Buckeye Bulletin

Ohio Water Environment Association | Volume 84:4 | Issue 4 2011

Columbus OARS Tunnel
page 44

Assessing Watershed Vitality
Page 32

2011 WEFTEC Recap
page 8 and 28

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

www.ohiowea.org

City of Pickerington WWTP
page 41

Biosolids Workshop
December 8, 2011
The Conference Center at NorthPointe
Register online at www.ohiowea.org
Earn up to 6 Contact Hours - page 18

Disclaimer
The *Buckeye Bulletin (BB)* is the official publication of the Ohio Water Environment Association, Inc., a not-for-profit corporation founded in 1926, dedicated to the improvement of water quality in Ohio and the continuing education of water professionals. It is one of the top five member associations of the Water Environment Federation.

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.

For further information on submitting articles or advertising, please contact our organization at:

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

T: 614.488.5800
F: 614.488.5801
C: 614.361.2080
E: info@ohiowea.org
www.ohiowea.org

Elizabeth Wick, Publications Chair

Judi Henrich, Executive Manager

Amy Davis, Office Assistant

Arthur Bulgakov, Intern

Photos in this issue provided by: Cover - City of Pickerington, WikiCommons *(Rogersoh)*, OWEA Section photographers, article contributors, Amy Davis, Elizabeth Wick, and Judi Henrich *(list not all inclusive).*

Contact Hour Information: OWEA training is submitted for contact hour approval. Free Webinars are not submitted for contact hour approval at this time.

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

Photo Requirements: Please contact the OWEA office regarding photo requirements for covers and articles.

OWEA is a Member Association of the Water Environment Federation
601 Wythe Street
Alexandria, VA 22314-1994
T: 703.684.2400
F: 703.684.2492
www.wef.org

Inside this Issue

FEATURES

DEPARTMENTS

The Buckeye Bulletin is published 4 times per year by the Ohio Water Environment Association.
Individual subscriptions included with association membership.

OWEA Officials

2011-2012 Executive Committee

President Doug Clark
City of Bowling Green
douglas.clark@bgohio.org - 419.354.6274

President-Elect Tom Angelo
City of Warren
tangelo@warren.org - 330.841.2591

Vice President Dan Sullivan
Sullivan Environmental Technologies, Inc.
dan@sullivanenvtec.com - 859.426.5178

Past President Dale Kocarek
Stantec Consulting Services
dale.kocarek@stantec.com - 614.486.4383

Secretary-Treasurer Jane Winkler
jwink1127@aol.com - 513.910.3775

Senior WEF Delegate Kim Riddell
Smith Environmental
kim@go-smith.com - 419.234.4507

Junior WEF Delegate Mark Livengood
Montgomery County
livengoodm@mcohio.org - 937.781.2559

SE Delegate Mike Frommer
URS Corporation
mike_frommer@urs.com - 614.464.4500

NW Delegate Elizabeth Wick
Ohio Environmental Protection Agency
elizabeth.wick@epa.state.oh.us - 419.373.3002

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

SW Delegate Jamie Gellner
Hazen and Sawyer
jgellner@hazenandsawyer.com - 513.469.2750

2010-2011 Section Presidents

NW President Tom Horn
thorn@ifmenviro.com

NE President Ed Haller
hallere@neorsd.org

SW President Dan Martin
dmartin@raconsultantsllc.com

SE President Bryan Curry
bcurry@newarkohio.net

2011-2012 Committee Chairs

Annual Conference Ted Baker and Terry Gellner
kingsnu@aol.com, tgellner@ctconsultants.com

Auditing Tom Fishbaugh
webmaster@ohiowea.org

Awards Mark Livengood
livengoodm@mcohio.org

Certification Kathy Cook
kathy.cook8@gmail.com

Collection Systems Bill Horst
horstb@mcohio.org

Contact Hours Marc Morgan
mmorgan@ci.mansfield.oh.us

Finance Steve Morrison
smorrison76@woh.rr.com

Governance Doug Ckark
douglas.clark@bgohio.org

Government Affairs Dale Kocarek
dale.kocarek@stantec.com

Laboratory Analysts Eva Hatvani and Denise Seman
oweastatelac@yahoo.com, dseman@cityofyoungstownoh.com

Membership Dale Kocarek
dale.kocarek@stantec.com

Nominating Phil Anderson
phil.anderson@arcadis-us.com

Plant Operations Jim Borton and Kim Riddell
jborton@woosteroh.com, kim@go-smith.com

Pretreatment and Industrial Sharon Vaughn
sharon.vaughn@cityofdayton.org

Public Education Nancy Taylor
ntaylor@ci.newark.oh.us

Publications Elizabeth Wick
elizabeth.wick@epa.state.oh.us

Publicity Cindy Jacobsen
cindy.jacobsen@arcadis-us.com

Residuals Jamie Gellner
jgellner@hazenandsawyer.com

Safety Ed Nutter
enutter@newarkohio.net

Small Systems Roberta Acosta
rjacosta@wsos.org

Strategic Planning Dianne Sumego
dianne.sumego@arcadis-us.com

Training / Development Phil Anderson
phil.anderson@arcadis-us.com

Utility Enhancement John Newsome
jgnewsome@columbus.gov

Water for People Doug Borkosky and Dale Kocarek
doug@hlbaker.com, dale.kocarek@stantec.com

Webmaster Tom Fishbaugh
webmaster@ohiowea.org

Young Professionals Kris Ruggles and Nick Bucurel
kris.ruggles@strand.com, nick.bucurel@arcadis-us.com

Get Involved

Join a Committee Today

The Ohio Water Environment Association has 25+ committees with focus on various aspects of the water quality field and association operations.

OWEA needs your skill, experience, and energy. Contact OWEA at ***info@ohiowea.org*** or the chair of a committee that interests you for more information.

OWEA ASSOCIATION NEWS

OWEA MEGA Meeting

The OWEA Executive Committee, Section Officers, and Committee Chairs met at the Olentangy Enviromental Control Center on September 14, 2011 to discuss association updates, goals, rules and regulations, budgeting, and more. Invited special guest, Andrew Barienbrock from Ohio EPA, discussed contact hour course approval and course naming procedures.

Doug Clark, OWEA President and Andy Barienbrock, Ohio EPA Environmental Supervisor Operator Certification

Ohio WEA at Ohio AWWA Conference

Vice President Dan Sullivan and SE Delegate Mike Frommer, along with OWEA Executive Manager Judi Henrich, staffed an information booth at the Ohio AWWA Conference in Cincinnati on September 21st. The two organizations are considering a joint water professionals conference in 2014.

Dan Sullivan, OWEA Vice President and Mike Frommer, SE Delegate

Meet Amy Davis

Amy Davis is the new Part-Time Office Assistant working for OWEA. Amy's past work experience includes working in corporate training departments in a support role as both a Coordinator and Administrative Assistant.

Fall Intern Arthur Bulgakov

Art Bulgakov, a recent graduate of The Ohio State University, is the current enterprising intern at OWEA. He is supporting the office staff with tasks such as contact hour verification, membership management, and editorial assistance on the Buckeye Bulletin. Art received a B.A. in Political Science and hopes to go on to a career in civil service.

2011-2012 Calendar of Events

November 2011

15 SWOWEA LAC Meeting
16 Executive Committee Meeting
17 SWOWEA Plant Operations Seminar and Section Meeting
18 SEOWEA LAC Meeting

December 2011

8 Biosolids Workshop

January 2012

11 Executive Committee Meeting
19 SWOWEA Industrial Pretreatment Seminar and Section Meeting
19 NESOWEA Operations Seminar

February 2012

16 SEOWEA Section Meeting
23 NESOWEA Industrial Wastes Seminar

March 2012

1 Government Affairs Workshop
14 Executive Committee Meeting
14 NWOWEA Section Meeting
29 NESOWEA Section Meeting

April 2012

5 Watershed Workshop
26 SEOWEA Section Meeting

May 2012

10 Collections Workshop
16 Executive Committee Meeting
16 NWOWEA Section Meeting/Golf Outing
24 SEOWEA Section Meeting

June 2012

17 Executive Committee Meeting
18 OWEA Golf Outing
19-21 2012 Annual Conference

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*.

President's Message

Douglas Clark
OWEA President

In early October, I took a 200 mile scooter trip, following creeks, rivers, and the Lake Erie shoreline. As I rode around and stopped at various places it simply amazed me how people are attracted to water. It was a gorgeous weekend and everybody was out and about enjoying the weather. All kinds of boats were in the water, people were fishing, shell hunting, enjoying bars and restaurants on the beach, which were at-near capacity, and at every State Park that I visited people were enjoying themselves near the water. I must say after pondering the magnitude of this observation, I was proud of the fact that we, as an industry, play a vital role in this. Then I began to think about the role of OWEA in all of this.

So, what is the Ohio Water Environment Association? "The Ohio Water Environment Association is a non-profit, wastewater related organization with nearly 2000 members dedicated to the preservation and enhancement of our most precious natural resource . . . WATER." This is pretty straight forward and I submit that it should read "nearly 2000 PROFESSIONAL members". You might ask yourself "professional . . . what the heck is he talking about?" I am just an operator, I am just a lab person, I just process bio-solids, I just . . . (you fill in the blank). A "professional", according to the *Merriam Webster Learners Dictionary,* is *"someone who does a job that requires special training, education, or skill: someone who is a member of a profession"*; therefore we are all professionals. That's what we, as OWEA are, an organization of wastewater professionals.

Who do we represent? Everybody . . . plain and simple. Sanitation is still recognized as the most important medical advancement since 1840. In addition to this, we represent recreation, sportsman, industry, agriculture, environmentalists, rate payers, home owners, the regulated and the regulators - you name it, we have an impact on it. Every aspect of our life is touched by water and we are the industry that keeps our waters clean.

I was born and raised in a community of less than 5,000 people, where agriculture is the main industry. The other day my Dad asked me, "Do you think the EPA is becoming too demanding and over regulating us?", as most people in the coffee shop have been complaining about it lately. I didn't really have an answer for him other than to say that "you have to remember that 40 years ago our rivers were on fire." On October 6, 2011 I attended a meeting in Warren on how to best dispose of brine waste from drilling into the Marcellus Shale for gas and oil. Again the question about over-regulation comes up. That's one side of it. From the other side, we are continually bombarded with environmental groups stating that we are not doing enough. Some groups are even suing USEPA claiming they are not working hard enough and fast enough on regulations.

What does all of this mean? In my opinion, this means we need to become the nucleus of all water related issues in Ohio. We need to reach out, educate, and get people involved. I say this not as a membership drive but as a KNOWLEDGE DRIVE, not only for our membership but for all people in this great State of Ohio. We need to continually educate ourselves so when a question, regulation, or concern comes up, we can offer an informed response. We need to learn to reach out and work together to find better, less expensive ways of doing things with fewer people. We need to educate the general public, at any opportunity, to inform them of all we do and the amount of work, infrastructure, and money it takes to do this. We need to let our legislators, the regulators, and the regulated know that we can find commonality in which to work together and come up with reasonable, responsible, and affordable solutions to Ohio's water issues.

How can this be accomplished? In my opinion, as a professional organization, we need to work with the regulators and the regulated to come up with viable solutions to problems, not as mediators, but as professionals. We can facilitate getting all stakeholders together and come up with reasonable and affordable solutions which will continually improve water quality and will be based on actual data, while utilizing a holistic approach to solve the problem. We have the resources to do this and that resource is you! I urge all of you to reach out at every opportunity to share your concerns and ideas with individuals and groups of people you may know. Inform these people and groups that you belong to a professional organization that is ready and willing to help in unbiased fashion. Inform them that, by default, we represent everyone in this great State and in the end we all have the same goals - clean waters that we can utilize in every aspect of our lives.

Now, I'm sure you are wondering about the pictures *(coffee mug and lighter)*. These are just two of the trinkets that I have received from family and friends over the years. It does my heart good when I receive something like this and here is why: family and friends see things like this (wastewater gag gifts) and immediately think of me because they know who I am and what I do. Shouldn't the same be said of OWEA ??

Doug Clark, OWEA President
douglas.clark@bgohio.org
WPC Superintendant, City of Bowling Green

Ohio Water Environment Association

Preserving & Enhancing Ohio's Water Environment

Save the Dates!

86th Annual OWEA Conference & Exhibit Expo

Conference: June 19 - 21, 2012
Golf Event: June 18, 2012

The 2012 Conference Committee is planning an event packed conference for OWEA members in Aurora, Ohio for June 2012. The Bertram Inn and Conference Center will host the activities which will include a full and diverse technical program along with opportunities to expand friendships and networking.

www.ohiowea.org
Facebook: OWEA_2012
Twitter: #OWEA_2012

The Bertram INN & CONFERENCE CENTER

600 North Aurora Road
Aurora, Ohio 44202
877.995.0200

Hosted by OWEA's Northeast Section. For information contact:

Ted Baker
44.829.8405
kingsnu@aol.com

Terry Gellner
440.951.9000
tgellner@ctconsultants.com

Ohio Water Environment Association
614.488.5800
info@ohiowea.org

WEF Delegates' Report

Kim Riddell
kim@go-smith.com

Mark Livengood
livengoodm@mcohio.org

WEFTEC 2011 is officially over and planning has begun for next year in New Orleans. This year the Water Environment Federation's 84th annual technical exhibition and conference was held on October 15 – 19th, 2011 at the Los Angeles Convention Center in Los Angeles, California. WEFTEC 2011 boasted over 16,000 attendees from more than 70 different countries. There were 923 exhibiting companies that spanned 284,150 ft^2 of exhibition booth space. The conference provided attendees with a superior technical program that included 114 technical sessions and 27 pre-conference workshops. This totaled more than 800 presentations and posters.

In addition to the 27 pre-conference workshops and active committee meetings offered on Saturday and Sunday, the Student and Young Professionals Committee (S&YP) hosted their fourth annual community service project "Walkway to Wetlands" on Saturday, which helped to revitalize a former industrial area and provided a grand entrance to a Los Angeles wetlands project located directly across the street from a new high school. The project included planting 37 trees along the perimeter of a constructed wetland in a neighborhood just south of the Los Angeles Convention Center.

WEFTEC 2011 was officially kicked off on Monday during the Opening General Session in the Concourse Hall at 8:30AM. Attendees were welcomed to the conference by WEF President Jeanette Brown, who then introduced Technical Keynote Address speakers Dr. Rita Colwell, who specializes in waterborne diseases and was the 2010 Stockholm Water Prize Laureate, and Doc Hendley, who runs a nonprofit organization, Wine to Water, focused on providing clean water to needy people around the world. Immediately following the Opening General Session, WEFTEC attendees were offered a dedicated exhibition time from 9:30AM to 1:30PM, allowing for quality visits with exhibitors.

On Tuesday, October 18th, Jeanette Brown ceremoniously "passed the gavel" of Federation leadership to incoming president Matt Bond and inducted the 2011-2012 WEF Officers and Board of Trustees. In addition, on Tuesday evening the inaugural class of WEF Fellows was recognized in the Hall of Honor. The WEF Fellow Recognition Program recognizes professional achievements, stature, and contributions of WEF members' accomplishments in professional segments served by WEF. *"WEF takes a great deal of pride in the vast knowledge base of our members and in honor of that, felt it was very important to provide a distinguished recognition program"* said WEF President Jeanette Brown. *"We are very pleased to celebrate not only the personal achievements of this year's Fellows but also the invaluable role WEF has as a leading water quality organization."*

Water Environment Federation
the water quality people®

Ohio's own James Tony Parrott, of The Metropolitan Sewer District of Greater Cincinnati was an honored member of the inaugural class of WEF Fellows. WEF will begin accepting nominations for the 2012 candidates starting November 1, 2011.

WEF also rolled out a new messaging campaign during WEFTEC 2011 that will raise awareness about the value and importance of water, water-related issues, and the work that water professionals do every day to provide these vital services. WATER'S WORTH IT, will use various keywords to define what the "it" means, better illustrating the connection between water and our actions, attitudes and the things we value most. For example, "My Effort, WATER'S WORTH IT" evokes a personal responsibility while "Your Effort" serves as a call to action and "Our Effort" represents a shared commitment to sustainable water management. The WATER'S WORTH IT tagline can be used on its own, in support of an existing program or brand, or coupled with a simple keyword and artwork to alter the impact and reach. The versatility of the campaign means that materials can be customized to reach any audience, in any location, about any issue. The full campaign will be rolled out on World Water Day, March 22, 2012 so be on the lookout for materials that can easily be adapted to community programs in your area or to promote your facility's involvement in keeping Ohio's waterways clean.

House of Delegates (HOD) Business

Many ongoing projects were discussed at the 2010/2011 and 2011/2012 HOD Meetings on Saturday, October 15, 2011 at WEFTEC in Los Angeles. There were three workgroups that have been active since WEFTEC 2010 and the following reports were made by those group leaders:

HOD Representation Report – This group investigated whether or not our member associations (MA's) felt there was a need to have an increased number of HOD representatives from those MA's that have higher than average membership numbers. After a survey was given to MA's with over a 71% return rate it was determined that no change was needed to the number of HOD members for each state and no recommendation for change was submitted to the Board of Trustees (BOT) for a vote.

Operator Outreach Report and Recommendations – This has been an ongoing active workgroup and it will continue to move forward as a workgroup in 2011/2012 (lead by Dianne Sumego in the upcoming year). It was recommended by this group that a web

page be made available on *www.wef.org* that provides MA leaders controlled access to listings of MA operator related training. It was also recommended that WEF provide tools and tips to MA's on how to organize regional training events for operators. It is believed that these efforts in addition with the recommendations from the Operator Summit held in Alexandria, VA by WEF in June 2011 will assist in a collective effort to further operations, maintenance, and collection related professional growth opportunities.

WEF/MA Committee Relationship Report – This workgroup, chaired by Kim Riddell, worked on ways to improve the relationship and communication between WEF and MA committees. The group recommended to support the efforts being undertaken by the Committee Leadership Council (CLC) of WEF by developing a translation matrix (list of corresponding like committees on the MA vs. WEF levels), implementing a Corresponding Member list that can be utilized by WEF committees to communicate with MA committee leaders, and develop a MA Leader training module on how to utilize the reports available on the MA resource web page as well as how to find information on committee activity at the WEF level and how to encourage communication links between the two groups. In addition, this group reviewed the MA resource web page and provided WEF staff with suggestions on how to make it more useful and easier to navigate for MA leaders.

There are five workgroups the HOD members may participate in during 2011/2012. Those groups met on Saturday afternoon and their missions are as follows:

Delegate at Large Workgroup – They will work to redefine the role of the WEF Delegate at Large position and who they represent.

