streams which have been designated as Class A, primary contact recreation.

No significant changes to disinfection equipment or dosing rates were anticipated by Ohio EPA. However, in order to allow permittees time to monitor E. coli discharge levels, train employees on measuring E. coli , obtain additional equipment, switch contract labs, and tweek disinfection systems, a six month compliance schedule is included in NPDES permits with E. coli limits if needed. It's conceivable that some permittees could have both fecal coliform limits and E. coli monitoring for one disinfection season.

There are five approved methods for analyzing E. coli samples. These methods are listed in 40CFR136.

- Standard Methods 9223B
- EPA Method 1603
- Vendor method - Colilert®
- Vendor method - Colilert-18®
- mColiBlue24®

Your contract lab can answer any questions you may have on these methods.

As NPDES permits are renewed or modified, E.coli requirements will be added. If you have any questions about your NPDES permit, contact your Ohio EPA district office representative.

Elizabeth Wick, P.E.
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Oh IO WAt ER MAPS

The Ohio Department of Natural Resources Division of Soil and Water offers an extensive catalog of downloadable maps at *www.dnr.state.oh.us*.

Did you ever wonder if your area's drainage flows to Lake Erie or to the Ohio River?

Is your community located on one of Ohio's aquifers?

Need to view the ground water resources for your county?

Explore potentiometric surface maps, which indicate the elevation and horizontal direction of ground water flow.

Images from www.dnr.state.oh.us

YEAR END LISt t O St AY SAFE IN t h E LAb

by Amy Hursey, Lab Supervisor, City of Zanesville

It's the time of year when things are winding down, funds are getting low, and inventory needs counting. When you're going through all of your inventory, it's a good idea to take a few minutes to review your safety program and make sure everything is in order. Here are some things you should pay close attention to:

Is Training Taking Place?

Has everyone been introduced to all of the laboratory safety procedures and safety equipment? Does everyone know where safety equipment, MSDS sheets, and spill kits are stored? It is important to have documented evidence that safety training has occurred. If special training or monitoring like blood borne pathogens or hearing audits,are required, now is the time to do it.

Equipment and PPE

Do all of your employees have AND use their required personal protective equipment? Look at all of the safety glasses and remove and replace the ones that are broken or scratched. Is the eye wash in working order and being routinely checked? Make sure everyone has a lab coat that fits properly and is being worn. Take everyone back to Kindergarten and teach them the importance of good hygiene and hand washing. Check all of the fire extinguishers in the lab to make sure they are fully charged and the correct type. Inspect the fume hoods and remove any stray items that don't belong. Safety showers also need to be turned on and checked to make sure they are in the proper working order. Also make sure your fire blanket is still inside the cabinet.

It's Electric!

Benchtop meters and stir plates that are electric don't normally get moved around a lot. Move them around, clean behind and under them, and take a good look at the electric cords. If they are frayed or split, replace them. If you have GFCI outlets and switches, test them, and document that you have done so.

Chemicals

Go through your entire chemical inventory and check the dates. Properly dispose of the ones that are outdated. Make sure every chemical has been stored in the right place and away from other hazardous areas.

Waste Disposal

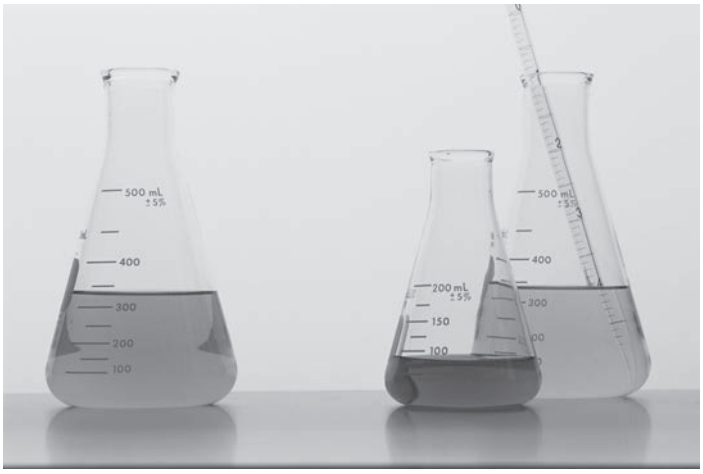
This goes along with chemicals. Make sure that everything is disposed of in a proper manner. If you have a "staging area" where you temporarily hold chemicals that are waiting to be disposed of, make sure they are stored properly. Don't create a bigger problem when you're trying to take care of a smaller one.

