Aerial view of Wisconsin Dells-Lake Delton Wastewater Treatment Plant, Wisconsin Dells, Wisconsin

54th Annual W.W.O.A. Conference
October 20-22
2020 Virtual Conference
The Clarifier is the publication of the Wisconsin Wastewater Operators' Association and is intended to inform and educate the membership on issues related to the treatment and control of wastewater. The Clarifier is produced five (5) times each year: February, April, June, September, and December. All members are encouraged to contribute to the mission of the Clarifier.

The Wisconsin Wastewater Operators' Association is a non-profit organization dedicated to educating, informing, and advancing the wastewater profession. WWOA has approximately 2,000 members divided throughout six regions: Southeast, Southern, Lake Michigan, North Central, Northwest, and West Central.
Greetings to my fellow wastewater colleagues. As I’m writing this message just a few days after Labor Day, the weather has cooled substantially, providing a sneak peek at the fall weather that will soon be upon us. As we all know from living in Wisconsin, this cool weather brings beautiful fall colors, and countless fall outdoor activities including camping, fishing, and hunting. This is a great time to get outside and enjoy the fall weather before winter is upon us and snow begins to fall.

I’d like to give everyone a preview of what the 54th Annual WWOA Conference will look like this year. With COVID-19 and the ongoing pandemic conditions, the Board was able to successfully cancel the contract with Kalahari Resort and begin transitioning to a virtual conference platform. This will allow WWOA to continue to provide the education and training opportunities for wastewater professionals throughout the state, in alignment with the core functions of the organization.

The Board of Directors has been meeting frequently to adapt the conference program to this virtual format, and we’re excited to bring this unique opportunity to the membership. The 54th Annual WWOA Conference will be held virtually October 20-22. Conference registration and dashboard will be hosted using the Pheedloop platform, with the keynote, technical sessions, and business meeting via Zoom. The Pheedloop platform will allow for an interactive virtual exhibit hall, providing an opportunity for exhibitors to display their products and services, display short video clips, connect with customers via chat, or even video chat to provide that 1 on 1 interaction everyone is more accustomed to. The annual awards this year will be presented to the recipients prior to the conference so photos and other methods of recognition can be shared with all attendees throughout the conference.

On Tuesday, October 20 the conference opens with a keynote presentation from Packer Legend Gilbert Brown during a fireside chat. Paul Kent will then present a hot topic – PFAS Legislation and Future Directions. After the two opening sessions, there will be four tracks packed full of educational technical sessions and opportunities to visit the exhibitors.

Wednesday will be packed full of 16 different technical sessions in 4 different tracks, along with opportunities to meet with vendors and explore their virtual booths. There is sure to be something to interest everyone.

Thursday the conference will offer 16 more sessions in 4 different tracks and the annual business meeting held at 11am. Attendees are strongly encouraged to participate in the annual business meeting to elect new officers for the WWOA Board of Directors as well as vote on changes to the WWOA Bylaws, Articles of Incorporation, and membership fees. Attendees will be asked to submit comments and questions in advance so they can be addressed during the meeting. Voting will all take place using the polling functions on Zoom for those in attendance.

Attendees will have an opportunity to earn 12 wastewater and general septage credits and 11 water credits. This is sure to be the best virtual conference WWOA has ever hosted, so don’t miss it! Visit wwoa.org to register today. As I’m writing this final message as President of WWOA, I’m reflecting back on this past year, which truly has been quite unusual. Who would have ever guessed a year ago that we would be faced with all of the challenges presented to us?

Over the past year I’ve been privileged to work with a very talented and dedicated group on the Board of Directors. They all deserve to be recognized for their additional time and commitment over the past 8 months as the pandemic began affecting things. During this time we’ve all learned to function like a family. I’m incredibly proud to have been part of this WWOA family to help guide the organization through these challenging times. I would be remiss as I extend my gratitude if I didn’t recognize many of the past presidents that I’ve called upon this year for advice, and especially my family at home. The photo I chose to share for this final message is of my family, who has supported
me for the past 7 years while I was on the Board, and most particularly during some of the very trying times this year. I thought it was only fitting to recognize my WWOA family as well as my family at home that have played such an important role.

It has truly been an honor to serve as president for this great organization and I’m looking forward to serving on the Board one more year as Past President.

I have utmost confidence in the Board members following behind me, that they will continue to help advance WWOA for many years to come.

Best wishes, stay safe, and stay healthy,
Jeff Smudde, WWOA President

Wisconsin Dells-Lake Delton wastewater treatment facility

Dan Greve, MSA Professional Services, Inc.

History and Background

The neighboring communities of Wisconsin Dells and Lake Delton encompass one of the most popular tourist designations in the Midwest. The natural scenic beauty of the Upper and Lower Dells of the Wisconsin River and the development of indoor and outdoor water parks and other attractions draws over 2.8 million visitors annually to the Wisconsin Dells-Lake Delton area.

For many years the City of Wisconsin Dells and the Village of Lake Delton operated separate wastewater treatment facilities. By the early 1970’s, growth in both communities and changes in environmental regulations threatened to render both wastewater treatment facilities obsolete. Officials from the City of Wisconsin Dells and the Village of Lake Delton began cooperative efforts to address the wastewater treatment needs of both communities, which resulted in the formation of the Wisconsin Dells-Lake Delton Sewerage Commission. Planning, evaluation of alternative treatment facility locations and technologies, and final design required several years. The Wisconsin Dells-Lake Delton Wastewater Treatment Facility was constructed north of the Wisconsin River in the City of Wisconsin Dells, and was placed into operation in 1981.

Since the original construction, the wastewater treatment facility has undergone several upgrades to meet more stringent discharge limits and to increase treatment capacity to accommodate the increasing commercial development in the Dells-Delton area. In 2006-07 a facility upgrade was conducted at a cost of nearly $12 million and addressed nearly every aspect of the treatment process. The most recent construction project added a thermal sludge dryer to produce Class A biosolids, which was completed in 2019.

Description of Facility

The Wisconsin Dells-Lake Delton Sewerage Commission operates and maintains a wastewater treatment facility to produce a treated effluent that is discharged to the Wisconsin River. The wastewater undergoes a combination of mechanical, biological and chemical treatment prior to discharge to the river. Biological solids (biosolids) produced in the treatment process are stabilized, dewatered, dried, and stored prior to public distribution for application to agricultural land for the nutrient value and as a soil conditioner.

continued on page 6
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The wide seasonal variation in wastewater flows create challenges that required unique solutions in the design of the facility and in the way that it is operated. Average wastewater flows and loadings during the peak summer tourist season are two to three times higher than flows during the winter.

**Preliminary Treatment**
The wastewater from the City of Wisconsin Dells and the Village of Lake Delton is pumped to the Headworks Building of the wastewater treatment facility through separate force mains and then flows through the entire treatment facility by gravity. In the Headworks Building, the influent flow from each community is metered and sampled separately. Sampling is provided by automatic flow-proportional composite samplers, after which the wastewater is combined in a single channel. The initial treatment processes consist of screening and grit removal.

A mechanically-cleaned perforated-plate fine screen with 1/4-inch openings removes rags, plastics and other debris from the wastewater. The material collected by the screen is mechanically washed and compacted and conveyed to a dumpster. The screenings are sent to a landfill for disposal. The wastewater flows from the screening channel through a 12-foot diameter vortex-type grit chamber where grit, sand and other heavier inorganic materials are removed. Similar to the screenings, the grit removed is mechanically washed and conveyed to a container for disposal at a landfill.

The treatment facility also includes a septage receiving station, which provides for controlled discharge of holding tank and septage wastes to the headworks of the plant.

*continued on page 8*
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Trucked-in wastes are dumped through a bar rack to a 16,000-gallon buried concrete tank, from which the waste is pumped to the headworks by a submersible pump.

**Secondary Treatment**

From the Headworks Building, the wastewater flows to selector tanks for biological phosphorus removal. The selector tanks are also provided with fine bubble diffused aeration equipment that can be utilized if additional activated sludge treatment capacity is needed treatment. The treatment plant operators can also use these basins to adjust the amount of oxygen present, to optimize conditions for biological uptake of phosphorus, or change the number of aeration basins in operation to adjust for the seasonal variations in wastewater flow to the facility.

After flowing through the concrete basins in series, the wastewater enters the oxidation ditch where the extended aeration activated sludge process reduces the biochemical oxygen demand (BOD) and ammonia concentration in the waste stream.

The oxidation ditch consisting of three concentric channels provided with surface mechanical mixing and aeration.

**Selector tanks and oxidation ditch**

The speed of the surface aerators/mixers is controlled by dissolved oxygen sensors and variable frequency drives.

