

Solution **H₂O**

SPRING 2023



inside:

EARMARKS & FUNDING

Impact of earmarks to
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NEW KSAWWA DIRECTOR

Board of Trustees
Appoints Tasker to Role

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SPORTING CLAYS SHOOT

Annual Water For People
fundraiser moves date

29

*Providing resources and a network for Kansas
to responsibly manage water*

Olathe Utilities Maintenance Teams Make Critical Repairs Quickly

by John Gilroy, City of Olathe

During 2022, the City of Olathe experienced 152 water main breaks, 52 of which occurred after Oct. 1. This high volume in a brief period is unusual. It was prompted by extremely dry weather in the fall, which produces a shift in soil, impacting the pipes and causing them to break.

Making these repairs under normal conditions would be taxing, but Olathe's utility maintenance staff completed them with 10 out of 38 front line staff employed with the City of Olathe for five months or less. Repairs were also made without the assistance of five open staff positions.

As if they didn't have enough on their plates, on Oct. 15 the same front line staff members responded to a damaged sewer force main and

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Section Manager's Report

by Hank Corcoran Boyer, KsAWWA Section Manager

Time seems to have a way of getting away from me, and before I know it deadlines have come and gone, and I am still trying to figure out what I missed. This spring is no exception to that problem, and before I go further I need to apologize for the tardiness of this newsletter, but it is all good. I have been busy with a couple of well-attended OTC virtual workshops, getting vendors signed up for the upcoming joint conference, and helping get the program lined out and speakers to be notified of selection of their papers in the next couple of weeks.

As of today, we have 36 vendors signed up for a total of 49 booths. We have room for a minimum of 51 additional booths, plus many more. Registration of booths closes at 5 p.m. on Aug. 14 so the Exhibit Committee can place each of the participants and booth notifications can be emailed out to the various vendors. After Aug. 14, there is an additional \$350 charge to register a booth. Something new this year for the vendors is they will need to make arrangements and pay for the electricity needed with Century II. There is a packet included online to fill out and return to Century II with their orders. If this isn't completed by the deadline there will be an additional charge for electricity to the booth which will be collected by Century II prior to bringing the electricity to the booth.

The conference program is nearly complete – with just a couple of holes to fill and then speakers

will receive their confirmation of papers selected. If you signed up to be a speaker and your paper is selected, you will be required to register for the conference either for the entire conference or one day. If speakers are

not going to attend ANY of the conference but only come to make their presentations they can contact me at hboyer@cox.net, and we can visit about their required registration price. More information on this will be in your speaker confirmation email when you receive it.

In January, KsAWWA Director Lester Estelle resigned. Katie Miller, past chair and chair of the Nominating Committee, pulled together her team and solicited suggestions for a new director for the Board of Trustees to make an appointment to either fill Lester's unexpired term or someone who would be willing to be the director until 2026. The Nominating Committee had several good candidates, and they narrowed it down to two individuals who were asked to fill out a short survey as to why they wanted the position and whether or not they could commit to doing the job through 2026. After receiving the surveys back, the committee presented the name





of Martha Tasker, director of utilities for the City of Salina, to the Board of Trustees on March 31, 2023 for approval. The Board of Trustees gave a unanimous vote of approval. Martha assumed her duties on April 1, 2023, and will be the director of KsAWWA through 2026. When you see Martha, congratulate her and offer her your support.

Chair Michelle Wirth has been working with AWWA and your section manager to bring the by-laws up to date and to be able to present them to the membership at the annual meeting in August in Wichita for approval so they can go to the winter AWWA Board of Directors meeting for approval and be put into place. She has also been working with Past Chair Katie Miller and your section manager to finalize the administrative guidelines updates and also have them ready for the membership's approval at the annual meeting in August in Wichita.

Your section officers and manager have been keeping busy with these items and moving KsAWWA

forward not only on the business side of things but also in membership. From the reports your section manager receives each month, KsAWWA should have no problem making and exceeding their membership goals for 2023. Derek Patrick and his committee are working hard at recruiting new members and retaining old members.

Finally, everyone is looking forward to the 14th Annual KWEA / KsAWWA Joint Conference in Wichita at the Hyatt Regency & Century II August 29-31, 2023. As always, the Program Committee is looking to present a program that will have something of interest to everyone from upper management to the operators, AWWA will be sending a representative, and there will be the ever popular competitions along with many vendors, networking, and awards for safety, Operator Meritorious, and George Warren Fuller.

See everyone in Wichita August 29-31, 2023 – Make your reservations today! ☂



Pictured left to right: Isaac Finch, John O'Hara, Jimmy Wichmann, Denton Lewis, Efrain Segovia, Cody Banks, Dionte Collins, Mike Richardson, Ryan Hughey, Logan Schuster, Barrett Davis, Dustin Gillespie, Mike Fitzwater, Kyle Patton, Christian Sewell, Ira Speer, Cody Springston, Kar Syhavong, Juan Guzman, Brandon Simmons, Levi Summer, Ken Auger, Vince Wolfe, Zach Hoehn, Kayden Hernadez, Rebecca Fauser, Dee Snyder, Mitchell, Martin, Alonzo Potts, Paul Timblin, Dylan Ginther, Jeremy Morrow, Chris Dankenbring, Dalton Kerr, Adam Gifford, Dakota Large, Lloyd Harold.

Not pictured: Rick Wyatt, Dave Wikerson, Rex Essig, Josh Oxley, Jenn Sitz, Tony Golec

continued from page 1

prevented sewage from flowing into the Cedar Creek development's lake.

The water distribution and wastewater collection teams are cross trained to perform water or sewer maintenance, and all of them fixed a water main break at some point. The Olathe utility maintenance teams have proven repeatedly that when it comes to being exceptional, they set the bar. 🌧️



Cody Springston scrapes the water main before installing a repair band.

Impact of Earmarks to Incoming Federal Funding for Water & Wastewater Infrastructure

by Cathy Tucker-Vogel, KDHE

KDHE operates two State Revolving Funds (SRFs), providing loans to public utilities to finance water and wastewater infrastructure. Those two loan programs are the Public Water Supply Revolving Loan Fund (Drinking Water SRF [DWSRF]) and the Water Pollution Control Revolving Loan Fund (Clean Water SRF [CWSRF]). These two loan programs operate on the principal of receiving capitalization grants from Congress via the Environmental Protection Agency (EPA), whereupon those funds are typically leveraged with revenue bonds, to create a cache of funds that are loaned out to municipalities and rural water districts over 20 – 40 year periods at interest rates notably below current bond market levels (60% of present bond interest rate for 20 year loans). Those loans are repaid by the utilities and the repayments go toward retiring the outstanding revenue bond issues and to be “revolved” in the program and reissued as a subsequent loan to other utilities. These programs have been in place for decades (26 years for DWSRF; 34 years for CWSRF).