Best Management Practices (BMPs) for Partnerships – This group will look to develop guidelines on how to work with other groups including the "How, Why, Who and When" of partnering between MAs, committees and other external groups.

MA to MA Relationships – This group will look at ways to develop a mechanism to share information between MA's on things that they do well so that we can learn from each others' successes and failures.

Operator Outreach – This group, led by Dianne Sumego, will continue on with the recommendations of the previous workgroup and identify ways to develop a repository of MA training mechanisms, development of a guidance and protocols on how to partner between MAs and do it well, and develop strategies for WEF to assist in the development of improved MA operator training programs.

Strategic Planning Implementation – This group will work on how to engage all of the members of the HOD in the strategic plan implementation process which will begin in early 2012.

Ohio's Operations Challenge Teams

Congratulations to the City of Bowling Green and the Northwest District Office of the Ohio EPA Operations Challenge Teams!

OWEA fielded two Operations Challenge Teams – the Bowling Green Wastewater Rangers and the OEPA Regulators who both competed in Division II at the national Operations Challenge Competition in Los Angeles. The two-day event was held on Monday, October 17th and Tuesday, October 18th, 2011 at the LA Convention Center with the teams competing in five areas – laboratory, process control, safety, maintenance and collections. The Rangers placed 15th in Division II with the Regulators placing 17th out of 27 teams.

The Regulators also took home a trophy for Third Place in Division II in Process Control. 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. Thank you to our sponsors who again made it possible for OWEA to support the travel of both teams to this national event – without your support this would not be possible. Congratulations to both teams for all of your hard work, preparation and dedication!

Congrats to:

Mark Livengood, OWEA Past President, who was nominated and elected to serve as OWEA's newest HOD member. His dedicated service to OWEA and WEF will be a benefit to our membership and we expect great things from him!

Special Thank You to Phil Anderson

OWEA Past President, Phil Anderson, has represented OWEA very well as our delegate to WEF over the past three years. Phil has been on the OWEA Executive Committee for the past 10 years and served 5 years prior to that as a member of the NWOWEA Executive Committee. Phil has served as committee chair on several OWEA committees and was an active member of several WEF HOD workgroups during his time as a Delegate. Phil - it was a pleasure serving with you. Thank you so much for your hard work and dedication to this organization!

NWDO-OEPA "Regulators" and Bowling Green's "Wastewater Rangers"

The Regulators take 3rd Place in the Process Control Event

See more Operations Challenge photos on page 30

WATER: FINITE ON THIS PLANET... UNIQUE TO THE UNIVERSE

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

I was prompted to write on this topic after reading an article in the Columbus Dispatch from September 13, 2011 entitled *"Newly Found Planet like Earth?"* In the article, the author, Brian Vastag of the Washington Post noted that scientists recently discovered a new planet called HD85512b, which is 36 light years away.

This planet, believed to be a rock based celestial body like Planet Earth, circles its star every 59 days. Apparently, HD85512b is positioned at the edge of the "habitable zone" where water could exist if atmospheric conditions were right. If this is true, the title of my article must be interpreted that while water is "unique to the universe," it is not necessarily exclusive to Earth.

Have you ever thought about how water originated on Earth? As one who has worked in the "water field" for nearly 30 years, I admit to thinking about this from time to time. However, in talking with others, it is evident that many have not.

For such a substance so common and essential to life, the question remains: how did water get here in the first place? My research has shown that while this source of water continues to be enshrouded in mystery, some scientists believe that water was essentially delivered to Earth fully formed by water and ice carrying comets and asteroids during the earliest years of the solar system, approximately 3.8 to 4.1 billion years ago when Earth was a barren rock planet and beginning to cool. During this period, Earth was subjected to intense bombardment from comets and asteroids from the "asteroid belt" between Mars and Jupiter. During this period, the Earth cooled, clouds formed, and oceans were created. This set the stage for life to begin – first in the oceans and then on land.

Of course, this begs the question if water was brought to Earth by meteors and comets how did it get on the comets and meteors before coming to Earth? One may take the position that random forces in the young and hostile universe created the right environment to create a molecule consisting of two hydrogen atoms and one oxygen atom covalently bounded together through a shared electron field. Others may take a different view suggesting instead that this is one more piece in the cosmic puzzle in a divine plan.

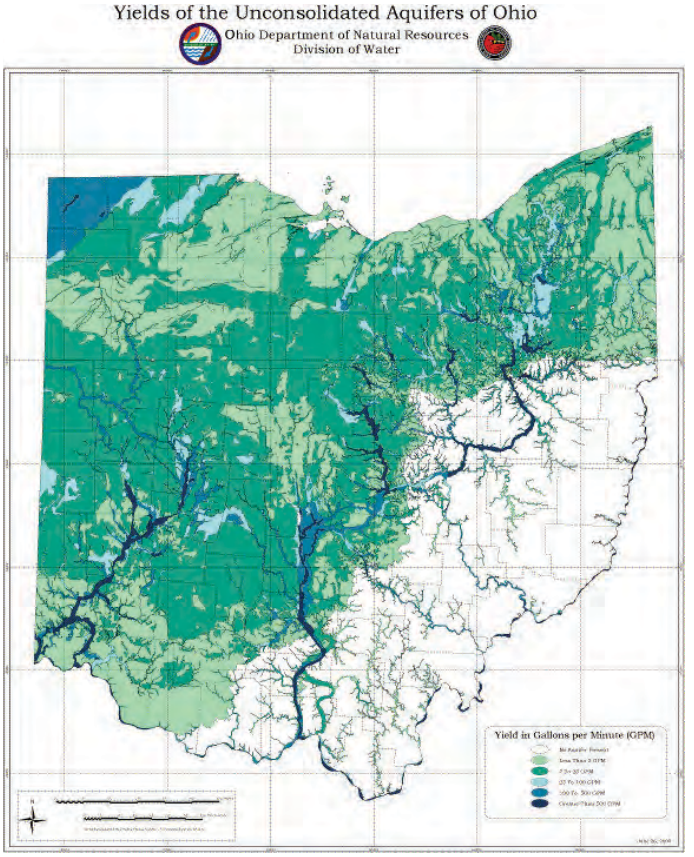
If comets and meteors were the source of water, this is an amazing story, particularly since comet and meteor strikes during the last 50,000 years are few and far between. Those few striking the Earth caused catastrophic destruction including the extinction of the dinosaurs. For Earth to have endured this bombardment for 300 million years seems almost too unbelievable to be true. To give better appreciation for the enormity of this event, one must view this through the "lens" of a more recent event such as the Tunguska "event" (comet), which exploded in the upper atmosphere over Siberia on June 30, 1908. Recent research has revealed that this "event" was a small comet with a diameter of only 100 feet, and the explosion occurred three to six miles above ground. Yet, this explosion, comparatively minor to others in pre-recorded history, leveled 830 square miles of Siberian forest and created a nighttime light show visible in London thousands of miles away for days.

Artist's Rendition of the 1908 Tunguska "Event" Over Siberia

Unfortunately, many take water for granted from time to time. After all, Ohio has a relative abundance of water compared to other states and much of the world. We are blessed with abundant sources of fresh water including rivers and Lake Erie, which is part of a system that contains 84 percent of North America's surface fresh water and 21 percent of the world's total supply. Many living near the "north coast" also enjoy a variety of recreational activities including fishing, boating, and swimming. In flying to Denver several weeks ago, I was impressed by the reality that much of the United States exists in a semi-arid state. While western Nebraska and Eastern Colorado practice modern dry land farming techniques successfully, it is evident that water in many parts of the United States have either short or modest water supplies.

Ohio and the Great Lakes

In addition to Lake Erie and many surface streams, ground water resources are also in abundance due to the vast glacial deposits of the retreating Wisconsin Glacier over 10,000 years ago. This glacier smoothed over ancient buried valleys and filled them with vast sand and gravel deposits. In turn, this created huge reservoirs of water. One of the largest systems in Ohio is the Great Miami Aquifer, which extends from near Urbana to south of Dayton. Many wells installed in this system yield more than 1,000 gallons per minute, and the cone of depression for multiple wells installed in close proximity and in concurrent operation is low, implying that the overall yield is exceptionally high.



Ohio's Ground Water Resources, Compliments of ODNR

Moreover, given the amount of precipitation Ohio has had this year; it is understandable if one is not impressed by the uniqueness of this resource, particularly after viewing the horrific aftermath of Hurricane Irene in New England. While abundant water resources have many more advantages than disadvantages, one disadvantage is that many Ohio communities are faced with investing large amounts of money to upgrade their sewerage systems to eliminate SSOs and CSOs. This is not the case with many cities in the West.

So, where does this leave us? It is clear that water is essential to life, but it is also essential to our culture and economy. Here are some interesting facts on water that you may not know:

- It takes 39,090 gallons of water to manufacture a car
- It takes 1,800 gallons of water to grow enough cotton to produce one pair of blue jeans
- It takes 1,500 gallons of water to produce one barrel of beer
- It takes 13 gallons to make one gallon of paint
- It takes 62,000 gallons of water to make one ton of steel
- It takes 1,360 gallons to produce one ton of cement
- A 200 pound person should consume 100 ounces of water for daily good health

None of these facts take into account the everyday uses for water in cooking, laundry, basic sanitation and hygiene, which are essentially human needs and essential to maintaining good health and the spread of infectious disease. Daily consumption in the United States, not considering reductions to account for modern low use fixtures, typically ranges between 50 and 150 gallons per person per day. Assuming an average of 100 gallons per person per day, with the current population of the United States at 300 million, daily water consumption across the United States may be roughly approximated at 30 billion gallons. This does not consider industrial, commercial, and institutional uses, which the previous example shows, can be very significant.

In talking with a colleague last week at the OWEA Plant Operations Workshop in Columbus, she mentioned receiving a call at her office at the Ohio EPA, where the caller complained about the cost of water, essentially implying that it should be free, or at a minimum, at very low cost. I had similar calls when I worked at the Ohio EPA in the Construction Grants program a quarter of a century ago, but I thought that was an era of the past. Yes, it would be nice to be part of a utopian society where this was true, but unfortunately it is not. This is where personal beliefs must be tempered by reality through the hard work of education. I have found that when one allows themselves to become educated, they begin to comprehend the skill, resources, and effort required to collect, treat, and distribute water and subsequently clean wastewater, and monitor each step along the way, they are often awe struck. With this understanding, one begins to be thankful to live in a state and country where water quality is taken seriously and the threat of water borne disease is a memory of our grandparents and great grandparents – and not us. I said it before and I will say it again: our water and wastewater utilities professionals need to be viewed by society as public health heroes for their dedication and skill to their craft and service to humanity.

In closing, the citizens of Ohio should be proud of what they have, and what others in the nation and the world lack – water! Ohio is a great state in other ways to – moderate in climate, sufficient rainfall, few hurricanes, tornados, and earthquakes, and a rich history, wonderful towns and cities, a beautiful and productive landscape, and the birthplace of eight United States Presidents! In contrast, consider the sad plight of Texas that is experiencing a severe drought at this time and let this poor state serve as a reminder that water is indeed finite on this planet, unique to the universe, and fundamental to all life itself.

Dale E. Kocarek, PE, BCEE
Stantec Consulting Services, Inc.
OWEA Past President
dale.kocarek@stantec.com

Depleted Water Reservoir in West Texas, 2011

NE SECTION

Ed Haller, President

Major goals for the Executive Committee of the Northeast Section are to continually improve on meeting the professional needs of the membership and to keep costs down as much as possible. As we plan the balance of 2011 it's good to take a look at how the year will finish up. In 2011 there were six free contact hour seminars and five full-day contact hour sessions offered. A total of 40.75 contact hours of training are offered by this section in 2011 at a combined event member cost of $150, or an average of $3.68/hour. Section leadership feels it is important to use any profits obtained from the largest events to keep the costs down for some of the smaller section events.

The Northeast Section held its annual Bio-Massters Golf Outing on July 15. A total of 111 golfers participated in the event at Mayfair Country Club. Golfers enjoyed a hot breakfast buffet, a lunch buffet, and a full hot dinner buffet. The only complaint was too much food! Many excellent prizes were given out. The event raised $1,927.39 for the section scholarship fund and $1,284.92 for Water for People. We want to thank our sponsors and volunteers for their generous support. These efforts enable us to award scholarships each spring. In May of this year, a total of $3,500 was given out in scholarships and honorable mentions.

In September, the Northeast Section hosted our annual Clam Bake at the Grantwood Country Club in Solon. Following a great dinner of clams, steak, and chicken, the annual corn hole tournament rounded out the evening of fellowship and fun. Congratulations to Bill and Kathy Richards - our newest corn hole champions.

On October 24th, the section provided a free Supervisory Skills Seminar. Speakers were section Past President Bob Hollis and Success Skills Trainer Randy Housh. The Executive Committee is evaluating if this event should be expanded to a full-day format for next year.

The next section meeting is scheduled for November 10th at the Alliance WWTP. Check out the *NESOWEA.org* site for details. Mark your calendars for other upcoming Northeast Section events. January 19th is our Annual Operations Seminar at the Days Inn in Richfield. February 23rd is the Annual Industrial Waste Seminar also at the Days Inn in Richfield. On March 29th a section meeting is scheduled at the Geneva WWTP. In May the section meeting will be held at the Orrville WWTP on a date yet to be set. Thanks to Lance Willard, Vice President, for doing an outstanding job setting up all of these meetings.

The success of these events is only possible by having a great team working well together. I want to thank the members of the Northeast Section Executive Committee and all the section Committee Chairpersons. You all do so much that may not be individually seen by too many but collectively benefits the whole membership!

Ed Haller, *hallere@neorsd.org*

Ed Haller, President
Lance Willard, Vice President
Mary Ann Driscoll, Secretary
Art Kimpton, Treasurer
Denise Seman, 3rd Yr EC
Tom Voldrich, 2nd Yr EC
Paul Solanics, 1st Yr EC
Ted Baker, State Delegate
Mike Welke, Past President

(top) Attendees enjoy the 2011 Clam Bake dinner
(bottom) 2012 Corn Hole Champs - Kathy and Bill Richards

NW SECTION

Tom Horn, President

The Northwest Section has been very busy this fall with numerous events and meetings. Much of our Section is represented with members at the State and National Levels so that always keeps everyone in the Northwest Section EC hopping and up to date. Many compliments go to Kim Riddell for not only her efforts as President of NW Section, but her tireless involvement in many committees for OWEA and WEF.

Our Annual Spouse and Friend Day was held at Put-In-Bay on August 5th at Mr. Ed's upstairs Patio. Kim Riddell informed all future Class IV's with a *"So You Want to Write Your Class IV"* presentation, approved for contact hours. 46 OWEA members and 17 guests from around the state attended this day's events.

Our section LAC held a training event in Tiffin on August 8, 2011, which was well attended. Kevin Hughes, NW LAC, coordinated training presenters from Heidelberg College, YSI, and Hach.

Our fall Section EC Meeting was held in Bowling Green on September 16, 2011 at the Northwest OEPA offices. Many topics were presented and discussed, including the approval of 14 new Policies and Procedures applicable to the NW Section. Also, nominees for Section and State Level Awards were discussed and approved. Many committee reports were presented and discussed with many training events slated for the month of October 2011.

- October 6, 2011 Holland, OH Collection System Committee – Operations and Maintenance
- October 26, 2011 Hicksville, NWOWEA Section Meeting
- October 28, 2011 Bowling Green, NWOWEA Operator Education Day

Other Section Meetings are currently being planned for next year.

OWEA along with the NW Section is always looking for more members to get actively involved. Feel free to contact any members of the EC or any of our committee chairs with any interests you may have.

Tom Horn, *thorn@ifmenviro.com*

SE SECTION

Bryan Curry, President

The Southeast section of the OWEA met on October 6th, 2011 to tour the Pickerington Water Reclamation and Water plants. The main theme for the day was Total Dissolved Solids. The Water plant has been upgraded to a new Reverse Osmosis plant in order to lower the amount of dissolved solids it sends to the wastewater plant. The wastewater plant has a TDS limit in their NPDES permit. The wastewater treatment plant has also upgraded several of their processes; tertiary treatment, activated sludge and aerobic digestion to name a few. There were approximately 60 attendees and everyone enjoyed a delicious lunch followed by several presentations that dealt with the topic of total dissolved solids. With the great effort from the Pickerington staff and the SE Executive Committee, the meeting was very successful and informative. *(photos from October 6 meeting)*

The Executive Committee for the Southeast is in the process of planning for the next section meeting, working on contact hour tracking, planning young professional activities, and science fair judging. Thanks to the Executive Committee members and all their hard work, we are going to have another great year.

Bryan Curry, *bcurry@newarkohio.net*

SW SECTION

Dan Martin, President

The changing weather has me thinking a lot about transitions. As I write this, my wife and I await the arrival of our second child any day now. That's a serious transition. In Southwest Section we look to extend to our valued WEF members a benefit that celebrates our financial success as it builds our future membership. We already offer free attendance to one section meeting for any new member (with paid membership application). I will be talking to my Executive Committee about extending a benefit to sponsors of new attendees too. We may also offer a free or low-cost meeting for WEF members. To be a sustainable industry we must constantly work to share our institutional and technical knowledge with our coworkers. Have you given a hand up to a coworker today?

Our section is putting the finishing touches on a policy and procedure for our executive committee. This will serve as a guidepost for future executive committees to aid officers in understanding their duties. This six page document is a testament to the unsung hard work our officers perform in addition to their normal 8-5 jobs (and often in addition to other committee duties). Let's sing their praises!

Hope you were able to join us for our Section Meeting on September 15th in Piqua, Ohio. Sixty-six attendees earned up to three contact hours through a Crane Pumps & Systems' factory tour and technical sessions on pump applications and Ohio's new design-build law. *(see photo below)*

Operator Education Day was held October 14th. It was a great benefit to almost seventy attendees who are studying for an operator certification license.

November 15th marks the date of the Laboratory Analysis Committee (LAC) meeting at the Metropolitan Sewer District of Greater Cincinnati. Three contact hours and lunch for an unbeatable price: FREE!

Please join us for SWOWEA's Plant Operations Seminar on November 17th in Blue Ash (Crowne Plaza Hotel). Every year we show over 100 attendees an educational and entertaining show. The day includes exhibits, technical sessions, and a delicious luncheon.

January 19th brings our Industrial Pretreatment Seminar at the Oasis in Cincinnati. This is another seminar with over 100 attendees that includes exhibits, technical sessions, and a great meal.

For more details on all these events, please see *www.swowoea.org*.

Best wishes to you and your family for a great holiday season.