From the oxidation ditch, the wastewater flows to a splitter box and then to four 60-foot diameter clarifiers. As with the aeration basins, the treatment plant operators change the number of clarifiers in operation to adjust for seasonal variations in wastewater flow. The two clarifiers that are

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provided with aluminum covers are utilized in the winter to prevent ice problems. The settled biosolids are returned by pumping to the aeration basins at a rate proportional to the influent wastewater flow rate. To maintain the optimal concentration of microorganisms in the activated sludge process, a portion of the biosolids is automatically pumped to the aerobic digesters.

Facilities are also provided for the addition of alum for phosphorus removal by chemical precipitation. Alum can be added to the forward flow in the splitter box prior to the clarifiers, to the return activated sludge, or to the filtrate sidestream from the sludge belt filter presses.

**Disinfection and Discharge**

Following the clarifiers, the treated wastewater is recombined in a single channel and is sampled by an automatic flow-proportional composite sampler. The wastewater effluent then flows to the disinfection tank. Disinfection is required from May 1 through September 30 of each year, and is accomplished through the use of an ultraviolet light system consisting of an array of low-pressure, high intensity ultraviolet lights. Two ultraviolet light banks are provided, each with 5 modules and eight lamps per module, for a total of 80 lamps. The system is designed to be expandable by adding up to 80 additional lamps. The ultraviolet light disinfection system includes automatic lamp sleeve cleaning equipment.

From the disinfection tank, the wastewater effluent is metered and then flows by gravity to the Wisconsin River through a buried pipe with a submerged outfall.

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Biosolids Handling and Disposal

Waste activated sludge is pumped to one of three aerobic digesters. In the aerobic digesters aeration is provided via coarse bubble diffusers to further stabilize the biosolids. The digesters are aerated intermittently based on time, as adjusted by the treatment plant operators.

The stabilized biosolids are pumped from the aerobic digesters to the Sludge Processing Building for dewatering. Polymer is added to the biosolids to promote the flocculation of solids and subsequent dewatering. Two belt filter presses are located in the Sludge Processing Building, and mechanically dewater the biosolids to a “cake” with 14 percent solids concentration.

The dewatered biosolids is delivered by a belt conveyor system to equalization/storage tanks and then pumped to the thermal dryer. The thermal dryer produces finished biosolids with a solids concentration of 90 percent and reduces the overall volume of biosolids by 75 percent. The dried biosolids is discharged to a screw conveyor system that delivers it either to a truck or trailer for transport, or to a bulk bagging system for storage in 50 cubic yard
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sacks. The former Dewatered Sludge Storage Building was repurposed for the storage of dried, bagged, biosolids.

The combination of time and temperature within the dryer vessel, along with the high concentration of solids achieved, results in a produce that meets the U.S. EPA and Wisconsin DNR designation as Class A biosolids. The Class A biosolids produced have increased potential for application to agricultural land for the nutrient value and as a soil supplement.

The improved quality of the biosolids results in reduced regulatory restrictions and improved public acceptance. The demand for the Class A dried biosolids product has been great, allowing the Wisconsin Dells-Lake Delton Sewerage Commission to discontinue its biosolids land application program through public distribution of 100% of the biosolids produced.

Emergency Power
The wastewater treatment facility is provided with a 1200 kW natural gas emergency generator. The generator is capable of providing the entire power supply needs of the treatment facility.

Wastewater Flows and Treatment Performance
The Wisconsin Dells-Lake Delton area has seen steady growth, and since 1990 the average winter wastewater flows have tripled and summer flows have nearly doubled. The 2019 annual average day wastewater flow to the Dells-Delton Wastewater Treatment Facility was 1.80 million gallons per day (MGD), and the annual average BOD loading was 3959 pounds per day. The wastewater flows continued on page 16
are highly seasonal due to the tourism-based nature of the local economy. In 2019 wastewater flow rates ranged from an average of 1.29 MGD in November to 2.71 MGD in July. Approximately 70% of the flow and loadings is from the Village of Lake Delton and the remaining 30% is from the City of Wisconsin Dells.

The wastewater flows in Wisconsin Dells-Lake Delton have been significantly reduced by the current COVID-19 pandemic. The average day influent flow in June was 2020 was 1.739 MGD, as compared to 2.349 MGD in 2019, a reduction of 26%.

During 2019 the average effluent BOD and TSS concentrations were 5.2 mg/L and 3.0 mg/L respectively, and the average effluent phosphorus concentration was 0.11 mg/L.

**Facility Operation**

The Wisconsin Dells-Lake Delton Wastewater Treatment Facility is operated by John Brown (Superintendent), Paul Gregerson, Mitch Vinz, and Jason Leege.

WWTF Staff – John Brown (Supt.), Paul Gregerson, Mitchell Vinz
(not pictured: Jason Leege)
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Hydration in the workplace is not just a summer issue

In the dog days of summer, we get frequent reminders to hydrate often, but what about winter? The air we breathe in colder weather is drier, so our lungs must work overtime to add humidity and warm it up. And the more the body works, the more hydration it needs.

No matter the season, a healthy body loses between three to six liters of water every day. The water vapor we exhale alone can fill more than a one-liter soda bottle. So, it goes without saying that ensuring workers are sufficiently hydrated is an important step to maintaining a safe, healthy workplace all year round.

Why Hydration Matters

Our bodies are about 60 percent water. It’s an essential nutrient, allowing us to function at optimal performance levels by:

- Regulating core body temperature
- Carrying nutrients to vital organs
- Flushing internal toxins from the body

We all lose some of this water throughout the day through normal activities like sweating (including between skin and winter clothing), exhaling, urinating, diuretic intake, and natural body exertion to maintain the core temperature (like shivering).

But maintaining proper fluid levels is critical for our bodies to function at full capacity. Without enough fluids, our bodies start to go into dehydration mode. Depending on the severity of the dehydration, this could have a significant impact on the ability to work and function properly.

continued on page 19
Winter Dehydration
Dehydration isn’t just caused by sweating under the summer sun. Several factors can contribute to unsafe body temperature drops and fluid loss in winter weather, including:

- Freezing temperatures and wind chill
- Improper clothing for the weather
- Physical exertion
- Direct exposure to harsh weather
- Lack of fluid intake and poor diet
- Pre-existing medical conditions
- Poor physical conditioning

<table>
<thead>
<tr>
<th>Dehydration Level</th>
<th>Effect</th>
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<tbody>
<tr>
<td>2%</td>
<td>Impaired performance</td>
</tr>
<tr>
<td>4%</td>
<td>Decline in muscular work capacity</td>
</tr>
<tr>
<td>6%</td>
<td>(Heat) exhaustion</td>
</tr>
<tr>
<td>8%</td>
<td>Hallucinations</td>
</tr>
<tr>
<td>10%</td>
<td>Circulatory collapse (and heatstroke, if it’s hot)</td>
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Are You Properly Hydrated?
Knowing the importance of hydration is one thing; ensuring it is another. That’s why it’s critical for workers to understand how to gauge their hydration level and what steps to take to maintain body fluids.

You can’t always rely on the thirsty feeling to remind you that your body needs more fluids. One of the easiest ways to tell if your body is properly hydrated is by a quick examination of your urine color.

- Pale and plentiful = proper hydration
- Medium to dark yellow = mild dehydration, more fluids required
- Medium to dark orange = severe dehydration, contact a physician

(Using and posting a visual guide can be helpful.)

Additional symptoms of dehydration include:

- Thirst (though not always)
- Fatigue
- Muscle cramps
- Nausea
- Dizziness
- Confusion

continued on page 20
In general, it’s recommended that the average adult drink one quart per hour of active work, distributing the intake over said period. For example, getting into the habit of drinking about 1 cup (250 ml) of fluid every 15 minutes will keep your hydration levels up for the duration of your shift.

It’s important to understand, though, that everybody is different, and the required amount of hydration varies depending on several factors:

- Underlying health conditions – People dealing with high blood pressure, diabetes, and heart disease may have different hydration requirements and certain medications can change the way the body responds to environmental factors.
- Level of physical exertion – Performing basic tasks (even if it’s just breathing) causes the body to lose hydration. The harder the task, the more fluid your body will lose.
- Work environment – In cold weather, sweat tends to turn to water vapor quickly and extra clothing layers can prevent us from realizing we are getting dehydrated. This is one of the main causes of hypothermia in people who remain outdoors for long periods of time.

Making Winter Hydration a Workplace Priority
As important as it is for individual workers to take responsibility for their health, there are ways for managers to make the workplace a hydration-friendly environment.

