WIFA is seeking applications for infrastructure planning or design projects that will help prepare facilities for project construction. Funding is available for drinking water, wastewater and stormwater projects.

**Available Funding**
- Up to $35,000 per project
  - Priority to projects that correct or prevent a public health or water quality concern, and “green” projects designed to improve water or energy efficiency or incorporate green stormwater infrastructure.
  - Total funding available: Drinking Water Projects - $200,000; Wastewater/Stormwater - $100,000

**Eligible Applicants**
- Cities, towns, special districts, tribal entities, and ACC-regulated private water companies

**Application Resources**
- Request for Applications
- Applicant’s Guide
  - Available online: www.azwifa.gov/technical-assistance-program

**Apply Online**
applicant.azwifa.gov

**Contact**
Sara Konrad: (602) 364-1319 or skonrad@azwifa.gov

*continued on page 44*
Below is a summary of the projects that have been completed during the quarter, both loans and technical assistance projects. We hope you will enjoy reading about the successes and results of the funding that WIFA is providing to Arizona’s communities.

Q1 Summary:

4 projects completed (4 loans, 2 technical assistance projects)
- $4,583,315
  - $4,517,450 in loans
  - $65,865 in technical assistance funding
- 4 drinking water projects
  - 3 completed by small/rural communities (less than 10,000)

Completed Loans

City of Buckeye
Population: 25,000
Airport Well Project
Loan Amount: $3,617,450
Project Results: The City rehabilitated Well #2 to restore optimal service conditions and provide better quality water to historic downtown Buckeye, the airport, and redundancy to the Hopeville water system. Rehabilitation of Well #2 included replacing the well casing, deepening the well from 305 feet to approximately 850 feet, and installing a new well pump. A transmission main was installed to connect to the Hopeville well and historic Buckeye water supply. Included in the site design is a 1,000,000 gallon steel storage tank and booster pump station. These major water distribution improvements have brought reliability and efficiency to the City of Buckeye water system while reducing operating costs.
City of Williams
Population: 3,145
Supplement to Water Supply Project
Loan Amount: $900,000
Project Results: This loan provided funds for cost overruns from the City’s previous WIFA loan. Included in these costs was the rehabilitation of both the Dogtown 1 Well and the Rodeo Well to working status. The overall project resulted in water supply improvements needed to address critical shortage in water supply to meet current demand.

Completed Technical Assistance Projects

Town of Clarkdale
Population: 4,097
Upper Town Water Main Replacement Project
TA Amount: $35,000
Project Results: The Town utilized WIFA’s TA funding to create construction design plans for Water Main improvements in Upper Town, including expansions to 8 inch and 12 inch water mains. With these plans the Town of Clarkdale has received an Approval to Construct from Yavapai County Developmental Services. The Town utilized a WIFA loan to fund the construction of the water main replacement project. The construction is nearly complete, allowing the City to improve efficiency and reliability to the water distribution system.

Monte Vista Water Company
Population: 85
Arsenic Removal System Design, Permitting, and Training
TA Amount: $30,865
Project Results: With this technical assistance award, Monte Vista Water Company created an Arsenic Treatment System and tank design plan to address arsenic MCL exceedances. With the deliverables, the Company plans to install an Arsenic Treatment System to reduce arsenic to acceptable levels, providing safe and reliable drinking water to the community.
movers & shakers

The Leadership Committee would like to introduce a new feature to the Kachina News. With each issue, we will highlight a member of the Association who is moving up, moving on, or moving out along with another member who is going, or has the potential, to be shaking things up in ways big or small. Our first two members to be highlighted are Tom Galeziewski who is, after many years, moving off the Board of Directors and Darlene Helm, who is newly elected to the Board. So we say a heartfelt “THANK YOU” to Tom for his years of service and wish Darlene “Good Luck!” as she begins a new chapter in her AZ Water involvement.

TOM GALEZIEWSKI, PE

Tom is a Vice President and Senior Professional Associate with HDR in the Phoenix office, where he provides project management and quality control services for a variety of water related projects for municipal clients throughout Arizona. Tom received a Bachelor of Science degree in Civil Engineering from the University of Notre Dame, and is a registered Professional Engineer in Arizona and California. Tom has been on the Board of Directors for seven years, beginning as a Director, and then working his way through the officer chairs. As the immediate Past President, Tom was Conference Chair for the 2017 Annual Conference & Exhibition, and now moves onto the Nominating Committee (comprised of the five immediate Past Presidents). If you know Tom, you know he has a great sense of humor.