Signs, Signs, Everywhere Signs

Do you have eyewashes, exits, and fire extinguishers labeled with clearly visible signs? Are there labels on chemicals, whether the chemicals are from the manufacturer or mixed in house? Are the acids and bases stored properly? Oxidizers and organics stored away from each other? Make sure your compressed gas cylinders are secured to prevent accidental tipping. Are new reagent containers dated when opened and labeled with the expiration date? Are your rinse bottles labeled with their contents? Don't assume its just water in there!

Glassware

While you are counting glassware and taking stock of your inventory, get rid of glassware that is chipped, cracked, or broken. That small chip might turn into a dangerous mess if you're heating that particular vessel. Also get rid of pipets with chipped tips. They aren't accurate! This is also a good time to make sure your glassware is all Class A and the volume markings are legible.



Down the Tubes!

Take a good look at all of the tubing that is being used, whether for vacuum, water or drain lines. Lines should be free flowing, not pinched, not cracked or brittle. Throw away and replace any lines that aren't up to par.

By taking a few extra minutes to inspect and review, you can make sure you stay in compliance, and reduce the number of workplace accidents that take place.

Amy Hursey
Lab Supervisor
City of Zanesville
wwlab@coz.org

Ohio EPA REQuESt S COuRSE APPROVAL NuMbER ChANGES

After being contacted by Ohio EPA, OWEA has reviewed certain courses which had a designated OM number versus an X (other) designation. After reviewing the course topics and supporting information, OWEA has agreed to re-designate 29 courses offered from 2007 to 2010 from OM to X numbers and has notified Ohio EPA.