Provide Education and Training
Basic education is one of the key ways of ensuring that your employees stay adequately hydrated. Most people know the body requires more hydration when it’s hot outside, but many will be surprised to find out that it’s also a big deal in cold weather. Offering quick, informative training sessions can have a big impact on prevention and preparedness, minimizing the risk of dehydration-related illness.

Have Fluids Readily Available
Workers may be more likely to take hydration breaks when they have drinks easily accessible to them. Employers can help by providing water and warm drinks during the winter. Electrolyte replacement drinks can help replenish depleted electrolytes like sodium and potassium and offer a bit of an energy boost.

Drinks that are warm or at room temperature are better at maintaining the body’s internal temperature and they’re a better choice than cold drinks while working in colder temperatures.

Since caffeine actually dehydrates the body, it’s a good idea to stay away from coffee stations at winter worksites.

Enforce Regular Breaks
Each worksite should have a shelter (ideally a heated one) where workers can get relief from the chilly weather. It’s also a great place to keep water and warm drinks. Mandating regular breaks is a great way to remind workers to stop and re-hydrate before returning to the job.

Conclusion
Hydration (and dehydration) is an all-season issue. Our bodies lose substantial amounts of water every day and failing to replace these fluids can lead to ill effects like impaired performance – or worse.

Educating workers about proper hydration and providing hydration stations at winter worksites are simple steps any employer can take to ensure employees maintain safe fluid levels throughout the day. By making hydration a habit all through the year, both employers and employees will be rewarded with a healthier workplace.

Bubba Wolford, The Sqwincher Corporation
On behalf of Verona Safety

WWOA mission/vision statement
The Board of Directors has drafted a mission/vision statement for our organization to reflect our purpose and fundamental principles that guide us and is presented as follows:

WWOA Mission/Alignment Vision
Protecting public health and environment by providing a forum for wastewater technology, exchange and education

Vision:
Elevating and advancing wastewater professionals.

Mission:
Fostering an environment that promotes the teaching and sharing of knowledge within the wastewater industry.

Core Values:
Provide education, innovation, collaboration, promotion and connection within the wastewater industry.
Dear WWOA Conference Attendees:

The WWOA Board of Directors cordially invites you to the 54th Annual WWOA Conference, October 20 through October 22, 2020. The great pandemic of 2020 has required us to cancel the “in-person” conference this year, to ensure all members’ safety. Nevertheless, the Board of Directors has put together a “virtual” conference that I think you all will enjoy.

Our usual “Pre-Conference Workshops” will actually be held POST conference this year. The 2-day technical program will offer one session on laboratory testing of phosphorus, and a second session on the most current information on wastewater microbiology. We will be scheduling these in early December on separate days to allow more laboratory time and other interested folks to attend them.

This year’s conference will be a 3-day event running from 9:00am until 2:30pm each day. The conference officially opens on Tuesday, October 20th, at 9:00am with a brief Welcome Address from President Jeff Smudde, followed by this year’s Keynote presentation, a “Fireside Chat” with Green Bay Packer legend Gilbert Brown.

Then we will kick off the Technical Program at 11:00am with a talk by Paul Kent (M.E.G. and Stafford & Rosenbaum) on current legislation and future directions of PFAS testing. From 1:00 to 12:30pm, we encourage you to check out the virtual exhibit hall.

Our exhibitors have been provided with an area through our virtual platform where they can post videos, set up face-to-face sessions, and even provide for live chatting with representatives. The day will round out with four tracks of technical sessions. Throughout the conference, there will also be opportunities for attendees to win Gilbert Brown autographed memorabilia!

The program planned for you on Wednesday will continue with:
• Technical Sessions with four tracks, scheduled from 9:00am until 11, and again from 12:30pm to 2:30pm.
• From 11:00am – 12:30pm we again encourage you to explore the virtual exhibit hall, where you can see, hear, and ask questions about the latest materials and process innovations.

On Thursday, the learning and fun continues with:
• Technical Sessions with four tracks, scheduled from 9:00am until 11:00am, and again from 12:30pm to 2:30pm.
• The Annual Members Business Meeting - 11:00am to 12:30pm. You won’t want to miss this important opportunity to elect new members of the WWOA Board of Directors, and vote on critical ByLaws changes.

The conference will close on Thursday with a ‘passing of the gavel’ from Jeff Smudde to incoming President Don Lintner, closing remarks from President Lintner, and introductions of the 2021 Board of Directors.

Online registration with the option to pay via credit card is available at www.wwoa.org.

On behalf of the WWOA Board of Directors, the Technical Program Committee, the Exhibits, Manufacturers & Consultants Committee, and everyone that has worked to bring this 54th Annual Conference together in virtual form, we look forward to ‘seeing’ you in just a couple weeks!

Rick Mealy, Chair
2020 WWOA Technical Program Committee
Conference schedule at a glance

Tuesday, October 20, 2020

9:00am – 9:15am  Welcome Address
                Jeff Smudde, WWOA President

9:15am – 10:00am  Keynote Address:  A Fireside Chat with Gilbert Brown

10:00am – 11:00am  Hot Topic: PFAS Legislation & Future Directions
                   Paul Kent, Esq., Stafford & Rosenbaum

11:00am – 12:30pm  Virtual Exhibit Hall OPEN

12:30pm – 1:30pm    Technical Sessions – (4)

1:30pm – 2:30pm    Technical Sessions – (4)

Wednesday, October 21, 2020

9:00am – 10:00am  Technical Sessions – (4)

10:00am – 11:00am  Technical Sessions – (4)

11:00am – 12:30pm  Virtual Exhibit Hall OPEN

12:30pm – 1:30pm  Technical Sessions – (4)

1:30pm – 2:30pm  Technical Sessions – (4)

Thursday, October 22, 2020

9:00am – 10:00am  Technical Sessions – (4)

10:00am – 11:00am  Technical Sessions – (4)

11:00am – 12:30pm  WWOA Business Meeting

12:30pm – 1:30pm  Technical Sessions – (4)

1:30pm – 2:30pm  Technical Sessions – (4)

2:30pm – 3:00pm  Passing of the Gavel

Closing Remarks by President Don Lintner
# TECHNICAL SESSIONS

## Tuesday, October 20, 2020

### 9:00 AM
**WELCOME** (Jeff Smudde, WWA President)

### 9:15 AM
**KeyNote Address:** a virtual fireside chat with Packer Legend Gilbert Brown

### 10:00 AM
**Hot Topic:** Paul Kent, Stafford & Rosenbaum “FFAS Legislation and Future Directions”

### 11:00 - 12:30
**Vendor discussions and demonstration of new technology**

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<th>LAGOONS</th>
<th>INFO TECH</th>
<th>ALTERNATE APPROACHES</th>
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<td><strong>Moderator:</strong> Randy Langer</td>
<td><strong>Moderator:</strong> Tom Fitzwilliams</td>
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<td><strong>James Martin</strong></td>
<td><strong>Dave Rutowski</strong></td>
<td><strong>Bart Sojton</strong></td>
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<td>Using Process Modeling Software to meet stringent nutrient limits in Lagoon Based Treatment Systems</td>
<td>Artificial Intelligence is very real. Optimization through automation</td>
<td>Is Your New Wastewater Treatment Plant Right Under Your Feet?</td>
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### 1:30 PM
**Dan Greve, PE**
Producing Class A Biosolids with a Thermal Dryer

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<th><strong>Steve Muther and Ben Heitmann</strong></th>
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<td>SCADA Hardware and Software Maintenance - The New Reality</td>
<td>Construction, Commissioning and Start Up of the Village of Roberts Advanced Biological Nutrient Recovery (ABNR) Facility</td>
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## Wednesday, October 21, 2020

### 9:00 AM
**Dave Arnett**
City of Columbus WWTF Trading Programs

<table>
<thead>
<tr>
<th><strong>Tom Fitzwilliams</strong></th>
<th><strong>Ron Groth and Ryan Yentz</strong></th>
<th><strong>Taryn S. Nall, PE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fats, Oil and Grease, Ohioy</td>
<td>Evaluation of Aerator Replacement vs Installation of Fine Bubble Aeration at an Oxidation Ditch</td>
<td>Industrial Discharge Control Programs</td>
</tr>
</tbody>
</table>

### 10:06 AM
**Bradley J. Lake, PE**
An Innovative Water Quality Trading Approach to Meet Low Level Phosphorus Limits at a Wisconsin WWTP