Over the past two years, the resurrection of earmarks in Congress has utilized funds intended for SRF capitalization grants redirecting them to Congressionally direct funding of certain projects. The graphics on pages 9-10 show the impact of earmarks to incoming Federal funding for water and wastewater infrastructure in Kansas. Congressional earmarks have, for the past two years, been funded by skimming the overall SRF capitalization grants to

be allotted to the States. Over the past two years, Kansas’ DWSRF has lost \$11.4M from level funding at the 2021 appropriations. The CWSRF has lost a similar \$11M over the same time period. That means less money to be leveraged and loaned to Kansas municipalities. The net impact of incoming water infrastructure revenue from federal funding still shows a net deficit over 2022 & 2023 for the Drinking Water SRF. One project received \$10M this year, which is almost twice the federal funds assigned to all other projects seeking funding from the Kansas DWSRF. Twenty-nine drinking water projects were financed by the DWSRF in 2022.

There has been a net increase in federal funds coming in for Kansas sewer infrastructure projects over the past two years with three earmarked projects. However, those three projects were awarded \$24M, while all remaining projects had to vie for \$17M over 2022 and 2023. Eight Kansas projects were financed by CWSRF in 2022.

As earmarks proliferate, the amount of available funding to seed the two SRF programs will continue to dwindle. There is some offset by the allotments granted under the Bipartisan Infrastructure Law (BIL). However, three of the five BIL allotments to be placed in the Kansas SRFs are restricted by law for lead water service line inventory and replacement and dealing with emerging contaminants in drinking water and wastewater. Furthermore, almost half

of the BIL allotments provided for all eligible water and sewer projects are to be provided as principal forgiveness, essentially grants to those utilities with no expectation of funds returning to be revolved by either SRF. Finally, the window for BIL capitalization grants will close after 2027, leaving depleted SRF programs to carry on infrastructure financing in the future.

KDHE reticence in endorsing projects seeking Congressional earmarks is not a reflection on the worthiness of those projects, but instead a worry about the long-term impacts to the State's ability to provide financial assistance through the SRF programs. Additionally, statutory set asides as a percentage of both capitalization grants are used to fund KDHE program administration and technical

assistance to local utilities. Earmarks reduce the amount of those programmatic funds, forcing KDHE to look to other state resources to provide salary, program, and assistance support.

On paper, KDHE could support projects that were utilizing non-EPA funds to finance earmarking, however, we are unsure if any water or sewer project, regardless of Federal agency program, does not rely on SRF capitalization grants as the source funding for those earmarks. Such was the case with a utility and its wastewater reuse and aquifer recharge project, which was thought to be supported by Bureau of Reclamation programs but, was in fact, funded by the 2023 Clean Water SRF capitalization grant (\$19.1M).

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These reasons underscore KDHE reluctance to support any earmarked project involving water or sewer infrastructure outside of the respective SRF programs.

Cyber Assessments

KDHE does not support EPA's recent memo requiring state primacy agencies to conduct cyber assessments at water utilities during a sanitary survey (SNSV). KDHE inspectors do not have the expertise to conduct cyber assessments and furthermore, SNSV reports are public documents which poses a security risk if the document fell into the wrong hands. The memo gives states flexibility to use alternate approaches outside of the SNSV process, including asking EPA to conduct the assessments. KDHE does not plan on conducting cyber assessments during SNSVs and is exploring other options. KDHE intends to explore options for cyber assessments during CY 2023, with implementation sometime during CY 2024.

PFAS Regulation

EPA published the Draft PFAS regulation March 29, 2023. There is a 60 day comment period. KDHE is

currently reviewing the requirements of the regulation and may provide comments to the docket.

The link to the federal register is:

<https://www.federalregister.gov/documents/2023/03/29/2023-05471/pfas-national-primary-drinking-water-regulation-rulemaking>

The individual MCLs for PFOA and PFOS is 4.0 ppt. EPA also set a Hazard Index of 1.0 (unitless) for PFNA, PFBS, PFHxS, and GenX.

One concern is the reduced monitoring trigger level of 1.33 ppt for PFOA and PFOS, which is below the method reporting level. KDHE is still evaluating the 0.33 (unitless) Hazard Index reduced monitoring trigger.

Water systems that participate in UCMR5 will be able to use the data for the initial round of compliance monitoring. KDHE is also evaluating the potential of using the data from the voluntary monitoring program for the participating PWS systems to meet the initial compliance monitoring requirements. 🏠

Kansas: Annual Federal Funding for Drinking Water Projects

Federal Funding for Drinking Water SRF Projects Cut by \$ 11.4 Million Over Two Years



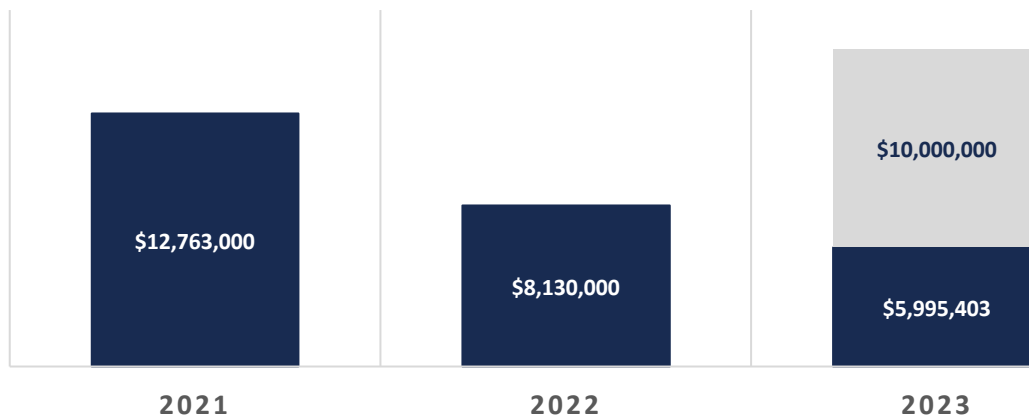
SINCE EARMARKS RETURNED

Over the last two years, more than \$11.4 million has been cut from the Kansas Drinking Water SRF to pay for earmarks.

Note: 2023 is an estimated allotment for state SRF projects based on the 2018-2022 allotment formula. A new allotment formula will be adopted for 2023-2026.