Dan Martin, SWOWEA, *dmartin@raconsultantsllc.com*

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 may also update your OWEA/WEF membership account by contacting WEF at 800.666.0206 / *csc@wef.org* or OWEA at 614.488.5800 / *info@ohiowea.org.*

YOUNG PROFESSIONALS COMMITTEE

by Kris Ruggles and Nick Bucurel, Co-Chairs

Young Professionals Award

Due to the tremendous success of the program at the 2011 OWEA Annual Conference, and thanks to the overwhelming support from each section Executive Committee and the Conference Planning Committee, the Young Professionals (YP) Committee is pleased to announce an opportunity for selected YPs to receive free admission to the OWEA Annual Conference in June 2012. This Young Professionals Award includes at least one night free stay at The Bertram Inn and Conference Center in Aurora during the Conference.

To enter this competition, submit a 1-3 page abstract about an interesting project you worked on. An example might be how you optimized a piece of equipment or process, or it may be a model or challenging and innovative design you worked on. Four winners, one from each section, will be selected. In order to be considered for the award, the applicant must meet the following criteria and/or guidelines:

- Applicant must be a young professional WEF/OWEA member (under age 35, or less than 5 years in the industry).
- Applicant must prepare and submit a brief (1-3 page) presentation abstract for a topic related to the water environment to your section YP Committee Chair (Chairs listed below) by November 21, 2011. If you have already submitted an abstract for the 2012 Annual Conference, please do not submit the same abstract for consideration for the YP Award.
- If selected for the award, applicant agrees to provide a 30 minute presentation at OWEA Annual Conference in June and to submit a paper suitable for publication of the Buckeye Bulletin prior to the conference.

Watershed 101 Workshop

One of the major initiatives of the YP Committee is to conduct a **Watershed 101 – Back to Basics Workshop**. This workshop will provide a great opportunity for YPs to strategize and manage a technical workshop from concept to completion. The workshop is planned for April 5, 2012 in Columbus and will be open to both OWEA members and water quality professionals interested in watershed management topics and will cover watersheds from many perspectives. Key topics may include impacts of changing water quality standards, operational challenges to managing increased wet weather flows, green infrastructure approaches to stormwater management, and ultimately understanding funding mechanisms that support watershed management projects. The committee is also considering other professional development topics for this workshop. The event will be held at the Ohio State University Ohio Union. Please contact Anil Tangirala, Chair OWEA Watershed Committee, for any ideas, questions, or details at *anil.tangirala@stantec.com*, or 614.844.4016.

NE Young Professionals tour the City of Berea water treatment plant

Notable Happenings

The YP Committee is committed to building relationships with other professional organizations for the common cause of clean water and continues to look for opportunities to provide value for OWEA. Recently the Northeast Section YPs joined the Northeast District Ohio AWWA YPs for a successful event with over 15 attendees to tour the City of Berea's newly remodeled water treatment plant, featuring a new granular activated carbon filter facility. Attendees earned one contact hour and enjoyed quality networking at The Cornerstone Brewery following the tour. Future events in partnership with AWWA and ASCE are currently being planned.

Welcome to our new YP co-chairs in the Southwest Section, Kelly Kuhbander and Ian Laseke. Kelly is a project engineer for Strand Associates in Cincinnati. She has a B.S. of Engineering from University of Dayton, an MBA from Xavier, and is LEED® accredited. Ian works with the Metropolitan Sewer District of Greater Cincinnati in the Estimating and Planning groups. He graduated with a B.S. and M.S. from University of Cincinnati's Civil and Environmental Engineering program.

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

NW - Walter Ariss, *walter.ariss@epa.state.oh.us*
NE - Ashley Elber, *aelber@ctconsultants.com*
SW - Kelly Kuhbander, *kelly.kuhbander@strand.com*
SW - Ian Laseke, *ian.laseke@cincinnati-oh.gov*
SE - Brandon Fox, *bfox@co.fairfield.oh.us*

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

Nick Bucurel
216.912.2141
nick.bucurel@arcadis-us.com

Kris Ruggles
614.835.0460
kris.ruggles@strand.com

**Are you under 35 years of age and have less than 5 years in the water quality industry?
Contact the YP Chairs or the representative in your section!**

LABORATORY ANALYST COMMITTEE

by Chairs Eva Hatvani and Denise Seman

Hello Everyone! The Plant Operations/LAC Joint Workshop was held on September 28-29. The lab sessions were on the 29th. If you attended, we hope you enjoyed it. Thanks to all of the speakers that helped to make the event successful. We really appreciate their time and expertise.

The topics, speakers and contact hour numbers for the sessions were:

- **E. coli from A-Z**, Jen Alexander, OEPA
  OWEA-S00833-OM
- **Microscopic Evaluation of Mixed Liquor: The Care and Feeding of Your Bugs,** Jon VanDommelen OEPA
  OWEA-S00834-OM
- **BOD/CBOD from A to Z,** Amy Starkey, Stark County
  OWEA-S00836-OM
- **An Introduction to the State of Ohio General Lab Criteria Audit,** Steve Roberts, OEPA
  OWEA-S00832-OM
- **Standard Methods Is Right**, Eva Hatvani, OWEA LAC and Nancy Taylor, City of Newark
  OWEA-S00835-OM
- **How to Choose a Contract Lab,** Kathy Richards, City of Akron
  OWEA-S00818-OM

If you have any ideas or would like to be a speaker at next year's workshop, please send us an email. Please remember to use the new email address for any communication with the State Lab Committee or WW Lab Analyst Certification. The email address is *oweastatelac@yahoo.com*.

Eva Hatvani, Kathy Richards, Melodi Clark, Denise Seman, and Roger Rardain at the 2011 Plant Operations and Laboratory Analysts Workshop

The Lab Committee will soon start to work on their participation in Operations Challenge. We'd really like to see some new teams this year to challenge the existing champs. How about an all lab team? Still not sure about what Ops Challenge is? Come to the NE Section's January training. They will be doing a hands-on mini Ops Challenge for contact hours to give people a taste of this great event!

For those of you that were at the conference in June, Lab Munkee made his (her?) debut appearance. Lab Munkee was also seen at

the recent POLA workshop. Follow Lab Munkee on Facebook and Twitter for upcoming events, and possibly some new games/challenges as we approach the state events. (*@LabMunkee*)

OWEA WASTEWATER ANALYST EXAM

The OWEA WW Analyst Exam was given on October 21, 2011. Next year's exams will be given on Friday, April 27, 2012 and Friday, October 26, 2012. The application deadlines are Friday, March 16, 2012 and Friday, September 14, 2012. Please use the application form on the OWEA Website.

RENEWAL OF CERTIFICATES FOR 2012-2013

The current certificates are valid until December 31, 2011. Renewals are on a two year cycle. The mailings for the next round of certificate renewals have been mailed. If you do not get one, you may not have notified us about a possible move, retirement, or other situation. Forms can be downloaded from *www.ohiowea.org*. Please email any changes of information to *oweastatelac@yahoo.com*. The cost will remain at $25.00.

NOTE: Print applications from *www.ohiowea.org,* as the mailing address has changed to the OWEA Office. Do not use any old applications.

Southwest LAC - Roger Rardain and Jim Davis

On 21 July 2011, the SW Section Laboratory Analysis Committee held a meeting at the Fairfield Community Arts Center in Fairfield, OH. Attendance was outstanding, with 57 people from 20 organizations present.

Technical sessions included the following presentations:

- Tour of the Hamilton Wastewater Treatment Plant/ Laboratory, 2451 River Road, Hamilton, OH
- "What's On Your Filter?" - TSS testing, Roger Rardain, Laboratory Analyst, Fairborn Water Reclamation Center
- Thermometer Calibration, Jerry Wright, Bacteriologist/ Chemist, Dayton Wastewater Treatment Plant
- Update on the OEPA General Lab Criteria and Common Findings During Inspections, Martyn Burt, Supervisor, and Joe Reynolds, Environmental Specialist, OEPA Division of Surface Water

continued on page 17

LAB CERTIFICATION EXAMS

Spring exam date: April 27, 2012
Application Deadline: March 16, 2012

Print applications from the OWEA website as the mailing address has changed to the OWEA Office.

3 contact hours were approved. Boxed Lunch Provided by Fairfield Wastewater Treatment Plant.

Future meetings for the SW LAC are in the planning stages, but dates have been determined.

Fall 2011 LAC Meeting
November 15, 2011, 9 am-12:30 pm
Metropolitan Sewer District of Greater Cincinnati Laboratory

Winter 2012 LAC Meeting
January 19, 2012, 12-4 pm *(tentative)*
Location TBA

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, City of Fairborn
937.754.3075, roger.rardain@ci.fairborn.oh.us

Jim Davis, Montgomery County Water Services
937.496.7051, *davisji@mcohio.org*

Committee Members:
Lynette Hodnicki, City of Fairfield
Lori Kyle, Greene County
Linda Moubray, City of Fairfield
Ron Paulick, TestAmerica
Teresa Shinkle, Greene County
Karen Tenore, City of Dayton
Violet Fanning, TestAmerica

Northeast LAC- Kathy Richards & Beverly Hoffman

Our August meeting was held at the Lake County Training Facility. Topics covered included "Preparing for and Surviving a Lab Audit", "Chlorophyll Analysis", and "Choosing a Contract Lab". The session was approved for 2.5 contact hours and was well received by those in attendance.

Our next meeting was October 21st in Orrville. Topics submitted for contact hours were "BOD vs COD vs TOC, Choosing the Correct Analysis for Your Needs" and "Ammonia Analysis by Ion Selective Electrode".

Please consider responding to the NESOWEA LAC questionnaire at *www.ohiowea.org* or *www.nesiwea.org*. The information we compile will go a long way towards building a networking database that will enable analysts and operators to better connect with each other and share experiences and support. If you would like to be added to our NES membership directory and receive automatic email updates for training events and other news, please send your contact information to Beverly Hoffman at *nesowealac@gmail.com*. All of our training events are free and open to everyone - regardless of which section you may call home.

We are actively seeking venues, topics, and speakers for our LAC section meetings. If you have suggestions or would like to volunteer yourself or a "special coworker", please get in touch with any of the NES committee members.

Beverly Hoffman	*nesowealac@gmail.com*
Kathy Richards	*krichards@akronohio.gov*
Dale Holmes	*daleh@mclw.com*
Lisa Feigle	*lisaf@gcdwr.org*
Amy Starkey	*ajstarkey@co.stark.oh.us*
Marie Simon	*marie@northcoastlabs.net*
Melanie Rangel	*mrangel@lakecountyohio.org*

And finally, one last note. A fond farewell and good wishes to Claudia Kotich. Claudia is a former Chair of the NES LAC and retired effective October 1st after 32 years of both water and wastewater analysis at Portage County Water Resources. I know you all join me in wishing her a most wonderful and extended retirement. You will be missed Claudia!

Southeast LAC- Melodi Clark

The SELAC will hold a meeting on November 18th at the Jackson Pike WWTP. Amy Hursey from the City of Zanesville will present "Year-end List to Stay Safe in the Lab".

The next meeting is tentatively scheduled for February. Speakers and topics will be announced in the near future. Please let us know if you would like to be a presenter or would like a particular topic to be presented. Keep posted to your section's newsletter or contact Melodi Clark for any future meetings.

COMMITTEE CONTACT INFORMATION

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

Northeast Chairs
Kathy Richards, 330.928.1164, *nesowealac@gmail.com*
Beverly Hoffman, 440.446.4228, *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*
Jim Davis, 937.496.7051, *davisji@mcohio.org*

Southeast Chair
Melodi Clark, 614.645.1239, *mlclark@columbus.gov*

Earn up to 6 Contact Hours

Register online at ***www.ohiowea.org***

7:45-8:15	**Registration** **Light Continental Breakfast** **Visit with Exhibitors**
8:15-8:30	Welcome and Opening Remarks *- Jamie Gellner, Committee Chair*
8:30-9:15	Ohio EPA Biosolids Update *- Jacob Howdyshell, OEPA Biosolids Program Coordinator*
9:15-10:00	Strategies for Managing Upcoming Phosphorus Rules *- Trudy Johnston, Material Matters*
10:00-10:15	**Break in Exhibit Area**
10:15-11:00	Biosolids Dewatering and Disposal Options *- Kevin Krejny, Greene County Sanitary Engineering*
11:00-11:45	Liquid Sludge Handling Economics *- Dan Miller, Jones and Henry Engineers*
11:45-12:45	**Lunch Buffet** **NorthPointe Conference Dining Room** **Visit with Exhibitors**
12:45-1:30	Utility Rate Structures and Its Impact on Energy Costs *- Bryan Lisk, Hazen and Sawyer*
1:30-2:15	Benefits of Digester Gas Scrubbing at the Dayton WWTP *- Bill Barhorst, Pirnie/ARCADIS* *- Lalit Gupta, City of Dayton*
2:15-2:30	**Break in Exhibit Area**
2:30-3:15	High Solids Anaerobic Digestion: An Overview of Installed Facilities *- Bruce Bailey, quasar energy group*
3:15-4:00	Biosolids Management in the Wastewater Treatment Plant of the Future *- Dr. Sam Jeyanayagam, CH2M Hill*
4:00	**Closing Remarks** *- Jamie Gellner, Committe Chair*

Exhibitor Opportunities Available

December 8, 2011

The Conference Center at NorthPointe
9243 Columbus Pike
Lewis Center, Ohio 43035
866.233.9393

Register online at ***www.ohiowea.org***
or by phone at 614.488.5800

Sponsored By

SMITH ENVIRONMENTAL, INC.

Registration Fee		
☐ OWEA/WEF Member *(or with new membership added)*	$125	
☐ Nonmember	$175	
☐ Member plus Exhibit Table *(or with new membership added)*	$300	
☐ Nonmember plus Exhibit Table	$400	
☐ Add Professional Membership	$115	
☐ Add PWO Membership	$ 66	
☐ Add Young Prof Membership	$ 61	
Total Due		

Enter OWEA/WEF #

☐ **I have read & agree to the OWEA refund policy**

Badge Name:

Company:

Address:

Email:

Phone:

Method of Payment

☐ Check #

☐ P. O. #

☐ Credit Card - you will be emailed a secure link to enter your credit card payment or you may call the OWEA office with your credit card number.

RESIDUALS COMMITTEE

by Jamie Gellner, 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:

- The 2011 Farm Science Review was held September 20th through September 22nd. The Residuals Committee provided manpower and educational materials on the benefits of biosolids land application at the OWEA sponsored booth. We had several volunteers man the booth this year – thanks to all who contributed time to the effort and to Bruce MacLeod (Synagro) for his efforts related to this initiative.
- Biosolids Workshop – The 2011 workshop is scheduled for December 8, 2011. We have filled out our agenda and registration is available at *www.ohiowea.org*. Please plan to join us at the new OWEA venue at Northpointe for a great workshop. We have many current topics that will be of interest, including digester gas reuse, phosphorus index considerations for land application, regulatory updates, and many more topics. If you would like to participate or present next year, please let us know.

This year, we are also working on a few additional areas, including the following:

- Exploring new venues for booth / information / PR – Members are exploring other events where we can showcase the information that we normally present at the Farm Science Review. If you have any ideas related to good locations for a display or information related to biosolids, please let me know.
- Verify member list / update contacts – If you haven't received any correspondence from me lately and were previously on the committee email list, that probably means that we need to update your information. Drop me an email if you'd like to be included on our mailing list or if your contact information has recently changed.
- Reach out to neighbor associations – We are in the process of reaching out to our neighboring associations in Indiana and Michigan. We hope to develop a dialogue with these groups and find ways to work together to provide information on biosolids issues. Thanks to Rob Smith (Arcadis / Malcolm Pirnie) for his efforts to get this initiative started for us this year.
- Alternate locations for our Residuals Committee Meetings – We are exploring the possibility of hosting our meetings at a venue different than Olentangy (no offense to the facility or staff). We are investigating different plants at which we can host our meetings and have a short facility tour. If you have any ideas related to this, please let me know.

We would love your involvement in these initiatives and others throughout the year. 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 OEPA on regulatory issues. We always welcome new membership and we would love to have you at our next meeting. If you are interested in getting involved or if you have any questions, please contact me.

Jamie Gellner
513.317.0337, *jgellner@hazenandsawyer.com*

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

OWEA's Specialty Workshop Schedule

December 8, 2011..... **Biosolids Workshop**

March 1, 2012..... **Government Affairs Workshop**

April 5, 2012..... **Watershed Workshop**

May 10, 2012..... **Collection Systems Workshop**

October 24-25, 2012..... **Plant Operations and Laboratory Analysts Workshop**

December 6, 2012..... **Biosolids Workshop**

Visit ***ohiowea.org*** for more information and registration

SPONSORSHIP COMMITTEE

The Ohio Water Environment Association is so appreciative of the people and companies who are supportive sponsors of the organization and its mission to provide technical training and education to OWEA members and Ohio's water quality professionals. Historically, many times per year, OWEA has sought sponsorships for various events and causes.

In 2010, the Executive Committee created a Sponsorship Committee, led by Chair Ted Baker, to evaluate how OWEA requests sponsorships and to propose a new method. In 2011, OWEA created Association Sponsors, with defined sponsor amounts and defined benefits, as a transitional program. We also accepted traditional Annual Conference and Ohio Mixer sponsorships.

For 2012, the Sponsorship Committee has created an innovative Sponsor Program, with predefined sponsor acknowledgements and a point based benefit program. Now, as companies and individuals sponsor and support the good work of the Ohio Water Environment Association, they can redeem points for additional signage, specific event sponsorships, as well as workshop, conference, and event attendance.