<table>
<thead>
<tr>
<th><strong>Lindsey Busch</strong></th>
<th><strong>Trevor Ghylen, PhD, PE</strong></th>
<th><strong>Matt Seib and Kim Meyer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifting the Fog from FOG Receiving</td>
<td>Aeration Efficiency: Reduce your energy bill 50%</td>
<td>Land application education: What operators can learn from farmers about biosolids management</td>
</tr>
</tbody>
</table>

### 11:00 - 12:30
**Vendor discussions and demonstration of new technology**

<table>
<thead>
<tr>
<th>PHOSPHORUS</th>
<th>PLANTREHAB</th>
<th>ENERGY MANAGEMENT II</th>
<th>TIPS &amp; TRICKS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moderator:</strong> Rick Mealy</td>
<td><strong>Moderator:</strong> Cody Schoepke</td>
<td><strong>Moderator:</strong> Jeff Smudde</td>
<td><strong>Moderator:</strong> Jeff Bratz</td>
</tr>
<tr>
<td><strong>Nick Jarlow</strong></td>
<td><strong>Ryan Gefer and Ryan Yentz</strong></td>
<td><strong>Steve Muther</strong></td>
<td><strong>Troy Larson, Tom Steinbach and Sharon Thieszen</strong></td>
</tr>
<tr>
<td>Achieving Ultra-Low Phosphorus and sNRP Removal Using Reactive Filtration</td>
<td>Pumping Station and Force Main Rehabilitation vs Replacement Across the Wisconsin River</td>
<td>Got a Minute? I have a Quick Generator Question</td>
<td>Tricks of the Trade</td>
</tr>
</tbody>
</table>

### 12:30 PM
**Troy Larsen**
Getting It Right the First Time: Use of Operational Workshops to Optimize Complex Processes During Start-up

<table>
<thead>
<tr>
<th><strong>Mark B. Van Weelden</strong></th>
<th><strong>Bruce Barlow and Jake Bechek</strong></th>
<th><strong>Randy J. Langer, PE</strong></th>
</tr>
</thead>
</table>
Throughout the conference, attendees will have the opportunity to win Gilbert Brown autographed memorabilia pieces, such as the “Gravedigger” mini-shovel!
Meet Gilbert Brown...former Green Bay Packers nose tackle

Gilbert Brown grew up in Detroit, Michigan and lettered in football and track. His experiences in Detroit helped shape the man he would become, beginning with his choice of college. A two-sport star in high school...Aloha Bowl champion at Kansas...Super Bowl XXXI champion with the Green Bay Packers...race car enthusiast...anti-bullying spokesperson and most importantly, A PROUD MAMA'S BOY”.

Gilbert Brown is best known to Wisconsinites as a former nose tackle who played for the Green Bay Packers (1993–99, 2001–03). Brown played 125 Packers games (103 starts) recording 292 tackles (186 solo) and seven sacks. Nicknamed “The Gravedigger,” in honor of his celebratory dance following a thunderous tackle, Brown played in 15 Packers playoff games. He was a major contributor on strong defenses during the mid-1990s. His best season was 1996, when Green Bay won Super Bowl XXXI.

After football Gilbert is the founder of the Gilbert Brown Foundation and has donated to more than 140 Wisconsin based youth organizations.

2020 WWOA Officers and Board of Directors

President: Jeff Smudde
President-Elect: Don Lintner
Vice President: Rick Mealy
Past President: Jeff 'Juice' Simpson
Director (2020): Joshua Voigt
Director (2020): Marc Stephanie
Director (2021): Jeremy Cramer
Director (2021): Jenny Pagel
Director (2021): Ben Brooks

Technical Program Committee
Chair: Rick Mealy

Committee Members
Jeff Bratz, Lyle Lutz, Rusty Schroedel, Jake Becken, Bernie Robertson, Troy Larson, Marc Zimmerman, John Bond, Kevin Freber, Nate Tillis, Tom Fitzwilliams, Cody Schoepke, Ryan Hennessy, Neal Kolb, plus Board members: Jeff Smudde, Juice Simpson, Don Lintner, Jeremy Cramer, Josh Voigt, Ben Brooks, Jenny Pagel, Marc Stephanie, and Executive Secretary Caley Mutrie.

Exhibits, Manufacturers & Consultants Committee
Chair: Tom Mulcahy Co-Chair: Carol Strackbein

Committee Members
Dave Dodge, Kevin Freber, Kelly Zimmer
### WWOA 54th Annual Conference Registration

**WWOA 54th Annual Conference**

**Registration**

**October 20-22, 2020**

Complete ONE (1) registration form for each person attending. Please print clearly.

<table>
<thead>
<tr>
<th>Name (Last, First M.I.)</th>
<th>Email:</th>
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<th>Employer/Firm Name:</th>
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<th>Phone:</th>
<th>Position/Title:</th>
<th>WDNR Cert. #</th>
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<th>Regional Affiliation (circle one):</th>
<th>SE</th>
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<th>WWOA Member #:</th>
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<tr>
<th>Virtual Conference Registration</th>
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<tbody>
<tr>
<td>WWOA Member – Full Conference</td>
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<tr>
<td>WWOA Member – Tuesday Only</td>
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<tr>
<td>WWOA Member – Wednesday Only</td>
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<tr>
<td>WWOA Member – Thursday Only</td>
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<tr>
<td>Non-Member – Full Conference</td>
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<td>Non-Member – Wednesday Only</td>
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<td>Non-Member – Thursday Only</td>
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<tr>
<td>Non-Member + WWOA Membership *</td>
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<tr>
<td>Retiree – Full Conference (at least 60 yrs. old &amp; retired from wastewater industry)</td>
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<tr>
<td>Student – Full Conference</td>
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<td>Student – Tuesday Only</td>
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<td>Student – Thursday Only</td>
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<tr>
<th>WWOA Membership Dues – Two Year Renewal</th>
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<tbody>
<tr>
<td>Regular Membership</td>
</tr>
<tr>
<td>Lifetime Membership (25 year members)</td>
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**TOTAL**

*Conference registration + WWOA Membership: This package includes conference registration and a two-year WWOA membership for $130.*

On-Line Registration available at [www.wwoa.org](http://www.wwoa.org) or make check payable to **WWOA** and mail registration to: Nancy Short, WWOA Executive Secretary

7044 S. 13th Street ♦ Oak Creek, WI 53154 ♦ (414) 908-4950 x136 ♦ n.short@wwoa.org
Troubleshooting Corner: Zoogloea bacteria types
Written by Ryan Hennessy, Microbiology and Operations Specialist for Midwest Contract Operations
rhennessy@mco-us.com

Zoogloea bacteria are a morphotype/phenotype of bacteria that are commonly viewed within flocs in wastewater treatment processes that are large producers of exocellular polysaccharide (slime). Zoogloea bacteria types are traditionally associated with low molecular weight organic acids and certain alcohols favoring high F/M (food to microorganism) ratio at the beginning of the aeration basin. (Jenkins, 2004). Zoogloea bacteria types may appear as fingered zoogloea or globular zoogloea with no currently recognized cause for variations of these morphological traits. Fingered and globular zoogloea types are found across municipal plants and various types of industrial wastewater processes. At low to moderate abundance zoogloea bacteria types are believed to be beneficial for floc formation due to their polysaccharide (acts like “glue”) while at higher abundance zoogloea bacteria can create viscous flocs causing poor settling and contributing to foaming.

The MIDAS field guide https://www.midasfieldguide.org/guide recognizes the Zoogloea genus as containing 6 individual species including Zoogloea ramigera, Zoogloea oleivorans, Zoogloea caeni, Zoogloea oryzae and two currently unnamed species. Using phase contrast microscopy zoogloea bacteria cannot be readily differentiated from Thauera bacteria types, which are closely related to zoogloea and suspected to occur at similar growth conditions. Both the genus Zoogloea and Thauera are classified within the Rhodocyclaceae family of the Proteobacteria phylum. The MIDAS field guide references 6 known species within the Thauera genus including Thauera aminoaromatica, Thauera terpenica, and 4 currently unnamed species.