Total Federal Funding for Drinking Water Projects Cut by \$1.4 Million Over Two Years

■ Funding for Drinking Water SRF Projects ■ Funding for Earmarks



MYTH:

Funding for earmarks makes up for funding cuts to the SRFs.

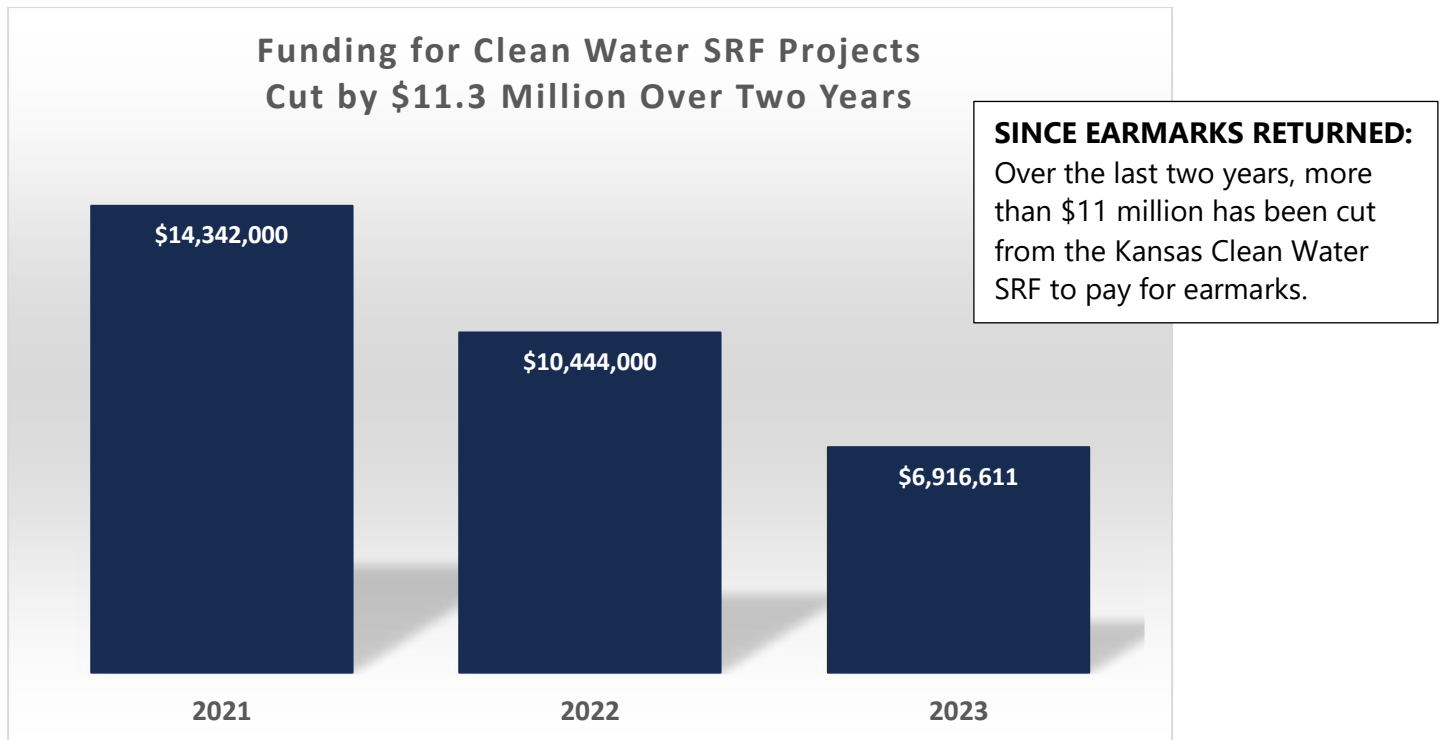
FACT:

Since earmarks returned in 2022, total funding for drinking water projects in Kansas (SRF funding plus earmarks) has been cut by more than \$1.4 million.

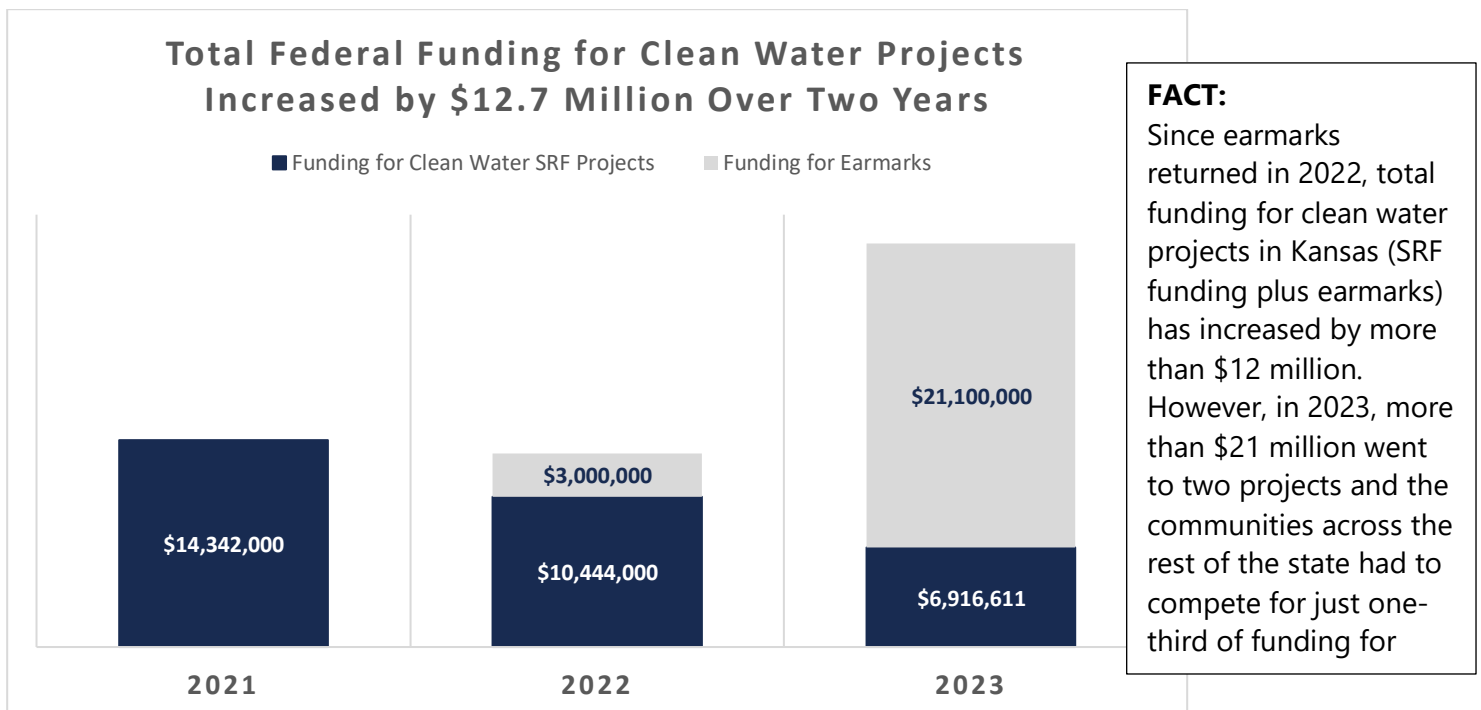
In 2023, one earmark project received \$10

Note: The 2023 SRF allotment is an estimate based on the 2018-2022 allotment formula. A new allotment formula will be adopted for 2023-2026.