Contact Ted Baker, OWEA Sponsorship Committee Chair, or the OWEA office for more information or visit *www.ohiowea.org.*

Ted Baker
440.829.8405, *kingsnu@aol.com*

Level/Price/ Points	Benefits
Titanium $7,500.00 60 Points	Website Banner Name on sign at ALL OWEA Registration Tables Thank you in all 4 issues of BB Headline Sponsor of one: Conference Breakfast on Wednesday and Thursday WEF Mixer Headline Sponsor of one: Biosolids Specialty Conference Government Affairs Specialty Conference Collections Specialty Conference
Platinum $6,000.00 47 Points	Website Banner Name on sign at ALL OWEA Registration Tables Thank you in all 4 issues of BB Headline Sponsor of one: Exhibitor Reception Meet & Greet
Gold $4,500.00 35 Points	Website Banner Name on sign at ALL OWEA Registration Tables Thank you in all 4 issues of BB Headline Sponsor of one: Ops Challenge (2 available) Logo on Lanyards Conference Giveaway
Silver $3,000.00 23 Points	Name on sign at ALL OWEA Registration Tables Thank you in all 4 issues of BB Headline Sponsor of one: Lab/Operators Specialty Conference Golf Outing Lunch
Bronze $1,500.00 11 Points	Name on sign at ALL OWEA Registration Tables Thank you in all 4 issues of BB Headline Sponsor of one: Golf Outing Breakfast Golf Outing Beer Keg 5-S Breakfast Specialty Conference sponsor *(one not taken by Titanium Sponsor)*
Conference $1,000.00 7 Points	Name on sign at ALL OWEA Registration Tables Thank you in 2 issues of BB
Break $500.00 3 Points	Name on Break signs not "purchased" with points Thank you in 2 issues of BB
Golf $250.00	Name on Golf Hole Sign Thank you in 1 issue of BB

Points	Description
1	Golf Hole Sign
2	Golf Event Sponsor (i.e. Long Putt, Pin shot, Long Drive)
4	Golf Foursome for 1/2 Price
6	Golf Foursome
8	Premier Golf Sponsor (1 Foursome, 1 Sign, 1 event)
3	Biosolids Attendance
3	Government Affairs Attendance
3	Collections Attendance
3	AM or PM Break Sponsor for 1 Conference
6	Lab/Operations Attendance
13	Premier Specialty Conference (Attendance for all 4, 1 Break)
2	Conference Meet & Greet Ticket
2	Conference Banquet Ticket
3	Thursday Only for Conference
3	Break Sponsor
4	Tuesday Only for Conference
4	Wednesday Only for Conference
4	Full Conference for 1/2 Price
6	Full Booth for 1/2 Price
7	Full Conference Registration
10	Full Booth Registration
4	1/8 Page ad in Spring or Summer BB
8	1/4 Page ad in Spring or Summer BB
12	1/2 Page ad in Spring or Summer BB
16	1 Page ad in Spring or Summer BB

WATER'S WORTH IT

Become a 2012 OWEA Sponsor

www.ohiowea.org 614.488.5800 info@ohiowea.org

The Ohio Water Environment Association is a not-for-profit 501(c)(3) association that provides technical training and education for Ohio's water quality professionals who clean water and return it safely to the environment.

Sample Sponsorships and Point Redemption	
Example 1 ABC Company #1 $7,500 donation 60 Points	Website Banner for 2012 Most prominent position on sign at EVERY OWEA Registration Table Thank you in all 4 2012 BB Sponsor Ads Headline Sponsor for the Wed-Thur Breakfast at Conference Headline Sponsor for the Government Affairs Specialty Conference
	Example 1 - How Points Can Be Redeemed
8 pts 13 pts 14 pts 3 pts 10 pts 12 pts	Premier Golf Sponsor Premier Specialty Conference 2—Full Conference Registration Collection Attendance 5—Meet & Greet Ticket 1/2 Page Ad in Spring BB
Example 2 XYZ Business #2 $1,000 donation 7 Points	Name on sign at OWEA State Conference Thank you in 2 2012 BB Sponsor Ads
	Example 2 - How Points Can Be Redeemed
3 pts 3 pts 1 pt	Collections Attendance Biosolids Attendance Golf Hole Sponsor

PLANT OPERATIONS COMMITTEE

by Kim Riddell and Jim Borton, Co-Chairs

The Plant Operations Committee, along with the Laboratory Analyst and Safety Committees, hosted the Plant Operations, Lab and Safety Workshop on September 28th and 29th. Over 160 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 2012 version. If you missed the workshop, you missed 13 of the most interesting technical sessions offered in Ohio during 2011. In addition to separate Laboratory and/or Safety presentations, attendees heard from Dr. Eric Wahlberg on plant operational concepts, Dr. Sam Jeyanayagam on nutrient removal and wet weather considerations, Steve Samuels on recent ERAC decisions, Tom Angelo on hydrofracking wastewater, Elizabeth Wick and Doug Clark on OEPA inspections, Stacy Passaro on simple/low budget I&I studies, and Gary Hickman on plant energy and compliance improvements. 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 the 2012 version on Wednesday, October 24th and Thursday, October 25th. It will again be held at the Conference Center at North Pointe 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 2012 Operations Challenge / Operator Education Day Event. We have had several communities offer their facilities as potential locations and we will be meeting soon to determine the location and date. The expected format for the day will be the same as this year's with the incorporation of an operator education day prior to the contest, where attendees can earn approximately 2 contact 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.

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 '12 in New Orleans! 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 New Orleans, 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!

The Plant Operations committee is looking forward to seeing you in May at the Challenge and again at the Plant Operations/Lab Analyst Workshop in October 2012.

Kim Riddell
kim@go-smith.com

Jim Borton
jborton@woosteroh.com

2011 Plant Operations/Lab Workshop Exhibitors (l-r): Daniel Van Dam (D A Van Dam & Associates), Patty Nash (D A Van Dam & Associates) , Julie Higgins, (Environmental Express), Tony Pitoniak (JGM Valve Corporation), Jessica Begonia (Alloway), Mark Wooten (Pesco Pumps), Derek Wooten (Pesco Pumps), John Zikovic (Crossbow Water), Paul Albeit (GFS Chemicals, Inc.)

Top: Attendees with focus in the Conference Room at NorthPointe
Bottom: Consultants vs. OEPA vs. Attorneys vs. Operators: A Panel Discussion (l-r) Dr. Eric Wahlberg, Tom Angelo, Elizabeth Wick, Jim Borton, Steve Samuels, Doug Clark, and Dr. Sam Jeyanayagam

:: Positive Control

for Ultimate Process Performance ::

The AquaExcel® batch reactor system combines a comprehensive array of innovative process, mechanical and control advancements with the proven durability of the AquaSBR® system. Leveraged by more than 23 years of proven performance, the AquaExcel® system offers the complete spectrum in multi-goal process objectives.

The AquaExcel® system's synergistic mixing and aeration provides a versatile combination of energy savings with tight control of the process environment to achieve maximum performance. With the IntelliPro® online process monitoring and control system, an essential link between operations, equipment and treatment objectives can be made for efficient plant operation. The system also offers integrated comparative analysis and operator guidance via BioAlert™ process notification program.

The integration of experience and progressive engineering makes the AquaExcel® batch reactor process cutting-edge in advanced wastewater treatment.

:: Benefits

- Advanced nitrogen and phosphorus removal
- Superior decanting system
- Time-based process management
- Automatic power saving mode
- Proactive operator guidance
- Simple yet flexible system operation

:: Applications

- Municipal/Industrial wastewater treatment
- Biological Nutrient Removal (BNR)
- Wastewater reuse
- Industrial pretreatment
- New plants and retrofits

For More Information Contact:

HYDRODYNAMICS

Michael Voshefski
Maineville, OH*
p 513.899.9992 **f** 513.899.5067
email michael@hydrodynamicscompany.com
web www.hydrodynamicscompany.com
**Northern Ohio territory only*

AQUA-AEROBIC SYSTEMS, INC. 6306 N. Alpine Rd. Loves Park, IL p 815.654.2501 f 815.654.2508 www.aqua-aerobic.com

GOVERNMENT AFFAIRS COMMITTEE

by Dale Kocarek, Chair

The following are highlights from the OWEA Government Affairs Committee.

Work Group Meeting

We held a meeting with the core work group to discuss the role of this committee and plan strategy for the upcoming year. As Chair, I wanted our members to share ideas that excited them and on what they wish to do. We identified the present core functions of the Committee as the following:

1. OWEA GAC Workshop, March 1, 2012
2. Technical Review Group
3. WEF Affiliated Activities

We also sought to ask ourselves the following questions:

4. What do you think we do that works well?
5. Where do you think we can do better?
6. Are we "missing the boat" anywhere?

While the Committee does not have an official mission statement, a working statement is in development. It is:

> The OWEA GAC shall perform an active role in the review and development of clean water rules, regulations, white papers, and policies, which impact our industry, and assist in disseminating this information to our members and those affiliated with our industry.

One of our work group noted that it would be nice if the Committee could e-blast our members with relevant and topical information – or late breaking information. I thought that this was a great idea, and want to take steps this year to take on this role in a more consistent basis.

Two things that I heard we do well is work done through our Technical Review Group (TRG) and our Workshop. While topics for the TRG are topical and tend to come to us as requests, one of our biggest challenges is keeping our workshop fresh. The years come and go quickly, and one at times is tempted to stay with the same speakers and format. While follow up talks on the same or similar topics is often warranted, it is important that we try to find topics that interest and educate our members.

OWEA Government Affairs Workshop on March 1, 2011

The Government Affairs Committee will hold its annual Workshop at the Conference Center at NorthPointe on March 1, 2012. This is the same location as 2011, and where OWEA held all 2011 workshops. The agenda is still in the planning. Vice Chair John Owen issued a "Call for Papers" recently. It is on our website. We are currently hoping to get some topics on issues that promise to affect the landscape of our industry.

Peak Wet Weather Flow Stress Testing, Literature Review Debrief

On August 9, 2011, a group of members selected by the Technical Review Group attended a webinar on the stress testing of wastewater treatment plants and was provided the opportunity to be part of a peer review team. The first step was a review of literature.

This review was conducted through OWEA's Memorandum of Understanding (MOU) with the US Environmental Protection Agency (EPA) National Risk Management Research Laboratory (NRMRL). The webinar speaker was Matt Crow, PE from CDM. Our reviewers consisted of consultants and utility personnel who are experienced with the performance of stress testing across the state. The utilities comprised small to large communities, districts and counties. Our participation is the first step in our continuing involvement with USEPA on the development of protocols for stress testing. It is exciting to be part of such an important effort. I wish to thank Dianne Sumego, who leads our Technical Review Group, and Dan Murray of USEPA for allowing us to play such an important role in the development of these standards.

Dale Kocarek
dale.kocarek@stantec.com

Picture Yourself Behind the Podium

The Ohio Water Environment Association holds 4-5 Specialty Workshops and an Annual Conference with an extensive technical program each year. Share your experiences, successes, and lessons learned at one of OWEA's Specialty Workshops or the Annual Conference as we work together to provide technical education and training for Ohio water quality professionals who clean water and return it safely to the environment.

Speakers receive discounted event registration rates.

Visit *http://www.ohiowea.org/call_for_abstracts.php* for more info.

ROLL CALL

Brad Borer, On October 23, 2011, a dedication service took place for the lift station on SR 100 near Clinton Mobile Home Court. The station, formerly named after factory Hayes Albion, was renamed the Borer Lift Station in honor of Brad Borer, who had a 30 year career at the Water Pollution Control Center, including 17 years as superintendent.

"I never had a day where I didn't want to go to work, but there were days where I really wanted to leave early," he joked. "No day was ever the same in 30 years - nowhere near," he said. "So it was very interesting." Brad said he took over as superintendent in 1991. Brad retired in 2007, deciding it was his time to go. He said it was a bitter-sweet decision, especially as he would have to say good-bye to his colleagues. "The guys are what make it happen," he said. "It's a 24/7 operation, although it's not manned all the time, but without good help, there's just no way to keep up with it. The guys were great over the years."

John W. Kniepper, In August 2011, Avon Lake rededicated the John W. Kniepper Municipal Utilities Administration Building. The 20,000 square-foot facility, dedicated as the Avon Lake Municipal Utilities Office/ Garage Complex in May 2004, will now be the namesake of John W. Kniepper, who retired as Chief Utilities Executive in December 2010. Kniepper's career spanned 43 years of service, first as the Utilities Assistant Director in 1968, then as Director in 1971, and finally as Chief Utilities Executive in 2003. John continues to serve as the Utilities Special Projects Advisor. During John's tenure, Avon Lake Municipal Utilities expanded from a water and wastewater treatment operation that primarily served the 12,000 residents of the of Avon Lake to a $70,000,000 operation that now sells water and sewer services to over 188,000 people living in a 600 square mile area of Lorain, Medina and Huron Counties. He is currently serving as ALMU's advisor to the Lorain County Rural Wastewater District, which is completing a $27.7 million dollar sanitary sewer system to provide sewer service to rural Lorain County.

Connie Muncy, CIH, REM, MS EHS Mgmt., Safety Officer for Montgomery County Water Services in Kettering, Ohio, was named one of "100 Women, Making a Difference in Safety," a project of the Women in Safety Engineering Common Interest Group, part of the American Society of Safety Engineers (ASSE). She works diligently to ensure public workers adhere to Occupational Safety and Health Administration (OSHA) regulations, though Ohio public employers are not regulated by OSHA. Winner of prior workplace safety awards from other organizations and a frequent presenter at symposiums and workshops, Ms. Muncy has presided over numerous county and chapter safety and emergency councils. Founded in 1911, the Des Plaines, Ill.-based ASSE has more than 34,000 members working "across all industries around the world protecting people, improving business and safeguarding the environment." Ms. Muncy is also the recipient of the ASSE Kitty Hawk Chapter 2011 Safety Professional of the Year Award.

UTILITY ENHANCEMENT UPDATES

by John Newsome, Chair

The Utilities Enhancement Committee strives to provide relevant information to utility owners as it relates to regulatory updates, technology enhancements and improvements performed by other utilities throughout the state. As part of this effort in 2011, the Committee has continued to provide webinar series on the topics of nutrients and wet weather issues.

Our last webinar of the year on the topic of wet weather issues was October 6, 2011. The presentation on the City of Columbus OARS tunnel was presented by Jeff Coffey of DLZ and Greg Fedner of the City of Columbus. Read more about the CSO deep tunnel project in the article beginning on page 44.

Contact hours are not offered for the webinars due to the complexity of participation. PDH's are at the participants discretion. That being said, GOOD training and FREE training is a PRICELESS VALUE ! !

WE NEED YOUR HELP! If you or your employer has done anything that you have found to be beneficial to your utility please share it by being a speaker. If you do not like to speak in public, don't worry as this is done by way of computers and you are not in front of a "live" audience. The sharing of ideas is how we all learn, so please share your successes so we can all learn from you!

In addition, any suggestions for future webinar series are welcomed. Please send an email to a committee member below with your ideas. The committee will soon be laying the groundwork for our 2012 webinar series which we anticipate beginning in February.

Utilities Enhancement Committee contacts;

Chair: John Newsome
614.645.8460, *jgnewsome@columbus.gov*

Vice Chair: Scott Holmes
937.333.3737, *scott.holmes@daytonohio.gov*

Career Opportunities

Does your organization have a position to fill?

Are you looking for a position?

Visit *www.ohiowea.org* and select Career Opportunities.

Or contact OWEA 614.488.5800 or *info@ohiowea.org*

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.*

WATER FOR PEOPLE

by Doug Borkosky, Co-Chair

In case you hadn't heard, Keith Riley retired and stepped down as the Water for People Committee Chair for OWEA. After some thinking, discussion, and quite a bit of prodding, Dale Kocarek and I agreed to Co-chair the OWEA WFP Committee. Since Dale typically contributes to each Buckeye Bulletin under the "Kocarek Korner", I volunteered to write our first update. For those of you who have not corresponded with me, you will quickly learn that (1) I love to use bullet lists for conveying thoughts and (2) I don't follow tradition or precedent consistently so I hope you'll excuse the deviation from Keith's precedents.

Here are some of the thoughts Dale and I have compiled:

- We are awed by the passion and effort that individuals and organizations (especially utilities) invest into supporting WFP through fund-raising.
- Keith Riley was a prime example of investing time, energy, and emotion. Yet again we invite everyone to thank Keith for his years of giving and leadership.
- We are quickly learning that WFP fund-raising is truly a cross-organization effort. Our colleagues in Ohio Section AWWA have maintained an open line of communication and partnering with Keith—and now with Dale and me. It is a bit overwhelming, frankly, to come up to speed on who, what, why, etc…but we're thankful for the communication thus far.
- Going forward, we want to emphasize fund-raising on the state level that is more focused and more sophisticated. We have some ideas for unique fund-raisers, will repeat several successful events from the past, and are open to new ideas.
- We're always welcoming to in-kind donations! (Huh?) Those are donations of items that can be raffled or sold to fund raise for WFP. Recent examples include: Josh from Fremont WWTP donated a set of golf clubs for a silent auction at a NW Section Meeting, AWWA received two OSU-Michigan tickets that OWEA & AWWA raffled off, and Vicki and Leon Smith of Archbold donated a basket of local goods from Northwest Ohio at the 2011 Annual Conference.

Keith Riley was always good at including an update from Water for People. For my first act of bucking tradition I wanted to simply mention my first impressions of the current Water For People efforts.

Over the past twenty years a sizable amount of money has flowed into Third World economies in hopes of making a difference in the condition of sanitation. During one of my church's recent efforts to raise money for this cause, it came to my attention that there were no less than ten respectable organizations that were listed as legitimate charities working to provide water and/or waste infrastructure in places that needed desperate improvement. It was overwhelming trying to gauge the differences between them. Then I started reading up on Water For People's present efforts.

As I read and participated in webinars, I realized that WFP has traveled light years from just providing wells and pit toilets. Currently, WFP is focused on sustainability—in all their efforts. As part of this, they of course consider what technology will meet current and future needs. However, in determining sufficiency/applicability of the technology, they consider aspects of the technology including:

1. Cost to produce & install
2. Path to market other than giving it away
3. Creating a market for local entrepreneurs to service and maintain the technology
4. The ability to avoid having "Water for People" or the "charity" label associated with the efforts.

For example, there are many existing pit toilets—and many going in every day. The major problem with sanitation is that (1) the pit toilets are often inaccessible for pumper trucks and (2) there are few local businesses for cleaning the pits. After studying the situation, Water for People focused on a very simple manual pump made from mostly PVC pipe and simple components. The pump allows a laborer to pump the contents of a pit into a fifty-five gallon drum. The drum can then be wheeled to a more accessible point. Water for People is using a third party company to advertise the technology and train the entrepreneurs in how to make a business out of cleaning and transporting. WFP had already studied the economics of the situation and know that a laborer or local business can make a respectable wage from providing this service at a manageable cost to the homeowner/village. As importantly, they work through the third parties to encourage the technology deployment so that the "Charity" label is nowhere to be found. That is a very significant point because of the wide spread abuse of donations and corrupt politics.

As I sit back and consider the level of effort that goes into spending our donations, I can't help but be impressed and reassured. Economics, engineering, psychology, sociology, marketing—all aspects of the situation are considered. That truly is a noble effort toward fulfilling the goal of sustainability. (I would add that it is excellent stewardship of the gifts given by donors as well.)

So:

1. Keep your eyes and ears open for WFP events at OWEA and OAWWA.
2. Consider giving outside of our fund-raisers (you can do so by contacting Dale, me, or the OWEA office.)
3. Most of all, consider stewardship of what you are privileged to have/own and consider sustainability in your own efforts.

UPDATE IN NEXT ISSUE: We'll highlight local OWEA, MSD, and OWEA Section efforts to fund raise for WFP. (My apologies for not including an update here—but I want to be both precise and comprehensive with the recap).