Thauera are versatile in their substrate uptake utilizing aromatic compounds, monoterpenes, amino acids and organic substrates such as sugars, acetate, lactate, pyruvate and ethanol, and can use nitrate, nitrite or oxygen as electron acceptor. Thauera can denitrify when utilizing nitrate as electron acceptor. Zoogloea appear to be less versatile in use of available substrate behaving as chemoorganotrophs (while Thauera can also utilize stored inorganic compounds). Zoogloea are known to use oxygen or nitrate as electron acceptors (when using nitrate they are denitrifiers). While in situ zoogloea bacteria utilize organic acids and at lab scale they have also utilized proteins/ amino acids and sugars. Both Zoogloea and Thauera produce PHA (fat storage) which allow them to compete well in conditions of high F/M ratio (in addition to immediate oxidation- treatment they may also store food for later on). There is conflicting literature and beliefs of zoogloea bacteria types and their association with limited nutrient conditions. While it is correct that lack of nutrients can cause bacteria to also produce excess polysaccharide and cause “slime bulking” lack of nutrients is not recognized as a cause of zoogloea bacteria growth. A test known as the Anthrone

continued on page 28
test is capable of separating polysaccharide related due to zoogloea bacteria vs. polysaccharide due to low nutrients by measuring the carbohydrate content of the sludge as % dry weight of polysaccharide (zoogloea bacteria polysaccharide/slime doesn't react in this test). At conditions of >25% polysaccharide as dry weight of MLSS concentration nutrient limited conditions are diagnosed (Richard, 2020).

From a process control standpoint reduction of zoogloea bacteria types is often successful upon increasing the MLSS concentration or reducing the concentrations of readily available substrate/organic acids. Chlorination is not effective in controlling zoogloea bacteria types and can worsen conditions (killing viable bacteria increases F/M ratio promoting further zoogloea type growth). In conditions of polysaccharide-slime settling issues (viscious weak floc structure) increasing the WAS rate often also worsens the problem. Sludges with high zoogloea bacteria types are often an excellent example of why lowering the MLSS/wasting more does not always equate with improved settling/floc characteristics and why microscopic evaluation/diagnosis of the root cause of a problem is recommended before any operational changes are made.

Keynote Speaker at 2020 Virtual Conference

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We've hit the road again this year with stops in 20+ cities within the Great Lakes Region showcasing unsurpassed system performance at every site. Our near non-detect treatment results for phosphorus, nitrogen, and ammonia speak for themselves and there are a few openings left before the end of the year. Contact Mulcahy Shaw Water at 262-241-1199 to schedule a visit to your facility and see ABNR™ in action.

VISIT US at WWOA Booth #132 and the WEFTEC Innovation Pavilion Booth #8340 to LEARN MORE
WWW.CLEARASWATER.COM
WWOA Board of Directors proposing changes to the articles of incorporation and the bylaws

Any time the Board proposes changes to these legal documents, some members get very concerned. We assure you that the changes being proposed for the annual meeting in October are expected to be non-controversial and make sense logically. The ByLaws Committee reviewed these documents back in January and determined that not only are they not written in accordance with current state protocol, but they conflict with some things. Therefore, changes are necessary.

At its April 2020 meeting, the Board voted to perform a two-phased approach to revising these documents, with Phase I focusing on the most critical changes needed at this time, and will be placed before the membership for approval at the October 2020 meeting. Phase II will be a more comprehensive overhaul of both governing documents undertaken by the committee appointed to the 2020-2021 term of service. Phase II should be considered as more of a formatting process, ensuring that the Articles of Incorporation (“the Articles”), the ByLaws, and WWOA Policy are used appropriately. Currently there are items contained in the Articles that are more appropriate to be included in the ByLaws, and there are items in both the Articles and the ByLaws that belong in Board policy.

What belongs in the Articles of Incorporation?
• Name of the Corporation
• Ch. 181 of the Wisconsin Statutes
• Registered Agent
• Registered Office
• Principal Office
• Members
• Distributions
• Other Provisions (Optional)
• Incorporator(s)

What belongs in ByLaws?
ByLaws define the governing and operational rules of the corporation under which the Board of Directors and management must operate on behalf of the membership. They specify when the Board meets, when the shareholder meeting takes place annually, the term of office for Board members, and other governance matters. ByLaws are high-level and take precedent over policies. Using membership dues as an example, the ByLaws should state how dues are changed (i.e., how the membership is informed of any proposed change, when and how a vote is taken, and what level of consensus is required for a vote to pass).

• Key organizational structures (membership structure, levels, and roles)
• Details of your board structure (# of Board members, eligibility, selection process, term limits, removal and replacement procedures, officer duties and tenure, and the process for election to these offices)
• Board committee structure (roles and size of each committee)
• A plan for managing internal crises
• Rules for amending your bylaws
• The conditions and rules for dissolving the corporation
• (Optional) Conflict of interest policies

What belongs in Policy?
Policies pertain to the detail of how the organization complies with the ByLaws and must not conflict with the ByLaws. Using the dues change example, Board policy should define, in detail, what the dues are and how they are determined. Once approved by the membership, the policy should be revised to reflect the change(s) made. Meeting minutes and other documents are kept on file to capture meeting outcomes.

Function of ByLaws
ByLaws essentially constitute a contract between the members of the Association, defining within State nonprofit statutes their rights, duties and mutual obligations.

Function of Policies
Policies are set by the Board and management to define the operations of the company, such as hiring and firing of employees, sales procedures, customer relations, product return policies, charitable giving policies, employee conduct and other operational matters. They are essentially a framework for the provision of services and standards for professional conduct.

In addition to publishing final changes in the September edition of the Clarifier, changes will be provided on the website at www.wwoa.org in redline-strikeout format for your review prior to the conference.

2020 Amendments to be made in Phase I to the Articles
• Update Article 4. Registered Agent – to change from the former Executive Secretary to Caley Mutrie. Also being continued on page 31
changed is the location of WWOA’s principal office from Baraboo to the AEG (Association Executives Group) offices in Oak Creek.

• Update Article 11. In the event that WWOA is dissolved, this article specifies that all organization funds will go to the Department of Natural Resources (DNR). While we have no determined final language, the Board is proposing something akin to, “Upon dissolution of the Association, the assets of the Association remaining after payment of, or provision for, all liabilities or obligations of the Association shall be distributed to such organizations having purposes or objectives similar to those of the Association as the Board of Directors may designate for scientific and educational purposes within the meaning of Section 501(c)(3) of the U.S. Internal Revenue Code of 1986, as amended (or the corresponding provisions of any successor law”).

• The inclusion of each version of actual amendments in the Articles is both confusing and redundant. The Board proposes removing this information from the Articles and place it in a separate historical record document. These amendments are already contained in official Annual Business Meeting minutes which are formally approved by the WWOA membership each year. They do not belong in the Articles.

2020 Amendments to be made in Phase I to the Bylaws

• General:
  • Create a broader scope definition of “Executive Secretary” such that an arrangement like what we have with AEG works. Reference to and addition of language specifying “association management company”.
  • Make several typographical changes (e.g., “faction”, which has been correctly replaced with “fraction”)

• Article 2.03: Allow flexibility in term limit of Executive Secretary to allow for a longer contracted term. AEG’s standard contract term is 3 years; they made a concession to a 2-yr contract initially due to our urgent needs and to comply with out ByLaws. The 2-yr term limit was really designed for when the Board hired an individual. The contract would still allow us to make changes, including cancellation, should the management firm not meet contractual obligations.

• Article 3.01: Increase dues from $50 to $55 per 2 years. Last time dues were changed was 6 years ago. This amounts to about a 1.5% increase in costs per year. The dues for similar organizations are substantially more than that. The costs for our conference have increased significantly, and this burden has not been put back on the membership on an ongoing basis.

• Articles 4.08 and 4.09: This Article currently states that individuals must apply for (and pay dues) not just WWOA membership, but also Regional Association membership, which simply is not and has not been the case. The Board proposes eliminating 4.09 and updating 4.08 (Eligibility) to have an item (a) which replaces “be limited to” with “shall include but will not necessarily be limited to” and add an item (b) to read “Any WWOA member will automatically have a specific regional affiliation based upon their county of residence and/or their place of employment dependent upon which address is reported as their primary address to the WWOA database.”

• Article 5.01: Amendments: Maintain the first sentence, but pull out the individual amendments made over the years and place these in a separate historical record document. These amendments are already contained in official Annual Business Meeting minutes which are formally approved by the WWOA membership each year. They do not belong in the Bylaws.

The Board of Directors encourages you to call or email them with any concerns that you may have regarding these proposed changes. Our intent is to accomplish this task with complete transparency.

Renew Your Membership

If you haven’t paid your membership dues yet, please do so ASAP!! You wouldn’t want to miss out on all the exciting news that is in each issue of the Clarifier, now would you?