State: Annual Federal Funding for Clean Water Projects



Note: 2023 is an estimated allotment for state SRF projects.



Note: 2023 is an estimated allotment for state SRF projects.



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Climate Registry Awards WaterOne Gold Status

by Jerry Koukol, WaterOne

WaterOne has been recognized as Climate Registered™ Gold Status by The Climate Registry, a non-profit organization that administers North America's largest registry for greenhouse gas (GHG) emissions. The award acknowledges efforts by WaterOne to better understand its carbon footprint by establishing an inventory of carbon emission volumes and sources produced through its operations. In achieving gold status, The Climate Registry has certified that WaterOne has publicly reported a greenhouse gas emission inventory which has been verified by a third-party.

WaterOne's greenhouse gas inventory was facilitated by its financial planning department.

"A GHG inventory helps WaterOne identify opportunities to improve our energy efficiency, as well as creating benchmarks for how we're performing regarding environmental sustainability," said Financial Planning Manager Natalie Morrison.

The inventory estimated emissions produced throughout WaterOne's operations in several categories, such as direct emissions produced through the use of fleet vehicles and generators, as well indirect emissions from purchased electricity.

WaterOne's power usage and expenditures are already closely tracked, and that data helped establish the basis for the greenhouse gas inventory.

"The GHG inventory is ultimately a measurement tool to assist us in improving our business processes," said Natalie. "Just like we measure the amount of water going through our meters, WaterOne can also measure the amount of greenhouse gas output that comes from our operations."



WaterOne will be updating its greenhouse gas inventory on an annual basis. Data from the inventory will be used to assist in establishing future sustainability benchmarks for WaterOne.

Sustainability is a long-term and ongoing central aspect of WaterOne's planning efforts and daily operations. Through innovative renewable energy programs, WaterOne has already been able to begin managing its carbon footprint. WaterOne participates in programs such as Renewables Direct, where the water utility's energy provider substitutes a portion of its bill for direct credit from energy produced by wind farms and other renewable sources. A planned Kansas River Hydropower Facilities project is another future approach to managing carbon emissions at WaterOne.

"This award reflects WaterOne's commitment to sustainability, and our verified inventory will help

inform decisions on environmental sustainability goals,” said acting General Manager Eric Arner. “This is another way that WaterOne is showing leadership on important issues in the industry and continuing to set the standard for utility excellence.” 🌱



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Wolcott Wastewater Treatment Plant (AGS),
Unified Government of Wyandotte County/KCK



Olathe Water Treatment Plant #1, located at 600 S. Curtis Street, before demolition

Olathe Demolishes Water Treatment Plant #1 – End of an Era, Sign of Growth

by John Gilroy, City of Olathe

Olathe's Water Treatment Plant #1, located at 600 S. Curtis Street, was recently demolished.

The former water treatment portion of the facility, including all external basins and tanks, was demolished. A portion of the building remains for administrative use. The treatment facility portion has not been in use since 2005 and was officially decommissioned in 2010.

As years passed and Olathe's population continued to swell, so did the demand for more water—which led to simply outgrowing the facility.

The plant was built in 1950, with four rapid sand filters, each capable of filtering 0.67 MGD (million gallons per day), combining for 2.0 MGD of treated water total. The sole source of water supply for the plant was Lake Olathe, which is now only used for recreation purposes.

For reference, Olathe's average daily water usage is currently 13-19 million MGD.

Olathe's Water Plant #2, located on West 83rd Street in Lenexa, was constructed in 1964 to provide 4 MGD with room to grow. Over time, additional wells,



Olathe Water Treatment Plant #1 after demolition

basins, systems, and other buildings were added to the facility to make it the 32 MGD facility that it is today. And the best part? There is still room to grow!

Wells along the Kansas River now supply Olathe's water, supplied by much larger reservoirs than the previously used Lake Olathe and creating more cost efficiency, as it's much cheaper to utilize federal reservoirs than to build our own reservoir that is large enough to support Olathe's current population.

The demolition of this former treatment facility is a testament to Olathe's growth. It marks the end of an era, but the City's proactive thinking in looking ahead has ensured we have newer facilities with higher capacities to take us well into the future. 🌧️



Administrative building



Lake Olathe (1955)

KsAWWA Appoints Tasker as Director Following Resignation of Estelle

by Hank Corcoran Boyer, KsAWWA Section Manager

In January 2023 Lester Estelle resigned as director of KsAWWA. The responsibilities of the director of an AWWA Section are as follows:

- » Represent AWWA on the Kansas Section Board of Directors.
- » Represent KsAWWA on the AWWA Board of Directors.
- » Help coordinate AWWA and Section actions and activities.
- » Report to the board and membership on AWWA activities.
- » Thoughtfully consider agenda items both at the AWWA level and the Section level and vote accordingly.

The KsAWWA Nominating Committee, chaired by Katie Miller met and discussed several good candidates. Their discussion was narrowed down to two individuals who were asked to fill out a simple survey as to why they would accept the position and if they would be available to fulfill the duties of the director through 2026.

After receiving the surveys back, the committee presented the name of Martha Tasker, director of utilities for the City of Salina to the Board of Trustees for approval on March 31, 2023.

The board unanimously appointed Tasker to fill Estelle's unexpired term, holding office through 2026. 🌧️



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Women's History Month Feature



MARTHA TASKER

Director of Utilities
City of Salina, KS

What are your thoughts on mentoring?

“Mentoring has been an important part of my career development. Mentors do not necessarily have to be your senior, what matters is that the mentor has experience others can learn from. My parents were my first mentors. They taught me:

- Being on time means you are 15 minutes early.
- Farm chores, caring for the animals, and helping the neighbors come first—then you get to play.
- Do the best you can & strive to be better than average if you want to be noticed.