Date	Title	APPROVAL NUMBER	HRS	REVISED NUMBER	AUTHOR1	AUTHOR2	LOCATION
6/27/2007	Give Water a hand: community education success story	OWEA-S 00019 OM	0.50	**OWEA S00019 X**	Blair		2007 Annual Conference-Columbus
6/27/2007	WEF's private property virtual library	OWEA-S 00044 OM	0.50	**OWEA S00044 X**	Sharon		2007 Annual Conference-Columbus
1/24/2008	Professional Development; A Balanced Approach	OWEA-S 00146 OM	1.00	**OWEA S00146 X**	Haller		NEOWEA 1/24/08 Richfield
3/13/2008	WEF Virtual Library, Private Property Issues	OWEA-S 00158 OM	0.50	**OWEA S00158 X**	Chase		2008 Government Affairs Workshop
6/24/2008	Enterprise Asset Management Using GIS	OWEA-S 00223 OM	0.50	**OWEA S00223 X**	Loomis	Scott	OWEA 2008 Conference--Cleveland
6/24/2008	Go Green! Go Lansing! Ultra urban retention	OWEA-S 00224 OM	0.50	**OWEA S00224 X**	Christian		OWEA 2008 Conference--Cleveland
6/24/2008	Enterprise Asset Mgmt: Full Life Cycle Implementation	OWEA-S 00274 OM	0.50	**OWEA S00274 X**	Bratschie		OWEA 2008 Conference--Cleveland
6/24/2008	Who hid the safety Factor? Modeling of IFAS Systems	OWEA-S 00279 OM	0.50	**OWEA S00279 X**	Gellner		OWEA 2008 Conference--Cleveland
6/25/2008	Emergency Preparations for Muncie Sanitary District	OWEA-S 00233 OM	0.50	**OWEA S00233 X**	Smith		OWEA 2008 Conference--Cleveland
6/25/2008	Four Legs and MS4: Use of scent trained canines	OWEA-S 00248 OM	0.50	**OWEA S00248 X**	Reynolds	Christian	OWEA 2008 Conference--Cleveland
6/26/2008	Ohio EPA DEFA Update	OWEA-S 00269 OM	0.50	**OWEA S00269 X**	Smith		OWEA 2008 Conference--Cleveland
9/24/2008	Trucked waste handling-great source of revenue	OWEA-S 00305 OM	1.00	**OWEA S00305 X**	Wise	Curry	OWEA Plant Operations
9/24/2008	Ohio's great lake-what's happening in lake erie	OWEA-S 00310 OM	1.00	**OWEA S00310 X**	Heniken		OWEA Plant Operations
9/24/2008	If its electrical, its considered serious	OWEA-B 00010 OM	1.00	**OWEA C00010 X**	Lynch		OWEA Plant Operations
11/13/2008	CSO and the Green Initiative	OWEA-S 00322 OM	0.50	**OWEA S00322 X**	S. Arden	J. Pierko	NEOWEA Youngstown
5/28/2009	Confined space entry hands-on	OWEA-S 00450 OM	0.50	**OWEA S00450 X**	Nutter		2009 OWEA Operator/Ed Day
5/28/2009	Confined space Entry Basics	OWEA-S 00456 OM	0.50	**OWEA S00456 X**	Nutter		2009 OWEA Operator/Ed Day
6/24/2009	Columbus Utility Assett Management Program Devel.	OWEA-S 00412 OM	0.50	**OWEA S00412 X**	Campanella	Rogers	2009 OWEA St Conf. Cincinnati
6/24/2009	Dealing with an inconvenient truth	OWEA-S 00418 OM	0.50	**OWEA S00418 X**	Smith	Jeyanayagam	2009 OWEA St Conf. Cincinnati,
9/10/2009	`Transforming Util. Asset Know. To Improved Cust	OWEA-B 00016 OM	0.50	**OWEA B00016 X**	Ungar	Faley	SPUG Show, NEORSD EMSC
2/19/2010	Ohio WARN, What can it do for you?	OWEA-S 00544 OM	1.00	**OWEA S00544 X**	Halperin		NESOWEA Lab Training Session
2/19/2010	True, false or none of the above-Test taking Tips…	OWEA-S 00545 OM	1.00	**OWEA S00545 X**	Silling		NESOWEA Lab Training Session
2/25/2010	Exhibitor Presentations (3)	OWEA-S 00536 OM	1.00	**OWEA S00536 X**	Coghlan Leykauf Hyland		NEOWEA Industrial Waste Seminar
3/11/2010	Expanding the Private Prop. Virtual Library: Legal Issue	OWEA-S 00549 OM	0.75	**OWEA S00549 X**	Chase		2010 Government Affairs Worksp
6/15/2010	RCAP Assistance and Small Comm. WW Challenges	OWEA-S 00606 OM	5.00	**OWEA S00606 X**	Acosta		OWEA 2010 State Conference
6/16/2010	CSO 419 Green Infrastruc. Master Planning	OWEA-S 00612 OM	0.50	**OWEA S00612 X**	Schehl		OWEA 2010 State Conference
6/16/2010	Green Infras Stormwater Manag. Options Urban	OWEA-S 00616 OM	0.50	**OWEA S00616 X**	Doyle-Ahern		OWEA 2010 State Conference
6/17/2010	When Green is Green	OWEA-S 00641 OM	0.50	**OWEA S00641 X**	Hersha		OWEA 2010 State Conference
6/17/2010	Young Professionals Round Table	OWEA-S 00646 OM	1.00	**OWEA S00646 X**	Et Al		OWEA 2010 State Conference

Operators who used these courses for license renewal in 2007, 2008, and 2009 and have received a renewal license will not be negatively affected by these re-designations. For those operators who have not yet renewed their 2009 or submitted their 2010 renewal applications, please review these re-designated courses for possibly affecting the ratio of OM to X courses for your renewal.