If you have questions on your membership number, renewal date, or want to pay your renewal, call 414-908-4950.
**Articles of incorporation of Wisconsin Wastewater Operators Association, Inc.**

Executed by the undersigned for the purpose of forming a non profit Wisconsin corporation under Chapter 181 of the Wisconsin Statutes:

**ARTICLE 1:** The name of the Corporation shall be: WISCONSIN WASTEWATER OPERATORS ASSOCIATION, INC.

**ARTICLE 2:** The period of existence shall be perpetual.

**ARTICLE 3:** The purposes shall be as follows:

A. The advancement of fundamental and practical knowledge concerning the treatment of wastewater and the management of wastewater facilities.
B. The promotion of good public relations in the water pollution control field.
C. Assistance and training of personnel interested in water pollution control, management or operation.
D. The encouragement of exchanging information and experiences in the operation of wastewater treatment facilities.
E. The publication and distribution of a newsletter relating to the water pollution control field.

**ARTICLE 4:** The mailing address of the principal office of the corporation shall be P.O. Box 451, Baraboo, Wisconsin 53913-0451, and the name of its initial registered agent at such address is Karen Harter, WWOA Executive Secretary.

**ARTICLE 5:** The number of directors may be fixed by the ByLaws, but shall not be less than four (4). The manner of election or appointment of directors shall be as provided by the By Laws.

**ARTICLE 6:** The number of directors constituting the initial Board of Directors shall be eight (8).

**ARTICLE 7:** The names and addresses of the initial directors are:

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas O’Keefe</td>
<td>1127 N. Street</td>
</tr>
<tr>
<td></td>
<td>Hudson, WI 54016</td>
</tr>
<tr>
<td>John Wallendahl</td>
<td>223 S Watertown Street</td>
</tr>
<tr>
<td>Robert Deering</td>
<td>708 Linden Drive</td>
</tr>
<tr>
<td></td>
<td>Green Bay, WI 54301</td>
</tr>
<tr>
<td>John Wagner</td>
<td>W250 S3856 Reacquired Drive</td>
</tr>
<tr>
<td></td>
<td>Waupun, WI 53963</td>
</tr>
<tr>
<td>Ward E. Holtz</td>
<td>705 George Street</td>
</tr>
<tr>
<td></td>
<td>Rothschild, WI 54474</td>
</tr>
<tr>
<td>Albert Winter</td>
<td>1013 Hennes Street</td>
</tr>
<tr>
<td></td>
<td>Kaukauna, WI 54130</td>
</tr>
<tr>
<td>Grant Haugstad</td>
<td>2107 South 17th Street</td>
</tr>
<tr>
<td></td>
<td>RR 6, Box 92</td>
</tr>
<tr>
<td>John Allen</td>
<td>Chippewa Falls, WI 54729</td>
</tr>
</tbody>
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**ARTICLE 8:** The membership of the Corporation shall consist of the following classifications:

A. An Active Member shall be any interested person employed in administration, engineering, operation or teaching in the field of wastewater and industrial waste treatment, both public and private; or any person representing a manufacturer of products with particular application to the wastewater and industrial waste treatment field or a student interested in the wastewater treatment field.

B. An Honorary Member shall be one who has the qualification of an Active Member and whose practical or scientific knowledge in matters pertaining to the operation of wastewater treatment plants entitle him/her to special recognition by the Corporation or a person who through his/her efforts has benefitted the Wisconsin Wastewater Operators Association, Inc. Said Honorary Member shall be elected by a majority of the officers of said Corporation, subject to the approval of a majority of the members present at the first subsequent regular meeting of the membership of the Corporation. Honorary Members shall have the same voting privileges as Active Members, but shall not be required to pay dues.

C. A Life Member shall be one who has been an Active Member for 25 years or more in this Corporation or 25 years in the Wisconsin Wastewater Work Operators Conference and Wisconsin Wastewater Work Operators Conference Incorporated, the predecessor organizations of this Corporation, or a total of 25 years in both. Life Members shall have the same voting privileges as Active Members and Honorary Members. Life Members shall
receive a 20% discount on current active membership dues. A Life Member wishing to hold an office in the Organization may do so only if they are paying full active membership dues. *(Revised, see Amendments I, II, III)*

D. **A Student Member:** Eligibility: Any student enrolled in a 2-year or greater college program with studies relating to the field of wastewater treatment. Student must be enrolled as an active in-class member of a college, be recommended by their student advisor, and present their Student ID (or provide a copy with their application). All regular membership benefits apply except WWOA awards and tuition assistance. Terms of membership shall be two years with renewal one time if enrolled in a 4-year program. Membership rate shall be one-half of the normal WWOA membership dues at that time.

**ARTICLE 9:** No part of the net earnings of the Corporation shall inure to the benefit of, or be distributable to, its members, directors, officers, or other private persons, except that of the Corporation shall be authorized and empowered to pay reasonable compensation for services rendered.

**ARTICLE 10:** The Corporation shall not participate in, or intervene in (including the publishing or distribution of statements) any political campaign on behalf of any candidate for public office.

**ARTICLE 11:** In the event of dissolution, any remaining assets shall be given to the Department of Natural Resources of the State of Wisconsin. Upon dissolution of the Association, the assets of the Association remaining after payment of, or provision for, all liabilities or obligations to the Association shall be distributed to such organizations having purposes or objectives similar to those of the Association as the Board of Directors may designate for scientific and educational purposes within the meaning of Section 501(c)(3) of the U.S. Internal Revenue code of 1986, as amended (or the corresponding provisions of any successor law).

**ARTICLE 12:** All income of the Corporation for each taxable year (for Federal income tax purposes) shall be distributed at such time and in such manner so as not to subject the Corporation to tax under Section 4942 of the Internal Revenue Code of 1954.

**ARTICLE 13:** The Corporation created hereby shall not engage in any act of self dealing (as defined in Section 4941 of the Internal Revenue Code of 1954, as amended) make any investments in such manner as to subject the Corporation to tax under Section 4944 of the Internal Revenue Code of 1954, as amended, or make any taxable expenditures as defined in Section 4945 (d) of the Internal Revenue Code 1954, as amended, or retain any excess business holdings as defined in Section 4943 (c) of the Internal Revenue Code of 1954, as amended.

**AMENDMENTS**

**AMENDMENT I — RESOLVED:** That ARTICLE 8.C. shall be amended to read as follows:

‘A Life Member shall be one who has been an Active Member for 25 years or more in this Corporation or consecutive 25 years in the Wisconsin Wastewater Operators Conference, Inc., or the Wisconsin Wastewater Works Operators Conference, the unincorporated predecessor organization of this Corporation, or a total of 25 consecutive years in all three organizations. Defined in Section 4943 (c) of the Internal Revenue Code of 1954, as amended.

**AMENDMENT II** — Proposed Articles of Incorporation

Reading: Article 8: C

A Life Member shall be one who has been an Active Member for 25 years or more in this Corporation or 25 years in the Wisconsin Wastewater Works Operators Conference and Wisconsin Wastewater Works Operators Conference, Incorporated, the predecessor organizations of this Corporation, or a total of 25 years in both. Life Members shall have the same voting privileges as Active Members and Honorary Members and shall be required to pay dues if currently employed full time by a Wastewater Affiliated Organization. A Life Member wishing to hold an office in the Organization may do so only if they are paying dues.

This proposed changed shall be published in the Clarifier at least twice before the annual conference and will be voted on at the Annual Business Meeting October 24, 2013.

Accepted Articles of Incorporation Reading: Article 8: C

A Life Member shall be one who has been an Active Member for 25 years or more in this Corporation or 25 years in the Wisconsin Wastewater Works Operators Conference and Wisconsin Wastewater Works Operators Conference, Incorporated, the predecessor organizations of this Corporation, or a total of 25 years in both. Life Members shall have the same voting privileges as Active Members and Honorary Members. Life members prior to 2014 shall not have to pay dues, from 2014 forward; all Life Members shall pay dues.
AMENDMENT III  Proposed Articles of Incorporation

Reading: Article 8: C
A Life Member shall be one who has been an Active Member for 25 years or more in this Corporation or 25 years in the Wisconsin Wastewater Works Operators Conference and Wisconsin Wastewater Works Operators Conference Incorporated, the predecessor organizations of this Corporation, or a total of 25 years in both. Life Members shall have the same voting privileges as Active Members and Honorary Members. Life Members shall receive a 20% discount on current active membership dues. A Life Member wishing to hold an office in the Organization may do so only if they are paying full active membership dues. This proposed changed shall be published in the Clarifier at least twice before the annual conference and will be voted on at the Annual Business Meeting October 9, 2014.

Accepted Articles of Incorporation Reading: Article 8: C
A Life Member shall be one who has been an Active Member for 25 years or more in this Corporation or 25 years in the Wisconsin Wastewater Works Operators Conference and Wisconsin Wastewater Works Operators Conference Incorporated, the predecessor organizations of this Corporation, or a total of 25 years in both. Life Members shall have the same voting privileges as Active Members and Honorary Members. Life Members shall receive a 20% discount on current active membership dues. A Life Member wishing to hold an office in the Organization may do so only if they are paying full active membership dues.