Who are some of your mentors?

“Robert Crawford (Partner @ Wilson & Co.) was my first professional mentor. He gave me the opportunity to ask questions and learn about water and wastewater processes. We spent many hours together driving across Kansas to attend city council or commission meetings.

Don Hoff (former Director of Utilities of the City of Salina) was also a mentor for me. He taught me the public aspects of providing water and sewer service.

Staff members at the many water and wastewater projects provided mentoring to me too, such as the placement of pumps to allow for future maintenance to occur and how to position equipment to allow cleaning. (Thank you to Hallstead, Kingman, Wichita, Ellsworth, Delphos, Salina, Abilene, Liberal, Minneapolis, and Hutchinson, to name a few Kansas communities.)

A mentor can come from all walks of life, so be willing to listen and learn.

 **KWEA** &  **American Water Works Association**
Kansas Section

Martha Tasker, new appointed KsAWWA Director through 2026

Extra! Extra! Extra! Nominations for Operator Meritorious Award Now Open

by Dan DeFore, KsAWWA Operator Meritorious Service Award Committee Chair

What better way to recognize an outstanding employee than to nominate them for an award. During the past few years, there have been countless obstacle to overcome. Extra efforts to protect the health and wellbeing of operators, distribution crews, and support staff. Extra planning to offset extended lead times. Extra time spent filling in for sick leave. Extra inventories to insure we can continuously meet the water demand. Extra cost for the goods and services to keep the water flowing. With all these extras to deal with, operators, staff, and crews have stepped up to extra work, extra responsibility, and extra precautions just to do their job.


We are looking for those operators who consider extra the new normal. The ones who take pride in the tasks they perform every day. The ones who make that extra effort to improve normal operations. The ones who are willing to share their abilities and services to help train others. The ones who are dedicated to our industry, our communities, and our organizations. These are the operators who deserve the extra recognition!

This award recognizes outstanding operators that has shown special performance in one or more of the following areas.

- » Continuous compliance with all public health standards in treated drinking water.

- » Consistent and outstanding contribution to plant maintenance thereby prolonging the useful life of equipment.
- » The development of new and/or modified equipment or significant process modifications to provide for more efficient and/or effective treatment.
- » Special efforts in the training of treatment plant operators.
- » Special acts not directly related to water treatment, but which demonstrate dedication to the public beyond the normal operating responsibilities.
- » Consistent and outstanding contribution to operation and/or maintenance of distribution lines, pump stations and reservoirs.

To be eligible for this award, the candidate must have been a "KsAWWA Section Member" or a "Utility Member" listing the candidate as staff during the meritorious activities. The candidate could have worked in any position of the water treatment, supply, or distribution process.

To nominate your outstanding operator, download and submit the nomination form or complete it online: <https://ksawwa.org/awards/operator-meritorious-award.html>. 

Kansas Community Sustainability Tool a Resource for Tough Community Affordability Decisions

by Brian Bohnsack, Wichita State University Environmental Finance Center

The Bipartisan Infrastructure Law (BIL) has motivated communities throughout the country to assess water utility infrastructure needs and evaluate potential funding options. One of the toughest decisions facing communities is whether they can afford infrastructure investments. The Kansas Community Sustainability Tool is a free, online, easy-to-use financial planning resource that can help. The tool has information on more than 600 Kansas communities, ranging from Abbyville to Zurich.

Users input information about their community, including average water and wastewater bills and potential infrastructure investment costs. Then, the tool uses data from the U.S. Census Bureau to forecast the median household income (MHI) for communities by using trends in the community's population, manufacturing, employment, and educational achievement variables.

The Kansas Community Sustainability Tool was developed by the Environmental Finance Center with assistance from faculty in the Hugo Wall School of Public Affairs at Wichita State University. The tool is just one of several services and resources provided to communities by the Environmental Finance Center at Wichita State University. Some of the other services include water utility rate studies, asset management planning assistance, and board/council training.

"The Community Sustainability Tool is a planning resource for community leaders, mayors, public works directors, and even citizens to use to assess enhancement and improvement opportunities for water and wastewater facilities," said Tonya Bronleewe, director of the Environmental Finance Center. "It is so quick, free, and easy to use. We know many communities have tough decisions to make with their water infrastructure, and the Community Sustainability Tool can help with those decisions."

All you need to use the tool is your community's average water and/or wastewater bill, the annual growth rate for water/wastewater bills (if any), and the potential loan amount for planned infrastructure developments. The tool will forecast the average water/wastewater bill for the next 30 years, including the loan repayment. The assessment is completed in a matter of minutes and is easily interpreted. In addition to the water/wastewater rate affordability assessment, the tool's outputs provide individuals with estimates of the community's population, income, and employment trends.

Users can adjust their inputs to plan different scenarios, see how rates changes could affect financing, and learn about what investments their community can afford. The reports generated can be downloaded or shared with a link. Examples