Doug Borkosky, Co-Chair
doug@hlbaker.com

Dale Kocarek, Co-Chair
dale.kocarek@stantec.com

Learn more about **Water For People** at ***www.waterforpeople.org***

WEFTEC 2011 - Los Angeles

Thank You 2011 Ohio Mixer Sponsors

AECOM

ARCADIS
Infrastructure, environment, buildings

MALCOLM PIRNIE

BissNuss Inc.

VOGELSANG

BÖRGER

CAI
CHESLEY ASSOCIATES, INC.

HDR

J. Dwight Thompson Co.

Jones & Henry Engineers, Ltd.
Fluid Thinking™

OTT GROUP

PELTON
ENVIRONMENTAL
PRODUCTS

URS

WadeTrim

Thank You 2011 OWEA Association Sponsors

Stantec

OVIVO
Bringing water to life

Thermal
Process
Systems

Ohio Water Environment Association
Sections
Northwest Northeast
Southwest Southeast

HAZEN AND SAWYER
Environmental Engineers & Scientists

SMITH ENVIRONMENTAL, INC.

2011 OPERATIONS CHALLENGE

Most ads make promises. This one gives guarantees.

The self-cleaning Flygt N-pump is extraordinarily energy efficient. Many of our customers report energy savings of up to 50% with any new Flygt N-pump. That's why we **guarantee you'll save at least 25% on energy consumption** compared to your currently installed non-Flygt pump – or we'll make up the difference.

And speaking of money, thanks to the breakthrough N-impeller, clogging and breakdowns are virtually a thing of the past. This means you can cut the cost of regular and emergency maintenance. The Flygt N-pump increases productivity and ensures sustained high efficiency in operations.

Call 513-831-7867 or visit www.us.ittwww.com
ITT Water & Wastewater
1615 State Route 131; Milford, Oh 45150

Engineered for life

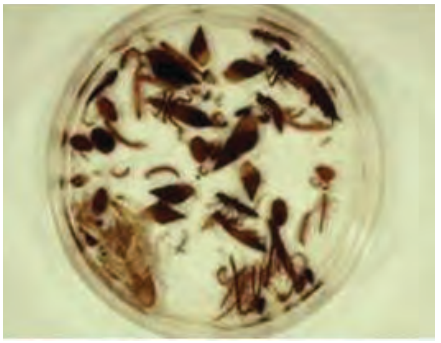
ITT

A LESSON IN ASSESSING WATERSHED VITALITY

by Tom Voldrich, P.E.

In the scramble to meet ever tighter NPDES limits and the perfunctory duties of design, construction, operation, and maintenance we perform in the wastewater treatment business, it's easy for operators, lab analysts, engineers, and equipment suppliers to lose sight of the driving force behind what we do - providing for quality waters. Every now and then we need to hang with the regulators to stay in touch. The NESOWEA was treated to an afternoon of instruction by EPA to remind us of the sensitivity of the critters who dwell in our lakes and rivers. Mr. William Zawiski of the NE District Ohio EPA provided a wonderful presentation on watershed evaluation methodologies. Bill is a graduate of the University of Akron where he received his Bachelor of Science and Masters in Biology. He has spent his entire career with the EPA and is currently the Water Quality Group Supervisor.

Attendees learned about the evaluation methods used for assessing the condition of our receiving streams. Ohio EPA is considered a leader in the country and across the globe in the biological assessment of water quality in streams and rivers. QHEI, IBI and ICI may be alphabet soup to many, however those in attendance should have a better understanding of these acronyms as well as a greater appreciation of the services our Environmental Agency provides.



Top 3 - Personnel conducting fish surveys
Bottom - Macroinvertebrates

I was surprised to find out that some operators have been participating in fish surveys and trained in the art of electroshocking. As part of an ongoing project identifying causes of impairment in Tinkers Creek (Cuyahoga River watershed) a number of plant personnel have assisted in the fish community surveys.

The EPA's job involves some very tedious work. From microscopic investigations to large organism assessment and inventory - and counting is the name of the game. Over the years Ohio EPA has developed criteria for both fish communities and macroinvertebrate communities. Following completion of the field work, lab sheet data is transmitted to the Ohio EPA Ecological Assessment Unit where it is entered into the computer database and given a score. The score is then compared to Ohio EPA biocriteria to determine if the stream assessed is in compliance. Ohio was one of the first states in the nation to utilize biocriteria as a means of assessing compliance.

Macroinvertebrates hold a special place in the heart of EPA biologists. While the methods used to calculate a fish community score were developed by Dr. James Carr to use in small streams in Illinois and Indiana, the macroinvertebrate index was developed by Jeff Deshon of the Ohio EPA. The ICI (Invertebrate Community Index) is based on Ohio streams and uses an ecoregional approach, referencing a "least impacted site". This method is now used across the United States and is included in research publications from other countries.

We were also presented with methodology for conducting habitat assessments in rivers and streams. The concept of "if you build it they will come" directly applies to habitat. This habitat assessment method, the Qualitative Habitat Evaluation Index (QHEI) is also homegrown, developed in the 1980's by Ohio EPA biologists. When a stream is determined to have adequate habitat and structure, it is then expected to support healthy aquatic communities. If it does not, then Ohio EPA works to determine the causes and sources of impacts. Results of Ohio EPA surveys are published as water quality reports and posted on Ohio EPA's web page *(http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx)*.

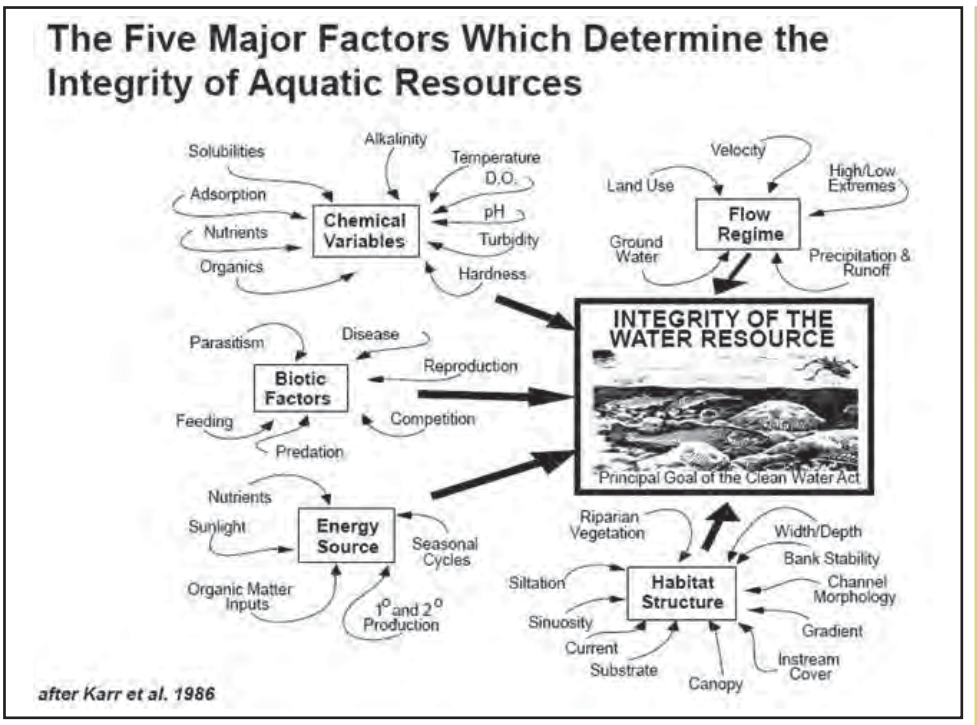
All of this information exists in one of the world's largest biological databases. Researchers are using Ohio's data to develop models relating habitat and chemistry to biological community performance. Ohio's stream assessment program is nationally recognized and used as a model by states and other countries working on developing their own programs.

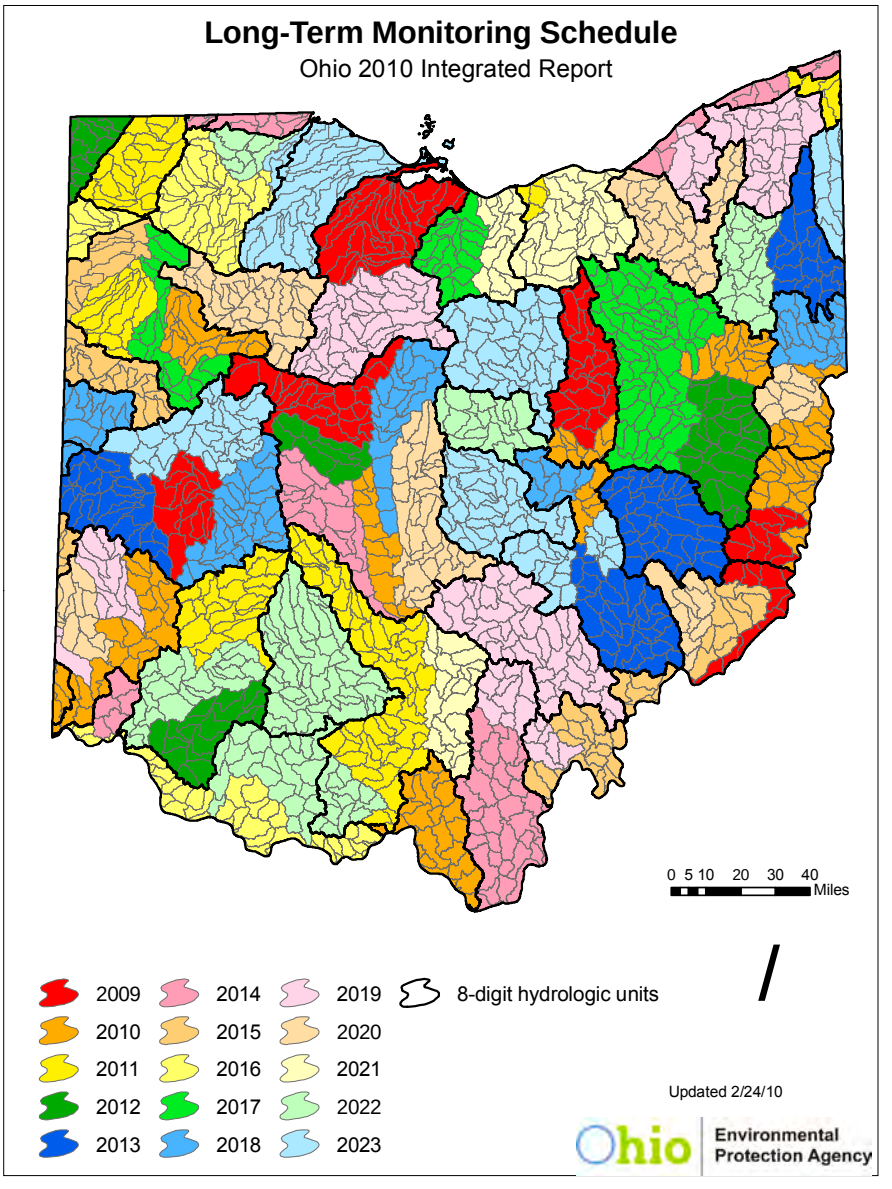
The work is never ending and continues to cycle its way across the state, watershed by watershed. Planning a survey takes time and commitments from field and laboratory staff. Using this investment survey additional work is projected into the future. The most recent schedule is included in the figure below. Where will you be in the summer of 2023?

Our Ohio regulators are busy developing TMDLs, conducting stream surveys, preparing permits, and reviewing plans. These are but a few of the responsibilities they have. In Bill's own words "Never trust a clean field biologist." I can see why. As I reflected upon the colossal amount of information involved in assessing the condition of all our streams, you can't help but get a sense of appreciation for the role our regulators play in the attainment process.

With a lot of positive feedback from attendees, the NE Section will be continuing with contact hour offerings in Watershed training; and hopefully we'll see more of Bill, a very dynamic presenter, long on experience and wit. Thanks again Bill.

Thomas E. Voldrich P.E., tvoldrich@ctconsultants.com
CT Consultants, Inc.





WELCOME NEW MEMBERS

who joined OWEA

from July to September 2011

Ted Ansel
Tiffany V. Ashforth
David Ashworth
Reneé M. Bodkins
Terri Brenner
Martyn George Burt
Derrick Chennault
Shawn Darden
Robert Davis
Michael Dobbs
Amro M. El Badawy
Carnel Felton
Tracy Garwood
Kayleigh Jean Gatti
Steven J. Geise
Matt E. Kiss
Xuan Li
Braden Lotz
Joshua Ryan Lutz
Daniel L. Mabry
Will Martin
Harry Matter
Kerri May
Tom L. McGrain
Dawn Meyers
Michael Murphy
Cindy Payne
Tracey Phelps
Alan L. Pierce
Jon Powelson
Rob Powers
Kevin Price
Bruce Reye
Dave Shrider
Alan T. Stadler
Mark Upite
Jeffrey Ushry
David Walker
William Ward
Nick Webber
Jerry Weimer
Patrick Wersell
Tammy Westerman
David Work
John Zitkovic

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

Thank you to the Buckeye Bulletin advertisers. Please support OWEA's advertisers when you are seeking the products and services they offer.

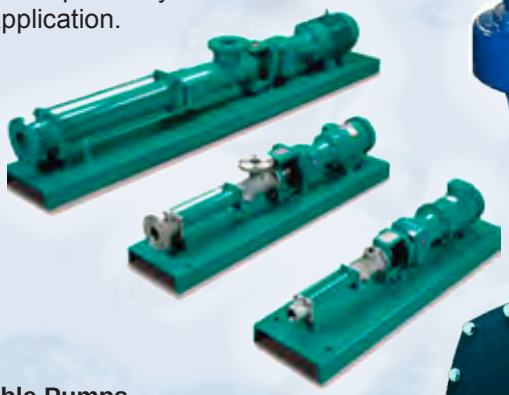
OWEA's advertisers help make it possible to bring this quarterly publication to Ohio's water quality professionals.

For advertising information, please contact OWEA at *info@ohiowea.org* or visit *http://www.ohiowea.org/buckeye_bulletin.php*

A Pump for Every Purpose.....

Pumping challenge? - We have the solution!

Established 20 years ago – we've built up a lot of experience and a great range of products – we can provide you with the perfect pumping solution for your application.



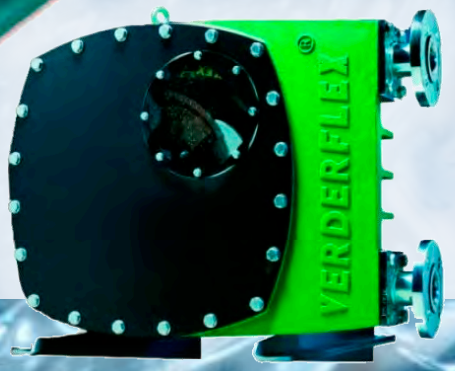
PESCO Offers:

- **Large Stock holding**
- **Quality Products**
- **Great Product backup**
- **Outstanding Service**
- **Excellent Value**
- **In-house repair & servicing**
- **Fast 'turn-around' time**

Suppliers Of:

- **Verderflex Pumps**
- **Barnes SH Series Submersible Pumps**
- **Netzsch Progressive Cavity Pumps**
- **Abba Replacement Parts**
- **Custom Built Package Pumping Systems**

and much more.....



ABBA REPLACEMENT PARTS

"REPLACEMENT PUMPS, PARTS and ASSEMBLIES to fit all your ALLIS CHALMERS & FAIRBANKS MORSE water and wastewater pump models"

- **Very Competitive Pricing** - compared to the original equipment manufacturer
- **Quality -** fit, form & function, equal to or better than the OEM

PARTS AVAILABLE: Impellers • Casings & Volutes • Frontheads & Suction Covers • Backheads & Adapters • Wear Rings • Shafts & Sleeves • Seals & Glands • Bearing Frames & Housings

CONTACT US TODAY!

Email: sales@pescollc.com

Toll Free: 800 892 2009 Fax: 216 941 9916

4548 Industrial Parkway, Cleveland, OH 44135

PESCO

PUMPS AND EQUIPMENT SALES

THE CITY OF PICKERINGTON WATER RECLAMATION DEPARTMENT

by David Jackson, WWTP Chief Operator, and Brenda VanCleave, P.E., Staff Engineer

Pickerington's original wastewater treatment plant was constructed in 1974 at 525 Hill Road South. The original plant was built on the east side of Sycamore Creek and consisted of two round tanks. Each of the two tanks consisted of a central clarifier surrounded by an outer circle with two-thirds under aeration as activated sludge and the remaining third as aerobic sludge digestion. The plant was rated at 0.58 MGD.

The Administration building housed a process control lab, office, MCC room, and restroom. On the first sub level, the blowers and pumps provided a constant loud hum in the concrete building. After descending down a spiral staircase three levels, you would have found the bar screen and grit removal channels. These were manually cleaned with rake and shovel, and then carried up two levels in trash bags. This plant served the village until 1987.

One of the unique aspects of the Pickerington WWTP is the closeness of its neighbors. The wastewater treatment plant has been in this location since 1987. These homes were platted in 2002 and built in 2005. These homes have a great view of the aeration tanks.

The plant was expanded in 1987 to increase capacity to 1.2 MGD. The original tanks were converted to sludge digesters. A high rate trickling filter was added, followed by a small polishing aeration tank. The flow then passed through two small clarifiers and a chlorine contact tank. Sulfur dioxide was fed after the contact tank for de-chlorination. The small administration building was converted to a maintenance shop and a new administration building was built. The new administration building housed a modern lab, a generator room, and a blower room. The MCC room doubled as the operators' office, and a locker room/restroom was built. Attached to the rear of the administration building was the screen room and grit removal. Eventually three static fine screens were in service with cyclone de-gritters located under them.

The 1987 plant was abandoned in 1995 when a new plant was constructed. The structures from the 1987 plant are still present, but inoperable.

Due to land restrictions, the 1995 new plant moved the bulk of the process to the opposite side of Sycamore Creek. The new treatment plant was rated at 1.8 MGD. Because the trickling filter from the 1987 plant was included in the 1.8 MGD design, and was later taken out of use, the plant capacity was reduced to 1.2 MGD.

The headworks consisted of a Schrieber front loader bar-screen, followed by Schreiber grit and grease removal system. The flow then passed through two trains of modified extended air tanks for biological treatment, followed by two 60' x 15' traveling bridge clarifiers. The flow then passed under Sycamore Creek to enter the tertiary filter building. The filters were IDI traveling bridge sand filters. Each consisted of 80 cells and had a traveling bridge backwash system. Following the filters, an IDI vertical UV system was installed, with post air as the last step before discharge. The tertiary filters, UV disinfection, and post aeration systems were built on the east side of Sycamore Creek to enable the City to utilize the existing outfall into Sycamore Creek.