December Clarifier Deadline is November 13
Wisconsin Wastewater Operators Association, Inc. bylaws
(Revised October 2014 – Amended October 2020)

ARTICLE I – MEMBERSHIP

1.01 Members of Predecessor Organization
All members of the Corporation's predecessor, Wisconsin Wastewater Operators Association, shall automatically be deemed to be members of the Corporation and the classification of each member as Active, Honorary, Life or Student Membership shall remain the same in the predecessor organization.

1.02 Election to Membership
The Executive Secretary shall receive all applications for membership for the Active classification. Such applications shall include current dues. The Executive Secretary satisfied of an applicant's eligibility shall issue a membership card and shall add the applicant's name to the Corporation roster as a new member.

1.03 Annual Meeting of Membership
The annual meeting of the membership shall be held at the date, hour and place designated by the President of said Corporation or by the Board of Directors, or the date of the anniversary of the beginning of the Corporation.

1.04 Special Meeting of Membership
Special meetings of the membership for any purpose or purposes, unless otherwise prescribed by the statute, may be called by the President of the Board of Directors, and the date, hour and place of that meeting shall be designated by the President of the Board of Directors.

1.05 Notice of Annual or Special Meetings
Written notice stating the place, day and hour of the meeting and, in case of a special meeting, the purpose or purposes for which the meeting is called, shall be delivered not less than five days and no more than fifty days before the date of the meeting, either personally, by mail, by e-mail, or by the direction of the President, Executive Secretary, or other officers or persons calling the meeting, to each member of record. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail, addressed to the member at his/her address as it appears on the books of the Corporation, with postage thereof prepaid.

1.06 Waiver of Notice by Member
Whenever any notice whatever is required to be given to any member of the Corporation under the Articles of Incorporation or By-Laws or any provision of law, a waiver thereof in writing, signed at any time, whether before or after the time of the meeting, by the members entitled to such notice, shall be deemed equivalent to the giving of such notice; provided that any waiver in respect to any matter of which notice is required under any provision of the Wisconsin Business Corporation Law shall contain the same information as would have been required to be included in such notice, except the time and date of meeting.

1.07 Conduct of Meetings
The President, and in his absence, the President-Elect, then the Vice President in the order provided under Section 2.01, and in their absence, any person chosen by the members present shall call the meeting of the members.

1.08 Voting List
The Executive Secretary having charge of the membership books of the Corporation shall, before each meeting of members, make a complete list of the members entitled to vote at such a meeting, or any adjournment thereof, which list shall be produced and kept open at the time and place of the meeting and shall be subject to the inspection of any member during the whole time of the meeting for the purposes of the meeting. Failure to comply with the requirements of this section shall not affect the validity of any action taken at such meeting.

1.09 Quorum
Except as otherwise provided in the Articles of Incorporation, the members present at an annual or special meetings shall constitute a quorum. The affirmative vote of the majority at any such meeting and entitled to vote on the subject matter shall be the act of the membership.

1.10 Committee
(a) Standing Committees shall be the Executive Committee, Technical Committee, Local Arrangements, Guest Program, Operators Competition, Golf Outing, Sporting Clays, Exhibits, Manufacturers & Consultants, Nominations, Career Development, Website, Annual Awards, Scholarship, Spring Biosolids Symposium, CSWEA Liaison, WWOA Directory, Historical, Governmental Affairs, Publicity, Resolution & By-Laws, Membership, Permanent Arrangements, Operator Training, Clarifier, Regional Coordinator and Promotional Items.

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(b) Additional committees, from time to time that may be required, shall be appointed by the President.

ARTICLE II – OFFICERS AND BOARD OF DIRECTORS

2.01 Officers and Composition of Board of Directors
The Board of Directors of the Corporation shall consist of nine (9) directors. The Officers of the Corporation shall be a Past President, President, a President-Elect, a Vice President, and five (5) Directors, all of whom shall be Active members of the Corporation and in good standing. These members shall constitute the Board of Directors of the Corporation.

2.02 Election of Officers and Directors
The three most recent Past Presidents shall constitute the Nomination Committee. In case three Past Presidents are not available; the current President shall appoint an Active member or members to fill any vacancy. This committee shall report to the Executive Secretary prior to the time of the election meeting, and its report shall recommend at least one name for each elective office about to become vacant. Following the report of the Nominations Committee at the annual meeting, the President shall call for nominations from the floor. If more than one name is placed in nomination for any office, voting shall be by ballot. The office of Vice President shall be an elective office, and the Vice President will automatically become President-Elect of the Wisconsin Wastewater Operators Association, Inc. upon completion of his/her term as Vice President. (Amended 2009 see Amendment H). The office of President-Elect will automatically become President of the Wisconsin Wastewater Operators Association, Inc upon completion of his/her term as President-Elect. Further, the initial Board of Directors and initial Officers shall be those Directors named in the Articles of Incorporation and those Officers of the Corporation’s predecessors, Wisconsin Wastewater Works Operators Conference, and Wisconsin Wastewater Works Operators Conference, Incorporated.

2.03 Terms of Office
All Officers, except the Directors, shall be elected for a term of one year. The President, President-Elect and Vice-President shall not succeed themselves to the same office for consecutive terms. The election of all elected officers shall be at the Annual Meeting. The term ‘one-year’ is construed to mean from the date of one Annual Meeting to the date of continued on page 37
the Succeeding Annual Meeting, regardless of elapsed time.

(a) The Executive Secretary of the Wisconsin Wastewater Operators Association, Inc. shall be appointed hired by a majority vote of the Board of Directors. The position of Executive Secretary is defined as held by either an individual or by a contracted Association Management Company who will appoint an individual to serve as the Executive Secretary. The Executive Secretary shall be appointed contracted with for a term of no more than three (3) two (2) years, and this appointment shall be made in each even numbered year at a scheduled Board of Directors meeting.

(b) The Directors of Wisconsin Wastewater Operators Association, Inc. shall be elected for a term of two (2) years. Two Directors shall be elected in each even number year and three Directors shall be elected in each odd numbered year.

2.04 Vacancies on the Board of Directors or of Officers
In the event that an office becomes vacant between election meetings, the Board of Directors shall elect an Active member to serve until the next election meeting.

2.05 Duties of the Board of Directors
It shall be the duty of the Board of Directors to carry on the business and advance the interest of the Corporation between meetings. All actions of the Board of Directors require a majority vote of said Board of Directors.

2.06 Annual Meeting of Board of Directors
There shall be one annual meeting of the Board of Directors at a time and place designated by the President. The President may call additional meetings of the Board or may conduct Board and Corporation business by mail, phone, video conferencing, in person, or any electronic method.

2.07 Quorum
Except as otherwise provided by law, by the Articles of Incorporation or by these By-Laws, a majority of the number of Directors set forth in Section 2.01 shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, but a majority of the Directors present (through less than such quorum) may adjourn the meeting from time to time without further notice.

2.08 Notice/Waiver
Notice of each meeting of the Board of Directors shall be given by written notice delivered personally, mailed, or e-mailed, to each Director at his/her business or residential address, in each case not less than two days prior to the meeting. Whenever any notice whatever is required to be given to any Director of the Corporation under the Articles of Incorporation or By-Laws or any provision of law, a waiver thereof, in writing, signed at any time, whether before or after the time of meeting, by the Directors entitled to such notice, shall be deemed equivalent to giving such notice.

2.09 Expenses of Board of Directors Meetings
The Executive Secretary shall have authority to honor reasonable out-of-pocket expenses, not reimbursable by the Boards members’ employers, incurred by attendance at authorized Board meetings as provided in Section 62.06 of Article II.

2.10 Duties and Responsibilities of the Executive Secretary
The Executive Secretary shall maintain the financial and membership records of the Corporation and be the Registered Agent of the Corporation. The Executive Secretary shall perform all duties as listed throughout the By-Laws designated in the position description, or within a contract if an Association Management Company serves in the capacity of an Executive Secretary. In addition, the Executive Secretary shall perform the duties assigned by the Board of Directors. The Executive Secretary will have the authority to perform his/her assigned duties but will not have the authority to commit the Corporation without the approval of the Board of Directors.

ARTICLE III – FINANCES
3.01 Dues
The dues shall be fifty-five dollars ($55.00) for each two years or fraction thereof. These dues shall be effective September 1st (amended 2011 see Amendment III). Student membership ‘Terms of Membership’ shall be two years renewable one time if enrolled in a four-year program. Membership rate shall be one-half of the normal WWOA membership dues at that time.