Select Community

Current Average Household Monthly Drinking Water Bill * i

\$ 30.00

Current Annual Growth Rate in Drinking Water Bills * i

2 %

Current Average Household Monthly Wastewater Bill * i

\$ 0

Current Annual Growth Rate in Wastewater Bills * i

0 %

Planned Expenditure on Drinking Water Infrastructure * i

\$ 500000

Number of Years that the Infrastructure Will be Financed * i

20

Planned Expenditure on Wastewater Infrastructure * i

\$ 0

Number of Years that the Infrastructure Will be Financed * i

0

Do you have annual interest rate for financing? * i

☒ No. Use Default Rate
☐ Yes. Enter Annual Interest Rate

CALCULATE

RESET

Figure 1

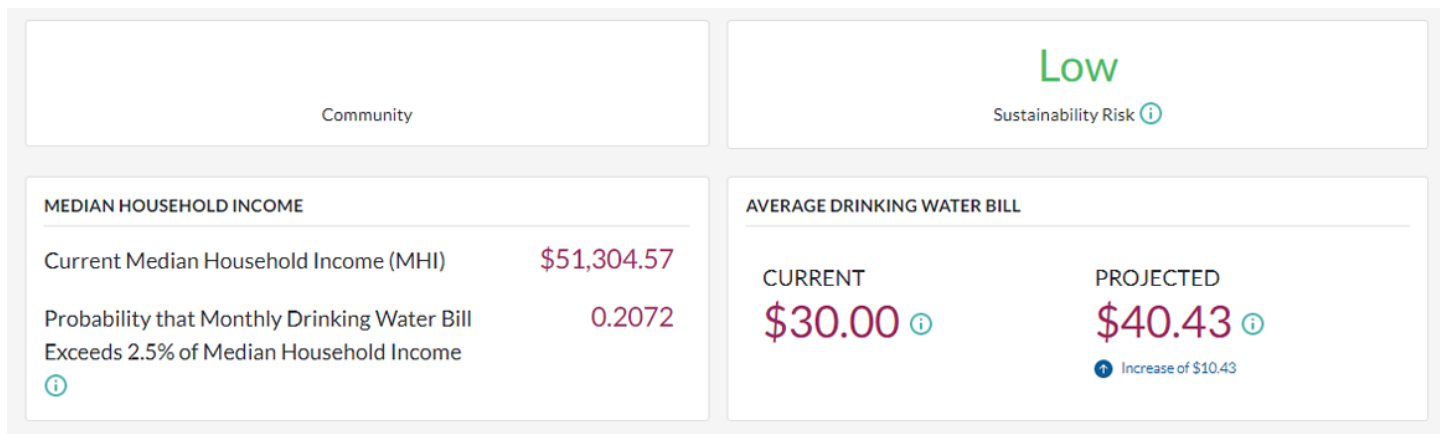


Figure 2

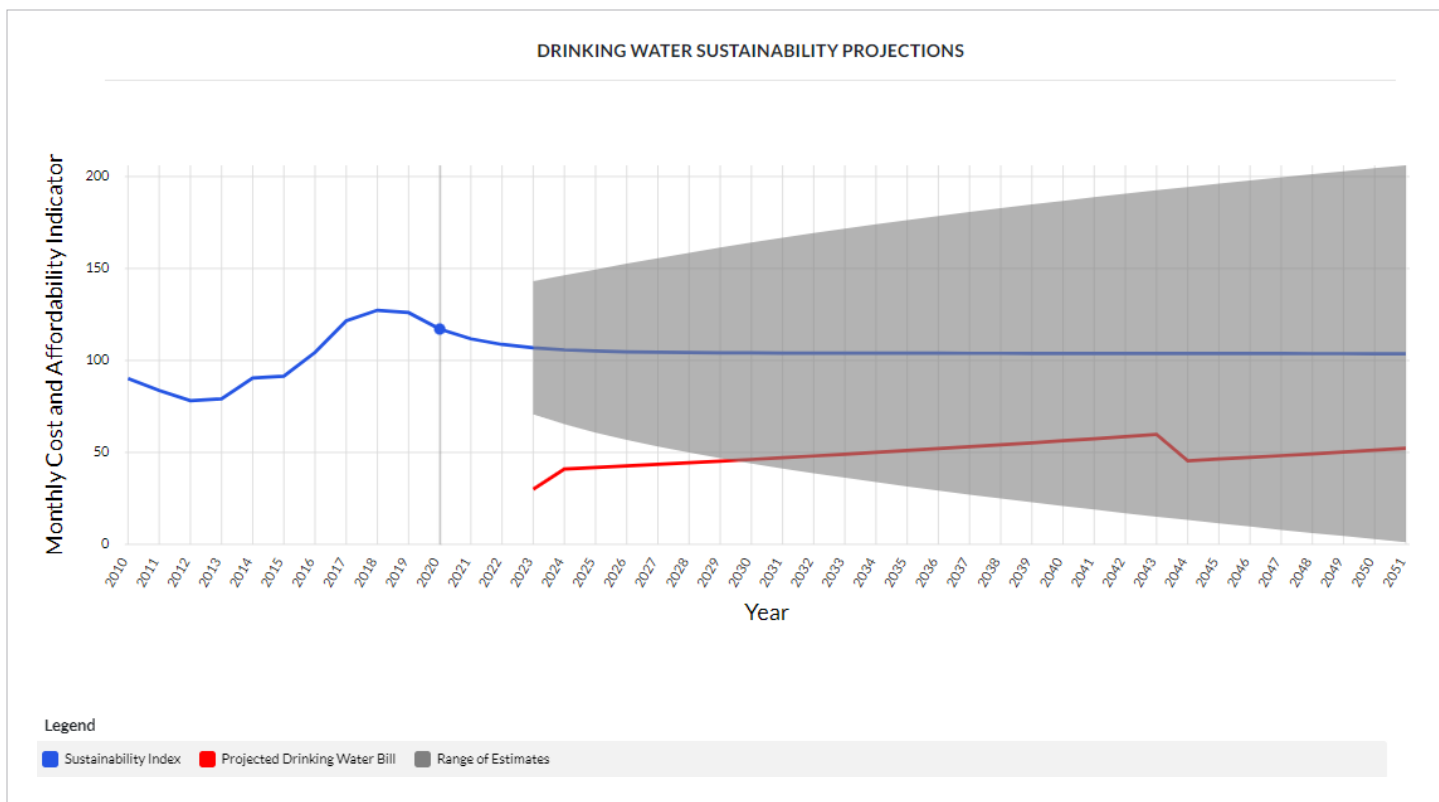


Figure 3

of a hypothetical analysis for an unnamed Kansas community are shared.

The hypothetical example uses data from a small Kansas town with a current population of approximately 800 people and a current average water bill of \$30 with an annual 2% growth rate in their drinking water bill. The hypothetical analysis proposes financing \$500,000 for 20 years at the default interest rate.

The screenshots show the initial data entry screen (figure 1) and output results (figures 2 and 3). In the hypothetical analysis, the proposed infrastructure investment is considered “low risk,” interpreted as “affordable” for the community based on the forecast MHI for the community. Figure 3 is a graphical

representation of the historical and forecasted MHI (blue line) as well as the statistical confidence range for the MHI (gray shaded area) and the forecasted average water bill (red line) with the financing and annual growth rate increase. The drop in the average water bill reflects the loan being paid off in year 20.

To learn more and use the tool, visit <http://www.wichita.edu/communitysustainabilitytool>. An option to download an Excel version of the tool is also available on the website. To request more information on the Community Sustainability Tool and other services provided by the Environmental Finance Center, contact (316) 978-7240 or efc@wichita.edu. 💧

Funding for the Kansas Community Sustainability Tool was provided by the Environmental Protection Agency Region 7.

Public Water Wholesaler Takes Advantage of Special Secondary Containment Vessels for Chlorine Gas Cylinders to Allow for Cost-Effective Switch to Gas for New SWTP

by Cliff Lebowitz, Catalytic Reporting LLC

Fredonia, KS—The general manager for a public wholesale water district credits the use of special secondary containment vessels for chlorine gas cylinders to allow for a cost-effective switch from sodium hypochlorite (a/k/a NaOCl, bleach) to chlorine gas during the design of a new 6-MGD surface water treatment plant. He also credits the vessels manufacturer for especially critical and timely assistance, during startup under crisis conditions.