In 2004, the City hired R.D. Zande to complete a stress test of the WWTP to extract additional plant capacity while it evaluated future expansion possibilities. Zande's results showed that the plant could operate at a flow of 1.6 MGD on a consistent basis and still meet its NPDES permit requirements. As a result of the test, Ohio EPA granted an increase in the plant's rated capacity from 1.2 to 1.6 MGD.

In 2007, the plant began to exceed its NPDES permit requirements for total suspended solids (TSS) and total dissolved solids (TDS). There was also a real concern over the amount of current flow available with respect to the number of Permits-to-Install (PTI) that were granted. According to the table "Estimated WWTP Flow from Collection System Expansion" obtained from Ohio EPA and dated May 17, 2007, the City of Pickerington's sanitary system had a baseline flow of 1.25 MGD with a projected new flow based on PTI's issued of 0.81 MGD. Based on these flows, the plant should have been operating at 2.06 MGD, about 0.46 MGD above the plant's rated capacity. However, that year through May 2007, the plant was averaging 1.47 MGD. The difference between the theoretical and measured flows was due to the fact that some of the new flow PTI's had not been built. It may also be due to the conservative engineering assumptions that lie behind the estimated

continued on page 42

This sign is located along the rear property line of the WWTP to notify neighbors of what is located here. Pickerington has learned from residents who have purchased these homes that their sales agents have told them various things such as the City was going to relocate the plant and that the plant was for "water treatment".

Photo of disc filters which were installed as part of the 2009 expansion. They replaced sand filters as the means of tertiary treatment.

This is the newly installed reverse osmosis system at the Pickerington Water Plant.

flow for each PTI. Luckily for the City, residential development had drastically slowed. This provided a bit more time to expand the plant.

After much analysis and study, it was decided that the best expansion method given the City's financial situation and timetable was to expand the plant to 3.2 MGD by building on to the existing conventional treatment system. By expanding to 3.2 MGD, the City's capacity and TSS issues would be addressed for a projected 10+ years. The expansion, however, would not address the City's TDS concentrations. A separate study was initiated to evaluate these options and is discussed later in this article.

In 2010, two new aeration tanks were added, mirroring the existing aeration. At the headworks, the front loader bar screen was replaced with a band screen and compactor. The grit and grease removal remained the same with new equipment replacing the old. A single large 90' x 15' clarifier was added, as well as an additional Return/Waste pump station. Two additional aerobic digesters brought the total aerobic digestion capacity to 955,719 gallons. With the operators' preference for decant to be fed to the aeration instead of the headworks, a new decant pump station was built. A second 20" line from the new treatment train crosses under the creek to meet the original line as it enters the filter building. The traveling bridge sand filters were removed and replaced by three Siemens disk filters. The filters have a polyester media with a pore size of 11 microns. Following the filters, four new UV banks were added to the existing channels and the post aeration was increased. An online temperature probe, auto-sampler, and an effluent flow meter were added to the effluent line.

The administration building has been remodeled. All of the equipment from the blower room was removed and insulation, drywall, carpet, and a drop ceiling were installed, converting it to an office for the operators. The generator was relocated to south of the new blower/MCC building and the generator room was converted to a kitchen/break room. Lastly, the old MCC room was cleared of unnecessary equipment and became the Chief Operator's Office.

As mentioned above, the plant expansion addressed the TSS and flow issues; however, a solution to reduce the total dissolved solids (TDS) concentrations to be within NPDES limits was still needed. TDS essentially passes through the conventional treatment processes used at the plant unscathed. A separate study was done to evaluate the options available to treat the problem. Many solutions were contemplated, but the three that were the most viable were the following:

- Install a groundwater well at the wastewater plant to dilute the WWTP's final effluent during times when TDS is typically high,
- To stop softening the water during times when TDS runs high; or,

Newly installed clarifier #3

Hydro-Dyne influent screen

Grit removal

Aeration tanks

- Convert the ion exchange softening system at the water plant to a reverse osmosis (RO) system.

The groundwater dilution well at the wastewater plant was ruled out for a variety of reasons. Calculations showed that the well would have to provide 2.11 MGD of water to adequately dilute the TDS. A well capacity of 2.11 MGD would likely result in the drawdown of any nearby groundwater wells. There are 12 properties that use well water within 2200 feet of the WWTP. It was also possible that the well water would have to be treated to remove natural background elements (iron and manganese) prior to disposal, which would have added to the cost and maintenance of this option. Finally, it was perceived to be wasteful to spend $200,000 (plus the costs and maintenance of iron and manganese treatment equipment) only to dump groundwater directly into the stream unused.

Initially, the City did stop softening the water during times when TDS concentrations were high (summer months during periods of little to no rain). Because of this, private businesses began to heavily promote the installation of ion exchange home water softeners. Concern over the addition of TDS discharge from the home softeners into our sanitary waste stream caused us to rethink this option. It was also difficult to justify providing our water customers with a poorer quality of water given that the City was in its third year of five rate increases of 13%.

Finally, the City decided it would be best to treat the TDS problem at the water plant by replacing its existing ion exchange system with a reverse osmosis system. While the initial cost was high at around $1.89 million, cost analyses showed only a $0.10 per month water bill increase because the initial cost of the project would be offset by the operational savings from not using over $200,000 per year in salt. It was also seen as favorable because we would be providing our residents with a better, more consistent quality of water. And, while we would still be producing TDS from the RO waste, we would not be adding any additional TDS from the salt. The amount of TDS added from the RO system would be low enough that we should not have any NPDES permit violations. Prior to switching to reverse osmosis, our TDS concentrations ranged from 1,500 to 3,900 mg/l. Initial results show our TDS concentrations in our wastewater treatment plant effluent have been reduced to around 900 mg/l, well below our NPDES limit of 1,632 mg/l.

Having been in operation for a year, the WWTP is now running very well. The dedicated, hard working operating staff is pleased with the final product. The RO system went online August 31st and is still undergoing some fine-tuning. A special thank you goes out to City Staff and all the consultants involved who have helped make the City's water and sanitary facilities what they are today – great assets to our residents!

Brenda VanCleave, P.E.
Staff Engineer
bvancleave@pickerington.net

David Jackson
WWTP Chief Operator

OARS - ELIMINATING OVER A BILLION GALLONS OF COMBINED SEWAGE OVERFLOWS

by Jeffrey R. Coffey, P.E., DLZ Ohio and Greg Fedner, P.E., City of Columbus

Project Need and Background

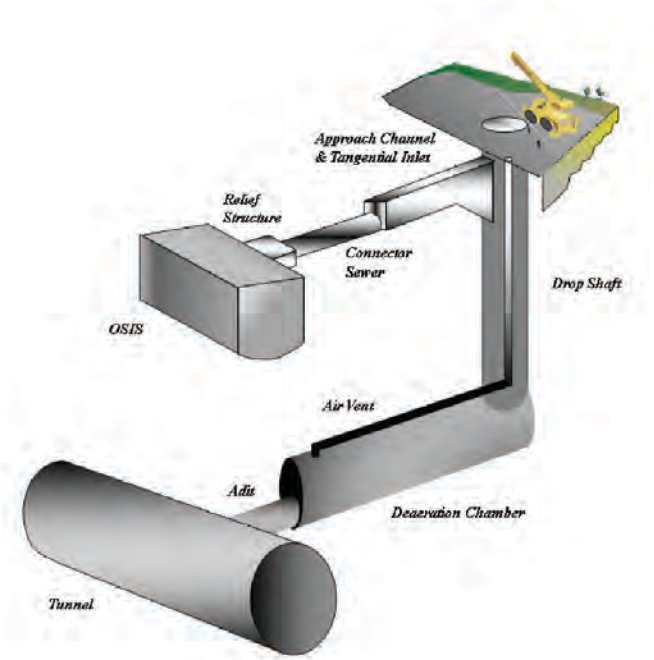
The City of Columbus completed a Wet Weather Management Plan (WWMP) in July 2005 in response to two consent orders from the Ohio Environmental Protection Agency (OEPA). The first consent order called the "Sanitary Sewer Overflow (SSO) Consent Order" mandated the development of a Capacity, Management, Operation, and Maintenance (CMOM) Program and specified its requirements. A System Evaluation and Capacity Assurance Plan (SECAP) was part of the CMOM program. The second consent order called the "Combined Sewer Overflow (CSO) Consent Order" mandated the development of a Long Term Control Plan (LTCP) in compliance with the requirements of the U.S. EPA CSO Control Policy. The WWMP includes the SECAP and the LTCP in one integrated report.

According to the CSO Consent Order, the LTCP improvements need to be fully implemented as soon as practicable, but no later than 2025, with an intermediate control level required by June 1, 2015. The 2015 level of control is to provide a "significant" reduction in the current average-annual CSO discharge volume.

A requirement of the Consent Order between the City of Columbus and the OEPA is to reduce the negative environmental impacts on the Scioto River caused by Combined Sewer Overflows (CSOs). A critical component of the LTCP is the proposed OSIS (Olentangy Scioto Interceptor Sewer) Augmentation Relief Sewer (OARS). Through the use of the OARS tunnel, CSOs that currently overflow to the Scioto River can be consolidated, and their flow conveyed to the Wastewater Treatment Plants (WWTPs) for biological treatment and/or to overflow less frequently in an area that is less likely to have public contact, which is at a CSO outfall near the Jackson Pike WWTP. Most significantly, the Whittier Street Storm Standby Tank (WSST) overflows (1.6 Billion Gallons within 38 events during a typical year), which comprise 85% of all annual overflows by volume, can be eliminated at the Whittier Street site for the typical year through the use of OARS. All of the LTCP improvements are scheduled to be completed by July 1, 2025. Subsequently, there will be no CSO discharges in a typical year, except at the new CSO discharge point near the Jackson Pike WWTP.

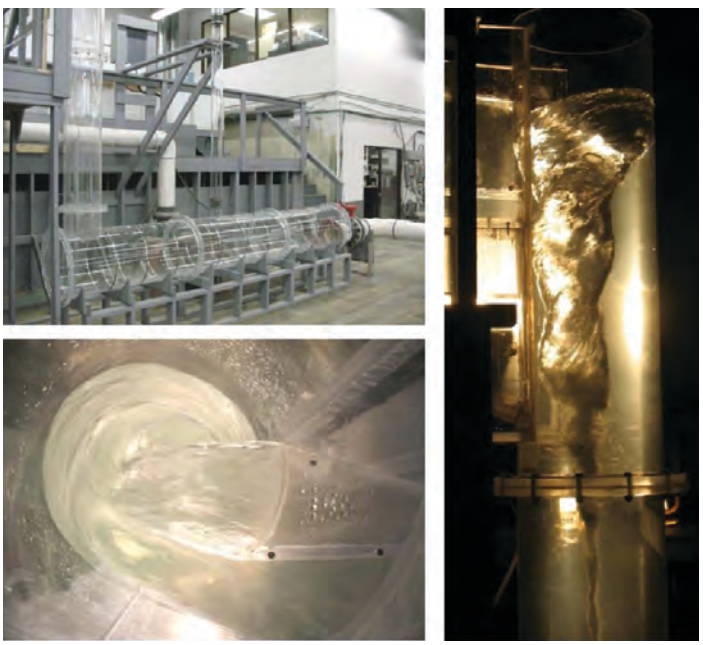
OARS Project Overview

The OARS project consists of the construction of a 20-foot diameter, deep tunnel wastewater conduit that provides relief to the existing OSIS from just north of the Arena District in downtown Columbus to the Jackson Pike WWTP. The OARS tunnel is sized to provide adequate conveyance capacity through the year 2047 for all storms contained within the typical year as defined in the City's WWMP. The sewer will also provide some inline storage during critical periods to reduce and/or eliminate CSOs. At the regulators located in downtown Columbus on combined sewers that are tributary to the OSIS, the Level of Service (LOS) will be equivalent to a 10-year level of wet weather flow protection.

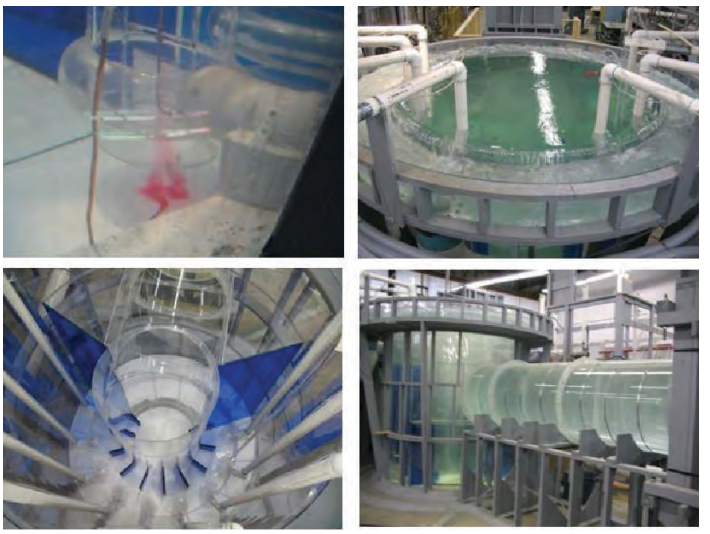


This schematic represents the typical configuration of how the OARS tunnel provides relief to the OSIS and how flow gets into the tunnel. (DLZ Ohio, Inc)

The overall length of the OARS tunnel project is over 23,300 feet. The project commences at the northwest corner of the intersection of Neil Avenue and Vine Street at the upstream end of the project. It runs south, generally paralleling the existing Olentangy Scioto Interceptor Sewer (OSIS), all the way to the Jackson Pike WWTP. There are three OSIS Relief Structures along the length of the tunnel, enabling the diversion of wet weather combined sewage



This is the physical model built to evaluate the drop shaft hydraulics for the OARS tunnel. The picture on the right shows how the tangential inlet performs even when the tunnel is full. (Northwest Hydraulic Consultants)



This is the physical model built to evaluate the pumping system hydraulics for the OARS tunnel. (Northwest Hydraulic Consultants)

flow to the OARS tunnel from the OSIS. There are also facilities to convey overflows from the Peters Run Regulator, Whittier Street Regulator, and the Moler Street Regulator (in the future) to the OARS tunnel. With these improvements, all of the regulators in the downtown river front area will not overflow during wet weather events associated with the typical year or even during the 10-year flow event. The OARS tunnel ends at the proposed OARS Diversion Structure (ODS – Shaft 1) just north of the Jackson Pike WWTP. This diversion structure will enable flow to be diverted to the existing OSIS Flow Diversion Structure for treatment and overflow to the new CSO outfall at the Scioto River when a major flow event occurs.

The OARS tunnel will be up to approximately 170 feet deep to the invert. This allows for the tunnel to be constructed in competent rock, reducing risks associated with construction. Special drop structures are required to direct flow from the relief structures to the deep tunnel. Tangential inlets with deaeration chambers will be utilized to dissipate energy and minimize air entry into the tunnel. The shaft structures are designed to handle hydraulic surges to prevent impacts on the upstream sewers. A screening system will also be provided in a shaft upstream of the ODS at the Jackson Pike WWTP site. Also, the OARS pumping system is required to direct combined sewage to the WWTPs to utilize as much treatment capacity as possible in the early stages of the high flow events and to dewater the tunnel after high flow events.

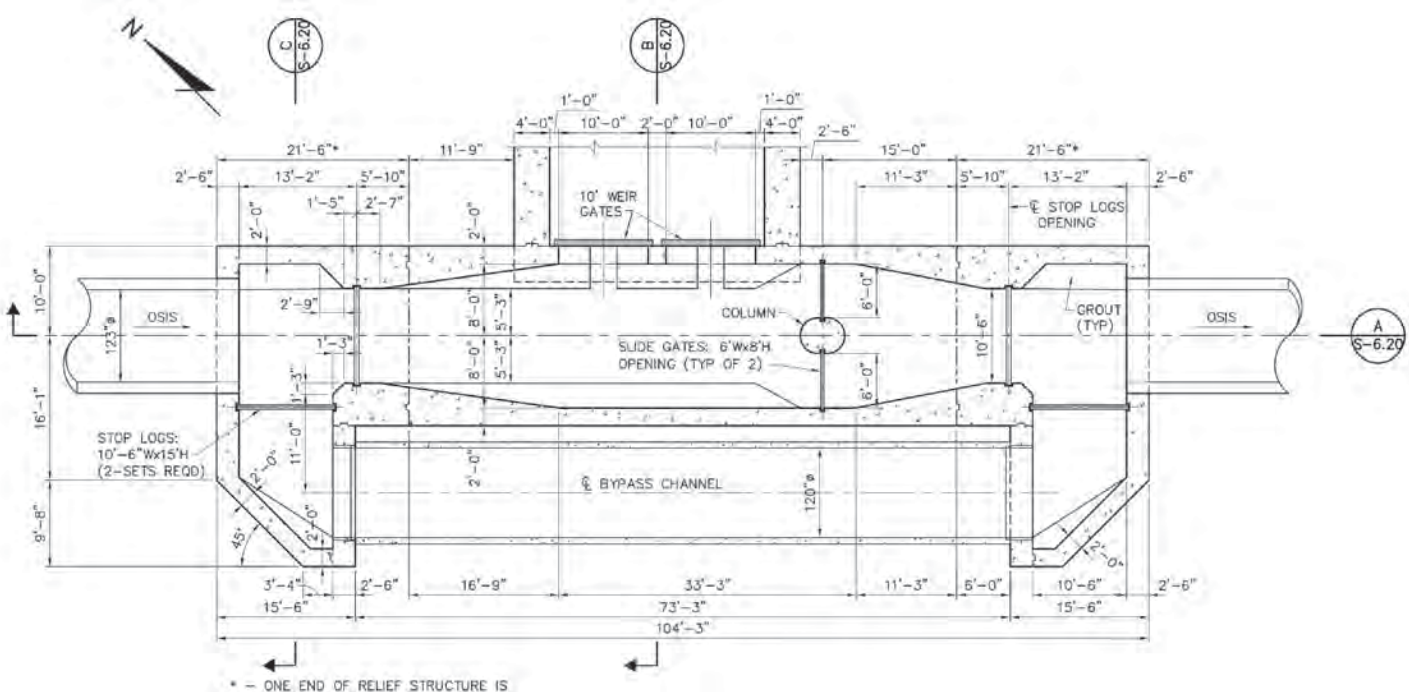
Some of the most interesting components of the OARS Project include a 230’ deep - 60 MGD capacity pumping system, a 200’ deep screening system, four drop structures and the associated surge protection, three relief structures on the existing OSIS interceptor sewer, and the methods by which inspection and maintenance access is provided to the tunnel. These are discussed below in greater detail:

OARS Pumping System

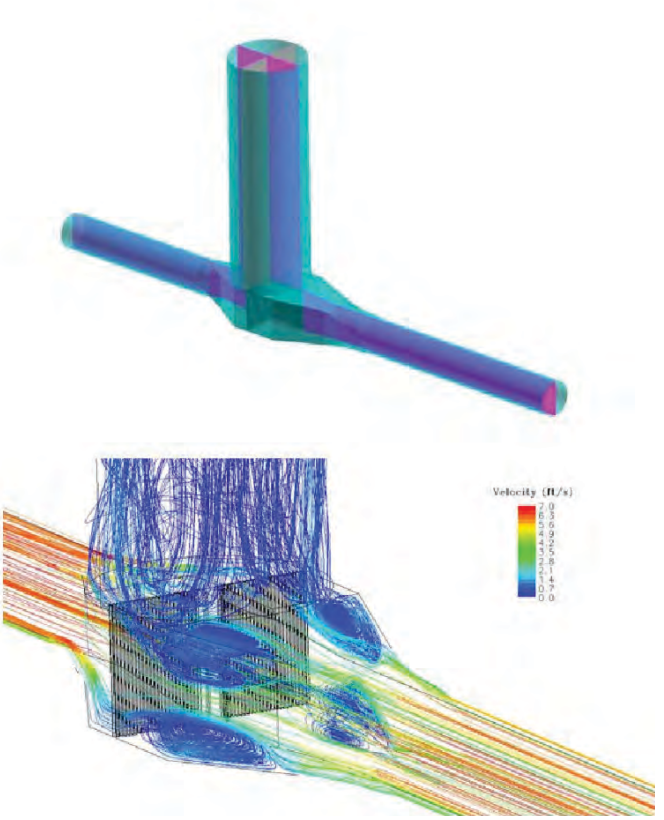
The OARS pumping system consists of multiple pumps that can handle enough flow to dewater the tunnel within two days of a large flow event. The difficulty with the deep pumping system on this project is that the static head condition varies from as much as 180’ when the tunnel is nearly empty to as little as 25’ when the tunnel and shafts are full. The solution consists of utilizing four 800 HP, 15-MGD adjustable speed pumps that handle the majority of work at the deep tunnel level, and two 450 HP, 20-MGD adjustable speed pumps to handle the shaft dewatering. Pump selection was critical to achieve high efficiency to minimize operational issues and power consumption.