If you have any questions, please contact:
Mark Livengood, OWEA Past President
937.781.2559
livengoodm@mcohio.org

WORK FOR WAt ER LAu NCh ED t O ENCOu RAGE CAREERS IN t h E WONDERFu L WORLD OF WAt ER

Work for Water

Have you visited ***workforwater.org***? It is the place where job seekers and students can explore green careers. Utilities will find a clearinghouse of resources for recruiting in the wonderful world of water. Developed by the Water Environment Federation and the American Water Works Association, the world's leading technical experts on water quality and drinking water, this site is packed with resources to find jobs or prepare for rewarding careers in protecting public health and the environment. Learn about or share with others what it takes to work for water and pursue a career serving a great cause.

PASSINGS

Harry L. Baker On August 20, 2010, OWEA lost a cherished Lifetime Member, Harry L. Baker. Harry was a lifetime member of AWWA (American Waterworks Assn.), a lifetime member of the Water Environmental Federation, Founding Member of the 5S Society, and a 35-year member of Acacia Country Club. Over the past month, his friends and associates have spoken personal, deep and honorable words as they have recounted their stories and thoughts about Harry. It is my privilege and challenge to summarize the common threads of those stories and thoughts. To do so I choose three words: sincerity, competitiveness, and dedication.

Through all of the recollections of Harry, the first common theme was that Harry was sincere. His word was his bond. Those who did business with Harry knew that he would stick with a project or piece of equipment until what was promised was delivered fully. He was also sincere in his relationships with friends and family—placing the comfort, care and needs of others at the forefront of his priorities. He cared about his employees and their families. He cared about his clients and their families. On a national level, he was a counselor and compatriot for many representatives and manufacturers. It was not uncommon for a manufacturer to seek Harry out for an honest opinion, and Harry never shirked away from the truth when it needed to be told.

Competitive? There are few others who match Harry's level of competitiveness. Ask his son Ted; ask his fellow manufacturer reps; and ask his fellow golfers. Harry enjoyed competition in everything from a card game, to an equipment bid, to Cleveland Browns football. Harry started in the manufacturer's rep business with Barefoot & Case. In 1982, he started his own rep firm and never looked back. He leaves a legacy of quality projects and equipment that are there because of his competitiveness. With nearly 100 belt presses in the state, many clarifiers, and a host of membrane bioreactors, Harry embraced the competitive advantages that came with being able to offer equipment with quality and value. Harry used his competitive nature to keep himself sharp and on top of business.

Harry was dedicated to several key institutions—including WEF & OWEA. Harry joined the WPCF and OWPCC in 1971. (WPCF was the forerunner of WEF, and OWPCC was the forerunner of OWEA.) While in OWEA, he served as Annual Conference Chair multiple times, served on the Finance Committee, and was a perennial financial sponsor of section activities, annual conference, Water for People and the Ohio Mixer. In 1985, Harry was in the founding class of Ohio initiates into the 5S Society. In 2005, Harry was given the Arthur Sidney Bedell Award from WEF, which recognizes extraordinary personal service to a Member Association. He was also repeatedly honored in the Northeast Section with the Ed Craun Award and recently with the Keith Riley Outstanding Supporter Award. To quote OWEA President Dale Kocarek, "Harry was a larger than life figure, who had a steadfast and engaged presence in our organization for literally decades."

On a very personal note, Harry taught me some very important life lessons. (1) Frugality is important, but not at the expense of taking care of family and friends. (2) Listen and watch more than you talk (which is tough for an engineer like me). (3) You don't have to leave your morals and values at the door when selling. (4) Quality counts.

There are few people who will be missed by so many people as much as Harry will be missed. However, the reality is that Harry went "all-in" with life, family, work, and play. He spared nothing in personal interactions and competition. May we each find a bit of Harry's spirit and determination in our own memories and lives.

Harry is survived by his wife Patricia; son Ted (wife Mary); daughter Suzanne Geraci (husband Tony); and grandchildren Jessica and Joseph Baker, and Tony and Tommy Geraci. In lieu of flowers, the family suggests contributions to The Kemper House of Mentor and the Northeast Section OWEA Scholarship Fund.