“Like any project, you eventually get to see the price tag, and start looking for where you can save dollars,” recalled John Hodgden, general manager of Public Wholesale Water Supply District (PWWSD) No. 23 in Wilson County, KS. “We were originally planning on feeding bleach, with the original cost of tanks and equipment to feed it cheaper than gas, but when we looked at how much chlorine we needed to feed and how much to budget for chemical costs, we calculated we could save about \$25-30,000 annually on chlorine by using gas.”

“We saw that those savings could cover the increased cost of equipment within 10 years, and the life of the new plant is estimated at 40 years. The long-term savings made sense, and we have seen the annual savings fall in the range we calculated, depending on how much water we use.”

Hodgden’s 22-member wholesale district has a six county-wide distribution system, serving a

combination of 6 small cities and 14 rural water districts (RWD’s) with a total population of 17-20,000, and includes agricultural and commercial outlets. The design 6-MGD plant, which began operation in 2019, currently sees average winter flow of about 1 MGD, increasing to about 1.5 MGD in the summer, during farming season. A previous 1.2 MGD plant was running at full capacity, and is no longer in service.

“We were planning on starting up the new plant in the fall of 2019,” Hodgden continued, “but a flood in the spring ruined the old plant; the clearwell was cracked on all four sides. Our water towers were on the verge of going dry, but people don’t stop drinking water just because your plant crapped out. Myself, our Dustin Rose, and our engineer, Danny Coltrane, pretty much lived at the new plant to get everything going sooner.”

“The chlorine containment vessels were already on site, and the manufacturer was really good about being on the phone with me, walking me through how to hook them up; there was no time for them to come out. We installed them, running all the wires and tubing, and their project manager and another guy visited later to check everything out, while others in their office continued to be helpful. I’m very thankful and appreciative for them helping us get through fighting to keep water in the towers, and starting up the new plant ahead of schedule in May, 2019. I would absolutely recommend them, and have.”



Two one-ton ChlorTainer secondary containment vessels for chlorine gas cylinders were installed, in the room originally designed for the bleach tanks and associated equipment, to help allow for safe delivery of 160 ppd of chlorine for pre-and post-injection feeds, as well as helping for safe changeout of spent cylinders. The compact installation left plenty of room for a shop for trucks and backhoes, negating the need for a separate shop building.

Before joining the wholesale district, Hodgden had served for 15 years as a water treatment plant superintendent, and after that was a sales and support representative for a treatment chemicals manufacturer, so he was already familiar with the use of chlorine treatment, and how gas was often avoided, despite the savings available.

"There were lots of people using bleach (instead of gas), paying a lot more for chlorine, just because they didn't have to buy as much safety equipment," he recalled. "The state of Kansas requires a separate room, an exhaust fan, and several other odds and ends that add up. In rural areas they didn't have that up-front money, so they would just buy a tank and a pump, and pump the bleach straight into the water line. That way it was easier to get by the Kansas Department of Health and Environment (KDHE) and all the things they make you do."

Looking back on one of the design meetings for the new plant, Hodgden remembered a key discussion.

"We knew we could save a bunch of money using gas, delivering 100% chlorine, compared to only 1.25 lbs of chlorine per gallon of bleach, and end up (effectively) paying \$2.50/lb. for it," he said. "I volunteered going with gas, while asking how could we get around what KDHE wanted."

"Our engineer (Danny Coltrane of Midwest Engineering in Tulsa, OK) said he had seen the (special secondary containment) ChlorTainer®, and he gave me their contact info. They asked about the size of the plant, how much chlorine we were feeding, what kind of floor plan was available for their vessels, emailed back a quote, and how the room would look. The whole process, changing direction (from the bleach installation in the draft design), didn't take very long at all."

Hodgden added there was another benefit from the compact vessels installation in the new building that was originally designed to contain two 6500-gal. bulk tanks for bleach.

“We sectioned off one corner, and there was enough space left to build a shop,” he noted. “We saved so much space we ended up not having to purchase another shop building for trucks and backhoes.”

About 54% of the new plant total cost was paid for by U.S. Dept. of Agriculture (USDA) Rural Development (RD) Loans, and about another 44% by USDA grants. The ChlorTainers purchase was included in funding by the latter.

The secondary containment vessel manufacturer, Chlortainer/TGO Technologies, Inc. of Santa Rosa, CA, has announced that since the time of the installation at this Wilson County, KS water supply district, “the neighboring cities of Parsons, Independence, and Garnett, as well as the Miami County Rural Water District, have also chosen to implement Chlortainers, to protect their operators, and their surrounding communities.”

At the new Wilson County SWTP, two one-ton ChlorTainer secondary containment vessels for chlorine gas cylinders were installed, in the room originally designed for the bleach tanks and associated equipment, to help allow for safe delivery of 160 ppd of chlorine for pre-and post-injection feeds, as well as helping for safe changeout of spent cylinders.

500-ppd vacuum regulators mounted on the vessels connect to a valve wall panel. Water flows through



ChlorTainer's failsafe valve is powered open using nitrogen and electricity. If the power is lost, the failsafe valve will cycle closed, and will automatically cycle open when the power is restored.

a chlorine ejector and into a wall-mounted control panel before traveling to whichever feed point it supplies.

“The ChlorTainers are bullet-proof, maybe literally,” Hodgden added. “I have had zero issues with them. We do the annual maintenance and that’s about it. When starting up this new facility, we had 8 various chemical feed systems to get on line. Of those systems, the chlorine feed was the easiest, and has presented the least number of issues.”

ChlorTainer’s failsafe valve is powered open using nitrogen and electricity. If the power is lost, the failsafe valve will cycle closed, and will automatically cycle open when the power is restored.

The self-contained, simple, passive design means there are no pumps, fans, scrubbers, or caustic

circulation systems, nor is there any need for backup electric power. The vessels enclose chlorine gas cylinders, the chlorine transfer hose, and seismic lock-down brackets. The chlorine transfer hose is attached to the supply valve, pressurized, and tested for any leaks at the hose ends. Then the door is closed and secured by a clamshell locking mechanism.

Operators switch to the standby containment vessel automatically when the full cylinder runs empty, opening the vacuum breaker valve. The switch-over is performed automatically, and does not require personnel to be present. With any accidental leaks of chlorine kept within the containment vessel, no atmospheric venting is generated.