Physical modeling was utilized to determine the depth of the wet well and the baffling configuration in order to eliminate the risk of vortex formation causing air entrainment. Two separate grit

continued on page 46



OSIS Relief Structure Schematic (DLZ Ohio, Inc)



This graphic is from the Computation Fluid Dynamics 3D Model of the OARS screen structure. It shows that the velocity through the screen is all below the 5 feet/second threshold required for good screening operation. (Northwest Hydraulic Consultants)

chambers are provided to catch any heavy solids that get washed down the tunnel into the wet well. Also a wet well mixing system is provided to assist with maintenance and cleaning of the wet well. A bridge crane is being provided for pump retrieval and installation. A clamshell bucket can also be utilized to remove any debris accumulating in the wet well.

OARS Screening System

The downstream pumping system is protected by a screening system that is located in Shaft 2 of the tunnel. Dual 16' wide by 22' high screens with 2" clear openings will be installed to protect the pumps from any large debris that may get washed into the tunnel. Several types of mechanical screen cleaning systems were evaluated. The Brackett Green Sewage Bosker raking system was selected as being the most robust system that is in use in a deep tunnel application. It has a modified front rake bar screen that utilizes a gripper mechanism to handle heavy debris. Another advantage is that the Sewage Bosker travels on a monorail allowing it to drop debris directly into waste containers without the use of a conveyor. The monorail also allows one Sewage Bosker to service multiple screens.

Brackett Green Sewage Bosker screen raking assembly at the St Louis WWTP installed as part of the Lower Meramec River System Improvements project. (St. Louis WWTP)

St. Louis, Missouri recently completed a screen system for the Lower Meramec River System Improvements project with a channel depth of 188 feet that was similar to OARS. The start-up phase for that system was in 2008, and the City of St. Louis staff provided an opportunity for the City of Columbus to inspect the operation of the screen system. This experience was very beneficial to selecting and designing an efficient and reliable screening system for the OARS project.

Drop Structures and Surge Relief

The primary function of a drop structure is to carry the flow from the surface sewer system to the deeper tunnel system. As the flow falls, tremendous impact forces can be generated, resulting in a variety of hydraulic and structural design issues. The primary objective of drop structure design is to minimize the impact of the falling flow by dissipating energy and to reduce the amount of air that is entrained by the falling flow and transported into the main tunnel. Again physical modeling was utilized to ensure that the drop structures would work as planned under free fall and submerged conditions.

Another important aspect of the design of the OARS tunnel and drop structures is the ability to handle surge without impacting upstream sewer connections. As mentioned earlier, the OARS tunnel is designed to flow full at times. This unfortunately meant that it could be susceptible to surge problems from either a water hammer affect or from entrapped air which could create a sewage geyser. The use of the Transient Analysis Program indicated the presence of undesirable transients within the tunnel (for the initial design) resulting from rapid filling of the tunnel, which lead to surges and created conditions amenable to geysering. To mitigate/eliminate such phenomena, overflow shaft weirs, surge storage shafts, tangential inlet bypass channels, and/or vent shafts were all included in the final design at Shafts 4, 5, and 6. The upstream shaft was designed with a large capacity vent shaft for releasing any air that is forced upstream as the tunnel fills.

OSIS Relief Structures

Three OSIS Relief Structures will be constructed along the OSIS. The relief structures will function such that the dry weather sanitary flows stay within the OSIS and wet weather flows that could lead to CSO events are relieved into the OARS Tunnel. The OARS will only be activated when the flow levels in the OSIS exceed the weir gate crest elevation. When this occurs, flow would be directed over the weir gate to the tangential inlet leading to the drop shaft.

Each relief structure was designed to have the ability to shut off flow to the OSIS and direct all of the flow to the OARS tunnel. This will enable the City to clean, inspect, and perform any required rehabilitation on the 80-year old OSIS. The structure was also designed to have the ability to shut off flow to the OARS during maintenance activities. Stop logs will be used to control flows through the relief structure bypass channel. This is the most straightforward method to provide flow control during maintenance activities on either the OSIS or the OARS. Sluice gates would be very large and extend well above ground, so these were ruled out during design. During normal operations, the bypass channel would be shut off shut off from the flow through the OSIS.

A movable weir gate provides the flow control necessary to keep dry weather flows within the OSIS. Wet weather flows that overtop the weir gate will be directed to the OARS. The weir gate will allow the City to fine tune the control system to ensure efficient operation. This control system will permit compliance with the Consent Order and allow the City to optimize the level of service throughout the system. Locations are provided for the addition of sluice gates in the future to provide a more positive flow control and to have the ability to add additional sewer system real-time flow control if the City desires.

Inspection & Maintenance Access

Access to the OARS facilities is provided in several key locations. At each of the shafts, a 4' by 4' access hatch will allow the City's maintenance personnel to physically enter the tunnel utilizing their Tunnel Access System. Each of these access hatches is embedded within a removable 10' diameter concrete slab. The screen building also is equipped with a removable 12' by 10' concrete floor slab and a removable 11' by 13' skylight in the roof. A crane can be utilized to hoist the slab coverings off and to lower equipment into the tunnel. Since the OARS tunnel is not in use during dry weather, the City can readily inspect the system on a routine basis.

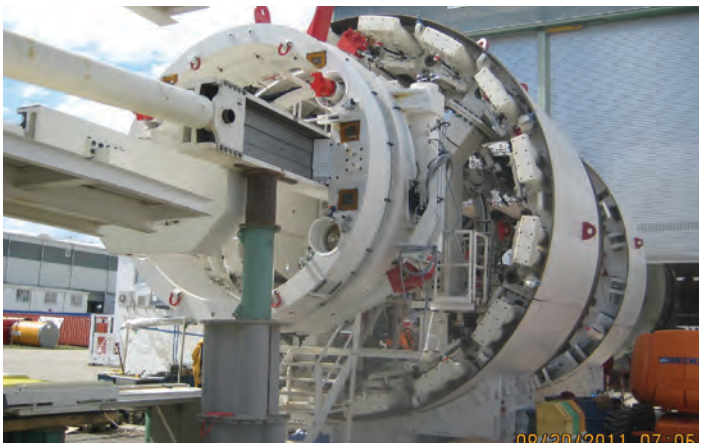
OARS Operation

The OARS Tunnel will normally be offline and empty. During dry weather all flow in the OSIS, which is a combined sewer, will stay in the OSIS and be directed to the WWTPs for treatment. When a significant rain event occurs, the level in the OSIS will rise. Once the level reaches a preset level within the relief structures, flow will overtop weirs and enter the OARS tunnel. For smaller flow events, all of the captured flow will be directed to the plants for treatment. For very large events excess flow will be permitted to discharge to the Scioto River at the new CSO outlet near the Jackson Pike WWTP (up to four times during a typical year). Once the large flow event is over and the level within the OSIS returns to normal, the OARS will be emptied using the pumps and readied for the next big rain event.

The peak expected flow rate through the OARS during a typical year is 1,019 cfs (about 655 MGD). The maximum flow expected through the OARS tunnel during a 10-Year flow event is 3,222 cfs (about 2,082 MGD).

continued on page 48

(Top to bottom) (1)CSM (cutter-soil mix) wall construction provides a water-tight excavation protection system in the soft ground portion of Shaft 1, for the foundation slab of the upper ring channels on the diversion structure. (2)A clamshell bucket used for the excavation of the CSM wall and slurry wall. (3)Excavating the soft ground in Shaft 2 within the slurry wall excavation support system. (4)Preparing for blasting in Shaft 2 to continue excavating in the rock. (DLZ Ohio, Inc.)



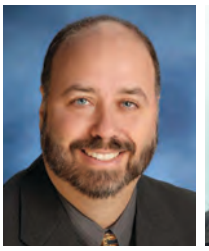
The Phase 1 contract was awarded to the joint venture of Kenny/ Obayashi in September 2010 for $264.5 million. Phase 1 includes the tunnel and shafts 1, 2, and 6. The Phase 2 contract was awarded to Trumbull in August 2011 for $77 million. Phase 2 includes the pumping system, outfall structure, and shafts 3, 4, and 5. The project is scheduled to be complete, with OARS being operational by 12/31/2014. Once that happens, more than a billion gallons of CSOs currently flowing into the Scioto River will be eliminated each year!

Design Team:

City of Columbus DOSD – *Owner and Project Manager*
DLZ Ohio – *Lead Design Firm overseeing all aspects of the project*
CH2M Hill – *Pumping System & Screening System Design*
NHC – *Physical Model*
Jenny Engineering – *Tunnel and Shaft Design*
Prime Engineering – *Architectural and Structural Design*
Dynotec – *Site/Civil Design*
Eagon & Associates – *Groundwater/Dewatering Specialists*
EMH&T – *SWMM Modeling*
Applied Science – *TAP (surge analysis) Modeling*

Jeffrey Coffee, P.E. *(l)*
DLZ Ohio, Inc.
jcoffey@dlz.com

Greg Fedner, P.E. *(r)*
City of Columbus DOSD
gfedner@columbus.gov



TBM (tunnel boring machine) being manufactured at the Herrenknecht plant in Germany. (Kenny Construction)

WEF BURKE AWARD AND OWEA SAFETY AWARD - HOW SAFE IS YOUR FACILITY?

Do your employees follow the safe working practices set in place at your facility?

Now is the time to gather your information and see how your Safety Program compares to other programs around the State of Ohio.

Visit *www.ohiowea.org* for your 2011 Awards application or contact your Section's Safety Representative to have an application emailed to you.

In order to increase the level of safety in the wastewater industry, the Safety Committee of the OWEA conducts a safety recognition program to reward systems with good safety programs. For the year 2011 there are three (3) possible levels of recognition: **OWEA Safety Certificate, OWEA Safety Award, and the WEF Burke Award**.

Awards will be selected from the following categories:

1. 1 - 9 Person Collections
2. 1 - 9 Person Wastewater Treatment Facility
3. 10 - 20 Person Collections
4. 10 - 20 Person Wastewater Treatment Facility
5. Over 20 Person Collections
6. Over 20 Person Wastewater Treatment Facility

In documenting your award package, do not try to dazzle the Committee with quantity. Do not include countless pages of SOP's, written programs and other materials that can be derived from countless sources and consultants. Instead, provide proof that your program is actually complied with. Course sign-in sheets, tests, certificates, inspection sheets and receipts are examples of solid documentation. In addition, a member of the OWEA Safety Committee will visit potential winners so that submitted information can be clarified and verified.

SAFETY COMMITTEE
Chair, Ed Nutter, City of Newark
740.670.7950, *enutter@newarkohio.net*

NW Chair, Jim Graham, City of Bowling Green
419.308.0057, *jgraham@bgohio.org*

NE Chair, Pat Jameson, ARCADIS
216.533.9603, *p.jamison.env.eng@gmail.com*

SW Chair, Joe Bates, Village of Yellow Springs
937.767.7208, *jbates@yso.com*

SE Chair, Bryan Curry, City of Newark
740.349.6768, *bcurry@newarkohio.net*

RATE SETTING ESSENTIALS FOR SMALL SYSTEMS

by Roberta Acosta, Ohio RCAP

One of the most difficult and challenging tasks small systems face is setting rates. How to fairly and equitably distribute fees across a limited customer base is a daunting and unpleasant task. However, it is one of the most important environmental and public health responsibilities a Village or Board has. Simply put, water and sewer rates determine how much revenue a community has to maintain vital public health facilities. If you have a basic understanding of how your system operates and the costs associated with both the daily and long term operations and maintenance it requires, then setting a rate that is both fair and defensible is possible.

Pressure to maintain low rates forces many utilities to run deficits or avoid making necessary operational and capital expenditures. Ideally, rates should reflect the cost of providing the service, which depends on many factors including:

- Size of your treatment facilities
- Customer base,
- Age of your assets
- Type of water supply
- Quality of the receiving waters.

Two neighboring facilities with similar customer bases may have very different costs that justify different rates and structures. Meaning, higher rates do not necessarily reflect poor or inefficient management. On the contrary, many utilities with very low rates have done so at the expense of their assets by making short term sacrifices that are likely to have long term adverse cost and service impacts.

Utilities can employ a range of structures to determine what their customers should pay. Most utilities use a combination of fixed and variable or volume charges in their structure. However, there is considerable variation in how these charges are calculated and how they affect different classes of customers.

The three most common rate structures are:

- Uniform rate
- Increasing block rate
- Decreasing block rate.

A uniform block rate structure is where the volume charge does not change as the customer uses or disposes of more water. This type of rate structure is the easiest for a community to manage and is appropriate in situations where there are not multiple user classes and water conservation is not a priority. An increasing block rate structure is where the rate increases with greater water consumption or disposal. Typically, higher rates of consumption are separated into blocks, with each block being billed at a higher unit rate as the block levels increase. There can be as few as 2 blocks, or as many as desired, but generally 3-5 is common. This type of rate structure is considered to be a "conservation" rate that encourages water conservation to high end users, which benefits both production and treatment of water in your community. Finally, the decreasing block rate structure reduces volume charges as consumption increases, much in the same manner as the increasing block rate. This type of rate structure is common in larger industrial communities, helps to encourage economic development and is appropriate where water conservation is not a priority.

Many utilities have a base charge that may or may not include a minimum amount of water consumption or wastewater disposal. When setting your base charge, it is important to consider the cost of producing and treating water for your unique system. Do you have high debt payments and low operations or vice versa? Have you considered appropriate reserves for debt service payments as well as short and long term capital improvements? You should endeavor to capture as much of your system's "fixed" costs (those that do not change based on the amount of water produced or treated) in your base rate and set volume charges based on the costs associated with production and treatment. We typically see in small systems that 75-85% of the costs are fixed.

Some utilities may design separate rates and structures for commercial and industrial users, or may design the blocks in the rate structure to charge different rates for residential and commercial customers. This is typically done by setting the first block to include all possible consumption levels for residential users, effectively setting a "uniform" rate for this customer class, while ensuring that large users exceed this level. However you decide to set your rates, make sure that the structure reflects how your customers use water in your community. For instance, a typical small community is comprised primarily of residential users with limited, if any, commercial or industrial users. To set a rate that puts the burden of revenues on a few large users, or conversely puts the burden on your residential customer for fear of "chasing away" a large customer, establishes a practice of inequity that can create more problems than it solves.

Tap-fees are another aspect of your water and sewer rate that cannot be ignored. Tap-fees are not just to recover the cost of making the actual connection to the system. They should also reflect some capital cost recovery or capacity development charges. If you consider that existing customers of your system have been paying for service for 10-20-30 years, it's reasonable to expect that a new customer should also pay, at least a portion of, the capacity that has already been developed over the years.

The story does not end with the establishment of rates and structures. Much like the water you treat and produce, the associated revenues and expenses are also fluid. Make sure that at each Board or Council meeting you review your monthly and quarterly financial statements to ensure that revenues are keeping up with expenses as projected. Consider an automatic inflationary increase each year to stay ahead of anticipated cost increases. Develop reasonable budgets and a good asset management plan and stick with them. And finally . . . don't give up! You are the steward of vital public health facilities in your community and of the environment. Strong and responsible managerial, technical, and financial management is key to the long term success these valuable assets bring to your residents and your community.

Roberta Acosta
Senior Rural Development Specialist
Ohio RCAP
rjacosta@wsos.org, 419.724.4155

THE ALTERNATIVE STORMWATER INFRASTRUCTURE LOAN PROGRAM: OHIO'S *OTHER* RAINY DAY FUND

by Diane Alecusan, Ohio Department of Development

A New Approach to Stormwater Management

Due to the ongoing urbanization of communities throughout the state and the aging of our outdated infrastructure, stormwater management is an issue that is always looking for solutions. Past solutions have been costly and taken many years to construct, sometimes to the detriment of the landscape. With legal implications resulting from Ohio's aging infrastructure and its contamination of the state's waterways, alternatives are needed that will help solve this problem in a cost-effective and sustainable way. Practices that take a greener approach to stormwater management can provide environmental benefits, as well as social and economic benefits – something that conventional stormwater techniques (i.e. pipes in the ground) cannot. Because of this potential for wider-ranging benefits, planners are increasingly becoming more involved in this previously 'engineering-only' topic. Collaboration between engineers, planners, and landscape architects is especially important in order to create integrated solutions that will help meet community development and urban revitalization goals in addition to stormwater management goals.