3.02 Finances
(a) All money received by the Executive Secretary shall be deposited in a bank approved by the President; said funds to be in the name of the Wisconsin Wastewater Operators Association, Inc.

(b) Upon approval of the President, the Executive Secretary shall have the right to make all necessary disbursements.

(c) No Officer or member of the Corporation shall be
authorized to contract for expenses exceeding the cash assets of the Corporation.

3.03 Compensation for the Executive Secretary
(a) If the Board of Directors votes to appoint an individual as Executive Secretary, said individual shall be a paid employee of the Corporation. The salary of the Executive Secretary shall be determined by the Board of Directors. Expenses for which the Executive Secretary will be reimbursed shall also be determined by the Board of Directors.

(b) If the Board of Directors opts to use an Association Management Company, a contractual agreement which describes responsibilities and rate of compensation, shall be drawn up and approved by a majority of the Board of Directors.

3.04 Fiscal Year
For accounting purposes, the fiscal year shall begin on January 1st of each year, and end on December 31st (amended 2008 see Amendment I) of the same year. At the end of each fiscal year, the Executive Secretary shall submit his/her records for audit to a committee appointed for that purpose by the President.

ARTICLE IV – REGIONAL ASSOCIATIONS
4.01 Definition of Regional Association
There shall be no more than six (6) regional associations throughout the State of Wisconsin. The six regional associations shall be recognized as follows: Southern, Southeast, West Central, Northwest, North Central, and Lake Michigan.

4.02 Requirements for Affiliation
Regional associations applying for membership in this organization shall submit written application for affiliation in the form and manner prescribed by the Board and shall be subject to the acceptance and approval of the Board of Directors. The procedures for affiliation shall be:

(a) Adoption of the standard form of regional association By-Laws prescribed by the Wisconsin Wastewater Operators Association, Inc. or as otherwise approved in accordance with 4.05;

(b) Payment of such charter fees as may be established by the Board of Directors;

(c) Submission of a list of charter members, each of whom shall have paid the full membership fees as established in the regional association By-Laws;

(d) Compliance with all the requirements for affiliation as prescribed in these By-Laws and by the Board of Directors and agreement to accept and abide by the Articles of Incorporation and By-Laws of this organization now and hereafter in force.

4.03 Officers
Annual elections of regional officers shall be held at the last Regional Meeting of the calendar year and the Region shall immediately report to the Executive Secretary of the Corporation, the names and addresses of the newly elected officers. Regional officers shall assume their official responsibilities as of January 1st following their elections.

4.04 Regional Membership Fees and Annual Dues
Regional associations may establish membership fees in their By-Laws as they see fit.

4.05 By-Laws
A regional association shall not change or amend its By-
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Laws without the consent of the WWOA said regions’ members.

4.06 Meeting Requirements
Meetings shall be held at the date, place and hour designated by each region. One-day only meetings are encouraged. Regional association meetings shall not be held two weeks before or after the Annual WWOA State meeting, and shall attempt to avoid other WWOA sponsored events.

4.07 Resignations/Revocation of Charter/Appeal
(a) Any regional association may resign from WWOA, by reason of dissolution or other reason, provided that all financial obligations to WWOA have been fulfilled and that, if incorporated, the Corporation shall be legally terminated as a WWOA regional association, and that notice of such resignation or dissolution shall be legally terminated as a WWOA regional association, and that notice of such resignation or dissolution shall be certified to the Executive Secretary of WWOA. Such notice of resignation or dissolution shall become effective as determined by the Board of Directors of WWOA.

(b) Any regional association that fails to conform with the accepted standards for chartered associations, or whose conduct is considered by the Board of Directors to be injurious or prejudicial to the image and best interests of WWOA or its other regional associations, may have its charter revoked or suspended by a two-thirds majority vote of the Board of Directors. Any regional association that violates the Articles of Incorporation or By-Laws of WWOA, or that is more than one hundred and twenty (120) days in arrears for any indebtedness to WWOA may have its Charter revoked or suspected by a two-thirds majority vote of the Board of Directors. The Board of Directors may impose such conditions as it may deem reasonable or necessary. However, the Officers of the Board of Directors assisted by the Executive Secretary of WWOA shall first be given the opportunity to investigate and report thereon to the Board of Directors. The Executive Secretary of WWOA shall have sent notice of such proposed action and reasons therefore by certified mail to the last reported officers of such regional association not less than thirty (30) days prior to the date on which the Board of Directors shall act upon the proposed suspension or revocation. In the event of such revocation or suspension, the Executive Secretary of WWOA shall have sent notice of such proposed action and reasons therefore to the last reported officers of such regional association.

(c) In the event a charter and membership of a regional association is revoked or suspended, such regional association may, within thirty (30) days of mailing of the notice of such revocation or suspension, file with the Executive Secretary of WWOA a written appeal of such action, which appeal shall be considered at the next meeting of the Board of Directors. If a regional association whose charter has been suspended fails to exercise the right of appeal within the specified period, its charter and membership shall be automatically revoked as of the date of suspension.

(d) Upon the revocation or suspension of the charter and membership of any regional association for any reasons whatsoever, such regional association shall forfeit all rights and privileges of Membership, services provided by WWOA and the right to use the names, slogans, emblems, marks or other insignia of the organization, except that the Board of Directors may, at its discretion, postpone the forfeiture of such rights, privileges and services until the expiration of the appeal period or, if an appeal is received, until the Board of Directors considers the appeal at their next meeting.

(e) Upon the revocation or suspension of the charter and membership of any regional association, the Executive Director shall return to the recorder/treasurer of the regional association all surplus reserve funds credited to the account of the regional association remaining after payment of all regional association obligations to the WWOA. There will be no proration of any charter fee.

4.08 Eligibility
(a) Members of regional associations shall be limited to include but will not necessarily be limited to the wastewater collection and treatment plant personnel, superintendents, chemists, technicians, maintenance personnel, and others involved in wastewater treatment, regulation, suppliers, vendors, consultants, educators and public officials.

(b) Any WWOA member will automatically have a specific regional affiliation based upon their county of residence and/or their place of employment dependent upon which address is reported as their primary address to the WWOA database.

4.09 Individual Membership
(a) All membership in regional associations shall be held by individuals. Such memberships shall not be transferrable.

(b) An associate member shall be those members who are

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active in regional affairs and are members of the WWOA in good standing.

4.1009 Annual Charter Fee
Each regional association shall pay to WWOA for each of its members an annual charter fee as determined by the Board of Directors each year. The Board of Directors shall have the opportunity to grant an extension of time for payment of obligations to WWOA when, in the judgment of the Board of Directors, circumstances indicate such extension would best serve the interests of the organization.

4.1110 Liability Insurance
(a) Each regional association shall pay to WWOA as part of its charter, a fee as determined by the Board of Directors for the payment of the annual premium for comprehensive general liability insurance.

(b) Insurance coverage shall not be provided by WWOA for regional associations for activities or meetings where intoxicating beverages are served by and/or provided by the regional association or members with or without monies from the membership of the regional association or another chartered regional association.

ARTICLE V – AMENDMENTS
5.01 Amendments
Amendments to these By-Laws may be made either by a two-thirds majority vote of members of the Corporation voting at a regular meeting or by two-thirds majority of members of the Corporation voting by mail ballot.

AMENDMENT I — In 2008, John Leonhard, Chair of the Resolutions and By-Laws Committee, informed the membership that the Board would like to change the fiscal year from September 1st to August 31st, to the calendar year beginning January 1st of each year to December 31st of each year. Leonhard stated that this would require a By-Laws change and action from the membership at this meeting. Leonhard explained why the change is needed. After discussion, Dale Doerr made a motion to change the WWOA fiscal year to the calendar year (January 1st of each year to December 31st of each year), motion seconded by Wade Peterson. Motion Carried.

AMENDMENT II — October 8, 2009. After discussion, John Leonhard made a motion to amend the By-Law to eliminate the election of the President-Elect with automatic progression of the Vice-President to

President Elect position. Dale Doerr seconded the motion. Motion carried. Amended to the By-Law eliminating the election of the President-Elect with the automatic progression of Vice President to President-Elect position.

AMENDMENT III — John Leonhard, Chair of the Resolutions and By-Laws Committee, reported that the Board is asking for an increase in the membership dues from $40.00 to $50.00 for a 2-year membership. John Leonhard explained that this would be a By-Laws change and would require approval by the membership attending the Annual Business Meeting. After discussion, Dean Falkner made a motion to approve the dues increase. John Leonhard seconded the motion. Motion Carried. The dues increase will take effect January 1, 2011.

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