The vessels are ASME-rated pressure tanks, and any leaks are recycled to the injection system at a normal flow rate. A failsafe valve ties into the chlorine leak detection sensor, so that in the event of an external release, the nitrogen failsafe valve will close, stopping it completely. Any leak or release of chlorine gas from the vacuum line downstream of a vacuum regulator will lose the vacuum condition, and cause the vacuum regulator to close, stopping the flow of chlorine gas to the vacuum line. The maximum release of chlorine gas will be the amount of chlorine gas that is in the length of the vacuum line to the chlorine injector, and not drawn into the water solution by the suction of the injector.

ChlorTainer provides safety containment, not only for chlorine gas, but for sulfur dioxide and anhydrous ammonia as well.

The vessels' life expectancy is stated as no less than 100 years, given proper maintenance. This

features annually changing out the Viton O-ring on the door, which takes about half an hour of time and approximately \$200. Further information about ChlorTainer is available from Chlortainer/TGO Technologies Inc., <https://chlortainer.com>, (800) 543-6603, sales@ChlorTainer.com, 3641 Turnberry Circle, Santa Rosa, CA 95403.

**Cliff Lebowitz is Principal and Editorial Director at Catalytic Reporting, LLC, cliff@catalyticreporting.com. His third-party case histories, usually industrial equipment applications for water treatment, are based on interviews with end users and their engineering firms, and are approved by them for accuracy and completeness. He holds a B.S. in Biology from Rutgers University.*

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 **BLACK & VEATCH**

Listen Up to Protect Your Hearing

by Dan Riney, KsAWWA Safety Committee Chair

A good analogy to explain how hearing loss occurs is to visualize a thick grassy lawn. As you walk across the grass, the grass bends down because of your weight. After you pass, the grass stands back up. The more you walk across the same area, the longer it takes for the grass to stand back upright. If you continue to walk across the same area, eventually the grass will die, and the area becomes a dirt path.

Why Hearing Protection is Important

The same thing can happen to your hearing. When sound vibrations enter your ear, tiny hair cells in the inner ear change the vibrations into nerve impulses. These nerve impulses are then transmitted to the brain where they are translated into the sounds we hear. When the hair cells are subjected to excessive noise, they begin to lie down much like the grass does when we walk across it. After the noise subsides, the hair cells stand back up. Over time, the more noise hair cells are exposed to, the longer it takes for them to stand back up. Eventually, just like the grass, they fail to stand back up resulting in permanent hearing loss.


Wearing the proper protective hearing equipment reduces the outside noise to below 85 decibels (dB). This level is considered safe to work in throughout an eight-hour day. Prolonged exposure to any noise above 85 dB can cause gradual hearing loss. The

higher the decibel level exposed, the shorter the acceptable time one can work around the noise. The CDC says that regular exposure to 110 dB for more than one minute risks permanent hearing loss. This is the level an average chainsaw makes. An ambulance siren is about 120 dB.

How to Protect Your Hearing

The noise level can be reduced by wearing the appropriate hearing protection. All hearing protection must be labeled to show its effectiveness. The effectiveness is rated via the noise reduction rating (NRR). The higher the NRR, the more protection provided. If the outside noise is 110 dB, hearing protection with an NRR of at least 25 dB would be needed to keep the noise level at 85 dB ($110 \text{ dB} - 25 \text{ dB} = 85 \text{ dB}$).

Additional protection can be obtained by wearing an earmuff over ear plugs. Don't be fooled, however, into believing that the protection will be the total of both NRRs added together. The added protection will only muffle about 2 to 5 dB.

Visit OSHA's Hearing Protection Program website at <https://www.osha.gov/noise> for more information. 



DENISE FRIDAY

Control Operator
City of Olathe

How comfortable do you feel working in this industry?

“ I feel very comfortable working in this industry; it has allowed me to know more about my community and what all is involved in producing safe drinking water.

Black History Month Feature

What drew you to the water industry?

“ Being able to use my science degree and exploring all the possibilities that this industry has to offer

What motivated you to join KS AWWA?

“ The underrepresented minorities and women working in this field and having a seat on the boards/tables

What advice would you give to a young person considering a career in water/wastewater?

“ The information that you learned in school are the building blocks to your success in the future.

What do you like to do on the weekends?

“ Spending time with my nephews and nieces, exploring new adventures, and enjoying Sunday dinners with my family



Friday, August 4
1:00 P.M. Shoot

Powder Creek Shooting Park
8601 Monticello Rd • Lenexa, KS

**NEW FORMAT
AND LOCATION!**

DETAILS

Due to the 2023 KWEA / KsAWWA Joint Conference being in Wichita and to avoid the schedule conflict with the conference charity golf tournament, this year's "Water For People" Sporting Clay Shoot will be held in the Kansas City area.

A new format features sign-up options for team registrations by corporate sponsors. Individual shooters are still welcome and will be paired with other individuals or teams.

WHAT TO BRING

Bring your own gun, ear protection, safety glasses, and ammunition (7 ½, 8, or 9 shot). If you have any questions, please contact Andrew Hansen.

SCHEDULE

11:30 a.m. – 1:00 p.m.

Lunch and registration

1:00 – 3:30 p.m.

Sporting clays shoot (100 rounds)

3:30 – 5:00 p.m.

Awards, social hour, and refreshments

TEAMS & SPONSORSHIPS

Team of 4 Shooters.....	\$400
Team of 4 and Station Sponsorship.....	\$500
Individual Shooter.....	\$100

Lunch and bar sponsorships available.

Contact Andrew Hansen at (913) 458-3417.

SHOOTER REGISTRATION

TEAM NAME (Mark N/A if individual)

SHOOTER #1

SHOOTER #2

SHOOTER #3

SHOOTER #4

ORGANIZATION / COMPANY

EMAIL ADDRESS

PHONE

TOTAL ENCLOSED

REGISTRATION

Register online at <https://www.kswaterwastewater.com>.

If you must pay by check, please complete this form, make checks payable in full, and mail to:

KsAWWA – Water For People
PO Box 3046
Salina, KS 67402

QUESTIONS?

Andrew Hansen
(913) 458-3417
hansenaj@bv.com

MARK YOUR CALENDAR...

Annual KWEA / KsAWWA Joint Annual Conference

2023

Hyatt Regency
& Century II Convention Center
Wichita, Kansas
August 29-31

2024

Hyatt Regency
& Century II Convention Center
Wichita, Kansas
August 27-29

AWWA Annual Conference

June 11-14, 2023 Toronto, Canada

June 10-13, 2024 Anaheim, CA

June 8-11, 2025 Denver, CO

June 21-24, 2026 Washington, D.C.

June 13-16, 2027 San Diego, CA

KsAWWA Meetings

July 28, 2023 Board & Committee Meeting

August 29, 2023 Annual Meeting