Addressing the Combined Sewer Overflow Problem

While green infrastructure practices (rain gardens, constructed wetlands, pervious pavement, green roofs, etc.) can be used as alternatives for stormwater management at any level, its use in solving the complicated and costly issue of combined sewer overflows (CSO) could have a huge impact on a city's bottom line. According to the US EPA, combined sewer systems serve roughly 772 communities containing about 40 million people across the country, including 86 communities in Ohio. While these systems used to be an acceptable solution for wastewater, they are no longer big enough to handle the present mixture of sewage and storm water that enter them during heavy rains and do not comply with today's health and sanitation standards. The resulting pollution and health hazards led the EPA, by way of the Clean Water Act, to require municipalities to make improvements to these systems in order to reduce or eliminate CSO-related problems. Now communities are faced with an expensive and physically gigantic problem to solve (think 20-foot-diameter underground tunnels stretching for 5 miles).

Older communities across the state have been struggling with their outdated and overstressed infrastructure for years, resulting in billions of dollars of planned capital projects to separate combined sewers and reduce discharge rates into local waterways. A snapshot of these costs:

- The wet weather management plan for Columbus will cost $2.5 billion over the next 40 years;
- Cleveland's 'Project Clean Lake' will cost $3 billion over the next 25 years;
- and Cincinnati's 'Project Groundwork' has a price tag of over $3 billion.

Consider the 86 communities in Ohio alone with CSO problems and the numbers reach a staggering level inconceivable by many citizens and public officials.

Fortunately, community leaders are beginning to latch on to more innovative solutions, seeing the potential for cost savings and community enhancement while still safeguarding citizens' health. For example, the Northeast Ohio Regional Sewer District (NEORSD) consent decree includes a requirement that a minimum of $42 million be used for green infrastructure projects. NEORSD also plans to work with the City of Cleveland to assess the use of vacant lots for green infrastructure projects and leverage economic development opportunities in redevelopment corridors. The Metropolitan Sewer District of Greater Cincinnati (MSD) is also exploring the use of sustainable solutions in their plan with the 'Communities of the Future' framework, which is working to combine sustainable sewer improvements with urban renewal through techniques such as stream daylighting.

A New Way to Pay

The State of Ohio has taken the next step in encouraging the use of green infrastructure as an alternative for both general stormwater control and for meeting the CSO requirements of the Clean Water Act. The Ohio Department of Development, in partnership with the Ohio Water Development Authority, has created a new funding source for the construction of green infrastructure as part of economic development projects on previously or currently developed land. The Alternative Stormwater Infrastructure Loan Program is the largest state loan program in the country for this specific purpose (that we know of). The program provides low-interest loans up to $5 million to local government agencies for demolition, infrastructure, and consultant costs related to their green infrastructure project. Private entities are encouraged to partner with public entities for project implementation as well.

By unlocking a new source of funding for this approach to wet weather management, this program should ease the financial burden on municipalities that want to utilize these environmentally and fiscally sustainable practices. We encourage all stormwater-related professionals to join, or continue to be involved in, the conversations related to sustainable stormwater solutions within their respective jurisdiction. Please contact us or visit our website *(www.development.ohio.gov/urban/asilp.htm)* if you are interested in learning more about the new program.

Diane Alecusan, AICP, LEED AP
Urban Revitalization Specialist
Office of Redevelopment, Ohio Department of Development
diane.alecusan@development.ohio.gov

Rainwater passes through the rain garden, and the filtered water then flows into the stormwater drain.

ThermAer™

***Quality* Biosolids Through Advanced Technologies**

Thermal Process Systems' ThermAer Biosolids Reduction System Is The Second Generation In Autothermal Thermophilic Aerobic Digestion (ATAD) Technology.

- High quality pathogen free product
- Superior volatile solids reduction
- ORP control for a more complete oxidation virtually eliminates foul odors
- Process flexibility
- Reduction in capital and operating costs
- Potential use of existing tanks

THERMAL PROCESS SYSTEMS

627 East 110th Ave. Crown Point IN 46307
219- 663-1034 ***www.ThermalProcess.com***

Represented Locally By:

SMITH ENVIRONMENTAL, INC.

1211 Chesapeake Ave., Columbus, Ohio 43212
Phone (614) 224-7670 Fax (614) 224-7660
Paul Matrka – Owner ***paul@go-smith.com***
Laura Tegethoff – Owner ***LauraT@360water.com***
Jim Grunenwald – Associate ***jimg@go-smith.com***
Kim Riddell – Associate ***kim@go-smith.com***

buckeye pumps inc.

Sales
Service
Repairs

REQUEST QUOTE

buckeye pumps inc.

MAIN OFFICE
1311 Freese Works Place
Galion, OH 44833

Phone: (419) 468-7866
Fax: (419) 468-1460
www.buckeyepumps.com

VOGELSANG
ENGINEERED TO WORK

BissNuss, Inc.
(440) 871-8394
www.bissnussinc.com

Represented by:
BissNuss Inc.

HIGH VOLTAGE DISINTEGRATION SYSTEM

Introducing BioCrack!

A revolutionary new way to increase gas output and reduce energy consumption.

The BioCrack:
Increases Gas Output
Reduces Solids Content
Enhances Dewatering
Reduces Polymer Use

Call BissNuss Inc., to set up a 30 day trial.

Industry Wastewater Biogas Agriculture

www.vogelsangusa.com
(800) 984-9400

PRELIMINARY COMPLIANCE REPORT LETTERS WHY DO I GET THEM AND WHAT DO THEY MEAN?

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

You were cruising through the month, operating the plant, taking samples, cleaning UV light bulbs, and mowing the lawn. It's August 19th. Time to get your discharge monitoring report (DMR) submitted through e-DMR to Ohio EPA. Oh no! You forgot to take your quarterly sample. Luckily, Ohio EPA and US EPA recognize the use of data substitution codes or "A" codes. So you fill out your e-DMR form using the AH code (sample not taken) and provide an explanation in the comment area for that parameter. You also realize that the lab reported "too numerous to count" for the E coli results. That value requires you to report AK for E coli.

Every AH, AB, AD, AE, and AJ code must have an explanation associated with it. When AA is used to report data that is below the detection level, the method detection level (MDL) is required to be entered in each cell (day) that contains the AA code. If the lab reports <0.5, the data should be entered in e-DMR as AA 0.5. e-DMR will not recognize your MDL as a numeral unless the leading zero is entered.

So, you submit your e-DMR data and a few days later you get an email from Ohio EPA saying we have screened the self-monitoring data and indentified potential compliance problems. The letter doesn't include the AH code, but it does include the AK. These compliance event letters are commonly referred to as Preliminary Compliance Review (PCR) letters. Technically, these letters are not considered a Notice of Violation.

Currently, Ohio EPA runs compliance nightly on DMRs received on the previous day. Compliance event records are generated for exceeding permit limits, not reporting at the correct frequency, or using these "A" codes:

AB: Analytical data lost

AD: Automatic analyzer out of service

AE: Analytical data not valid

AF: Sample site inaccessible due to flooding or freezing

AJ: Above range of automatic analyzer

AK: Biological sample too numerous to count

Some "A" codes are excused and don't generate a compliance event. The table on the next page describes the "A" codes, their proper use, whether they are included in a PCR letter, and their status in the US EPA system. Ohio EPA reports statistics to US EPA monthly. This data includes all monthly average and daily maximum values.

When you review the PCR, if you believe the identified compliance issues are in error, you should contact your district office representative. It may be that you reported something incorrectly. Some common issues are listed below:

- **The date for the potential violation does not match the dates for which data was submitted.**
  The EPA weekly calendar is based on days 1-7, 8-14, 15-21 & 22-28. To accommodate weeks that have multiple samples that require comparison of the average to the limit(s), the average is taken as having occurred on the first day of the week. A single sample in the week is handled as an average of 1 and also reported on the first day of the week. If you take a sample early in the week and the result is over the weekly or monthly average limit, it is legal to take another sample during that week even if your permit only requires sampling once per week.
- **No credit was given for data submitted on days 29-31.** The software used to calculate compliance cannot compute partial weeks so days 29-31 are not averaged for parameters with weekly limits. Data on those days will be left out of all but monthly or daily monitoring requirements.
- **The limits on the PCR do not match the limits in the permit.** Look carefully at the Type of potential violation. If the Type is Freq then the Permit Limit will be the number of sample results expected. The Limit Type will be the required monitoring frequency. The Reported Value will be the number of samples reported. In the following example there was a sample result expected each day of the month but none was received on 1/31/08.

Station	Type	Date	Reporting Code	Parameter	Limit Type	Permit Limit	Reported Value
1	Freq	1/31/2008	1350	Turbidity, Severity	1/Day	1	0

  There is often confusion between concentration and load limits. Verify whether the limits are for concentration or loading and check these against the permit.
- **The Reported Value does not match the values reported.** Daily and weekly samples may be required several times in the monitoring period. The sample results for the period are averaged for comparison against the limit. The averaged value will appear as the reported value.

  Loading values are calculated by the PCR software as the product of the flow converted to liters (3.785 liters/gallon) times the concentration converted to kilogram/liter (1mg/l * 1e-6 kg/mg = 1e-6 kg/l) . Loading is calculated only for those days having flow and concentration. Average loading is the sum of the loading calculations divided by the number of days for which loading can be calculated. E coli averages are computed using the geometric mean.

If the compliance issues are correct, Part III, Item 12 of your NPDES permit requires you to submit an email or letter to the district office representative outlining the actions taken or planned to correct certain instances of non-compliance within 24 hours of discovery. One of these instances is violations of daily maximum limits. By the time you receive a PCR letter, notification should already be in the district office. The best way to report a noncompliance issue is by submitting a 24-hour Non-compliance Notification by email. The form can be found on Ohio EPA's website at *http://www.epa.ohio.gov/dsw/permits/permits.aspx*. Look under "Non-compliance Notification" for

forms for daily maximum discharge limit violations and bypasses and upsets. Answer all the questions on the form and fill in the required information. Save the form to your computer with a name that includes the NPDES permitted facility name, the date, the county where the facility is located, and the DSW inspector's name (if available). Attach the form to an email and send it to the appropriate DSW inspector or district office. The subject line of the email should contain the document's name. If you report noncompliance this way, there is no need to send a 5 day written follow-up report.

To avoid receiving PCR letters for erroneous reasons, follow these tips when submitting DMRs:

1. Emailing questions to *james.roberts@epa.state.oh.us* is the quickest way to get assistance with e-DMR.
2. Remember your User Name & Password! You need that each month to use e-DMR!
3. Your PIN is your legal electronic signature so do not pass it around.
4. When entering your PIN, remember it is case sensitive.
5. Do not exceed 5 decimals places to the right of the decimal (ex. 0.12345 is the max).
6. AA codes now include the MDL in the same cell separated by a space (i.e., AA 0.05)
7. Do not put a comment in a day that does not have data in it or you will get an error!
8. No Discharge this month? Just check the "NO DISCHARGE" box at the top of the DMR!
9. Reporting Lab & Analyst are REQUIRED fields; don't forget to fill them in.
10. Conduct monitoring at the frequency required by the NPDES permit within the Ohio EPA weekly calendar.

Elizabeth Wick
Environmental Engineer/Section Manager
Ohio EPA, NWDO
elizabeth.wick@epa,state.oh.us

SWIMS Exception Codes with PCR and US EPA Application (as of 9/2/2011)

Value	Description	Included in PCR?	US EPA
AA	**Below Detectable Limit:** Use this code when the quantitative analysis for a substance is done according to an approved analytical method and either does not detect the substance or detects it at a level below the minimum detection level (MDL). Enter the MDL value after the AA code separated by a single space (ex. AA 5.0). No comment is required.	No	Excused
AB	**Analytical Data Lost:** Use this code when the analytical data for a sample has been lost. This applies only to recorded data (e.g. paper records, data disks, etc.). This code is not to be used when a sample is lost. In such a case, the sample would be considered not to have been taken. The circumstances causing the use of this code should be explained in a Specific Comment on the first date of occurrence for each parameter.	Yes	Not Excused
AC	**Plant Not Discharging:** Use this code when no wastewater was discharged on that date thereby precluding the collection of samples. Enter this code for all parameters which were required on that date. No comment is required.	No	Excused
AD	**Automatic Analyzer Out of Service:** Use this code when an automatic analyzer, which is normally used to analyze samples at the treatment works, is inoperative. The circumstances causing the use of this code should be explained in a Specific Comment on the first date of occurrence for each parameter.	Yes	Not Excused
AE	**Analytical Data Not Valid:** Use this code if the analytical data for a given sample is for some reason not valid. The reason that the data is not valid should be explained in a Specific Comment on the first date of occurrence for each parameter.	Yes	Not Excused
AF	**Sample Site Inaccessible Due to Flooding or Freezing:** Use this code if a sample could not be collected because the designated sampling site was flooded or frozen-over. This code should be used for all parameters required to be sampled at the site on the day that it was inaccessible.	Yes	Excused
AH	**Sample Not Taken, Explanation Included: Use this code when a required sample is not taken for a reason other than one covered by another "A" code. An explanation as to why the sample was not taken must be entered as a Specific Comment for that paparameter and date.**	No	Excused
AJ	**Above Range of Automatic Analyzer:** Use this code when the concentration of a substance is above the level that an automatic analyzer is capable of measuring. This code should only be used for parameters that are normally analyzed by an automatic analyzer. The upper limit of the automatic analyzer should be reported in a Specific Comment on the first date of occurrence for each parameter.	Yes	Not Excused
AK	**Biological Sample Too Numerous to Count:** Use this code when the number of bacterial colonies for each dilution tested exceeds the acceptable number of colonies given by the analytical method used. (Appropriate dilutions should be used to obtain an acceptable count of bacterial colonies.)	Yes	Violation if parameter has limit
AL	**No Discharge During Monitoring Period**	No	Excused
AN	**Sample Not Taken, Plant Not Normally Staffed (Saturdays, Sundays, and Holidays):** Use this code to indicate when samples are not collected on days that the treatment plant is not normally staffed. The use of this code is limited to Saturdays, Sundays, and officially recognized municipal holidays if the treatment plant is not normally staffed on those days. This code is only acceptable for parameters that are sampled daily. For parameters sampled at a lesser frequency, the sampling date should be moved to a date when the plant is staffed.	No	Excused

Earn One Contact Hour for Your WEF Membership

Did you know your WEF membership counts for one contact hour per renewal period?

You can use this number during your renewal process:

OEPA-B398593-X 1 Hour
Professional Membership in OWEA, AWWA, ORWA, or WEF

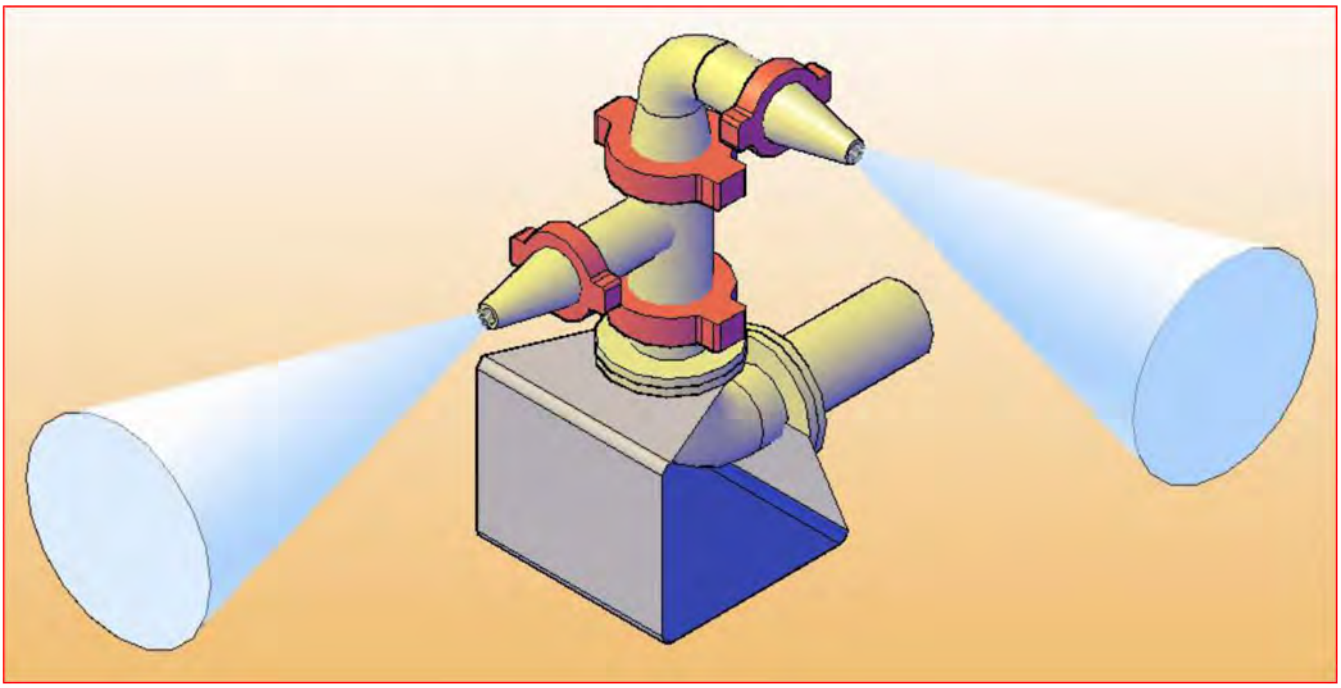
The course approval number can only be used one time per renewal. It cannot be used twice to renew one certificate, regardless of the number of individual memberships held in any professional organizations.

You must include a copy of the membership card with the renewal application.

ADVERTISER INDEX

JET MIXERS ♦ JET AERATORS ♦
SEQUENCING BATCH REACTORS ♦ SLUDGE MIXERS

DIGESTER MIXING BY MIXING SYSTEMS, INC.



MIXING SYSTEMS, INC.

- Preferred provider of submerged jet aeration and jet mixing systems
- Dual zone mixing
- No rotating equipment in digesters

SLUDGE MIXING SYSTEM BENEFITS

- Variable liquid level
- Energy efficient
- Stainless steel nozzles
- Chopper pumps
- CFD mixing analysis

SLUDGE MIXING SYSTEM APPLICATIONS

- Digester mixing
- Mixing anaerobic digesters
- Sludge holding tanks
- Aerobic Digester Mixing

For more information on jet aerators, jet mixers, or sequencing batch reactors, contact:

MIXING SYSTEMS, INC.

7058 Corporate Way, Dayton, OH 45459-4243
Phone: 937-435-7227 ♦ Fax: 937-435-9200
Web site: www.mixing.com
E-mail: mixing@mixing.com

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

1890 Northwest Blvd, Suite 210
Columbus, OH 43212

Non-profit Org.
U. S. POSTAGE
Paid
Columbus, OH
Permit No. 7390