Doug Borkosky
Baker & Associates

ROLL CALL

Kim Riddell accepted a position as a Sales Associate with Smith Environmental in June. Kim has a Bachelor of Science in Biology from the University of Toledo and a Masters in Organizational Management from Bluffton University. With more than 14 years of experience in wastewater operations and laboratory analysis, she brings a wealth of knowledge to her new position with Smith which will be a benefit to the engineering firms and communities that she serves in NW Ohio. Her office will be based out of Delphos, Ohio where she lives with her two children (Alex, 11 and Emma, 8) so that she can assist Smith in covering Northern Ohio more efficiently.

Kim is an active member of OWEA and WEF. She is currently the President of NWOWEA and the Co-Chair of the OWEA Plant Operations and Maintenance Committee where she coordinates the Ohio Operations Challenge Event. Kim is also the Chair of the WEF Plant Operations and Maintenance Committee and was recently elected to the WEF House of Delegates representing Ohio from 2010 until 2013.

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OWEA Members may submit brief announcements with photo to **info@ohiowea.org** *for publication in the Buckeye Bulletin. Please include your OWEA/WEF Member number. All requests subject to editorial review.*

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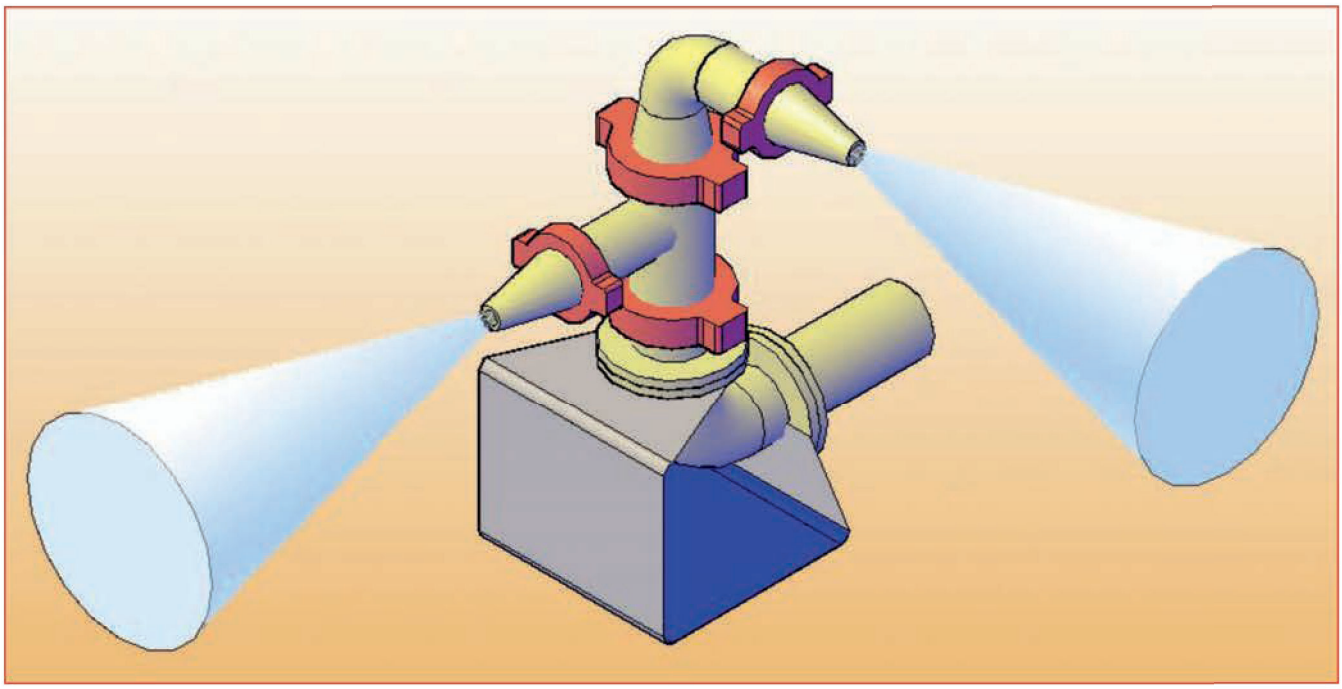

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