Leadership Committee (LC): Tom, let’s start with an easy question. What’s your favorite flavor of ice cream?
Tom Galeziewski (TG): Chocolate chip cookie dough!

LC: What is your favorite place to go for a summer escape?
TG: Relaxing at a lakeside cottage in southern Michigan.

LC: How long have you been a member of AZ Water?
TG: (chuckles) It’s been so long, I don’t remember! 25 years?

LC: Why did you join AZ Water?
TG: I was active in the student chapter of ASCE at the University of Notre Dame and I continued that involvement after college when I moved to Phoenix. I was very involved in ASCE but realized that ASCE did not have a focus on water here in Arizona. I wanted to connect with professionals in the water industry and joined AZ Water, which was the Arizona Water & Pollution Control Association at the time. That led to me joining AWWA and WEF, and the rest is history!

LC: What roles have you served in during your membership in AZ Water?
TG: I started as the Water Treatment Chair, then Board Director, then moved through the officer chairs, serving as President in 2015/16.

LC: What is the best/greatest thing about being an AZ Water member?
TG: Being able to meet and hang out with great people who are dedicated to their profession! I have made a lot of friends during my years as a member. Being a member, and being active and involved, has been very rewarding.

LC: Who within AZ Water helped mentor and guide you in your career? What was the best advice or wisdom they gave to you?
TG: There have been a few along the way. Vance Lee showed confidence in me early in my AZ Water career and through his encouragement I became the chair of the Water Treatment committee. Brad Colby was always a kind, friendly face who was also very encouraging during my career. Finally, Don Manthe was able to provide good, sound advice, as well as some common sense, during my time as President. Each of them helped in many ways.
LC: You are a registered PE. What benefits do you see in obtaining licensing/certifications/registrations such as the PE, Operator Certificates, or project management for career development and progression?

TG: Obtaining licensing or certifications is important for a number of reasons. It shows that you are a part of a profession, and that what you do every day is not just a job. It shows that you take pride in what you do as a professional. It shows that you have the desire to learn and grow within your profession which is something employers want to see. And it shows your level of commitment to your profession.

LC: What do you think the greatest change in AZ Water has been during your time on the Board of Directors?

TG: The development of the Strategic Plan and the Association’s vision which has been carried forth with tremendous commitment from the Board and the Committee Chairs. The Board has placed the emphasis on the Committee Chairs to see the plan carried out which has led to a greater awareness of the Association’s vision and plan.

LC: What do you see as the greatest challenge facing the organization in the next 2-5 years?

TG: I think the greatest challenge is going to be becoming the trusted resource for the public for water issues in the state. Achieving this goal will require a tremendous amount of energy and commitment. We need to be able to achieve this goal without losing sight of our primary role of educating the membership on a vast array of technical issues at an affordable cost.

LC: What advice would you give to a new water professional as they start their career?

TG: First, never stop learning and taking continuing education courses, seminars, and workshops. Second, be open to new challenges and opportunities. These will allow you to grow personally and professionally. Third, understand that you are a professional and take an active role to further your profession. Start by being on a committee and try to actively participate. Again, this allows you to grow personally and professionally but it also helps you to see the big picture - how what you do fits in the larger vision for yourself, your company, your profession and your state.

LC: Let’s close with another easy question. What’s your favorite food or restaurant?

TG: Grimaldi’s Pizza!

---

**DARLENE HELM, PE.**

Darlene is a Civil Engineer Team Leader with the City of Phoenix Water Services Department. She received a bachelor’s degree in Civil Engineering from Arizona State University. As the Water Engineering Remote Facilities Team Leader, her main areas of emphasis are oversight and project management for large water infrastructure projects, remote facility assessment projects, reservoir rehabilitation projects and water supply well projects. Darlene is a member of AWWA, WEF, ASCE and AZ Water. Darlene is married to Ward and they have two children, Jacob and Kaitlyn. In her spare time away from work and AZ Water, she enjoys spending time with her family, watching her kids play soccer, lacrosse and volleyball, and running with their family dog, Sydney.

**Leadership Committee (LC):** Darlene, we will start with an easy question. What’s your favorite flavor of ice cream?

**Darlene Helm (DH):** I don’t usually eat ice cream, but when I do eat ice cream I usually pick rainbow sherbet.

LC: What is your favorite place to go for a summer escape?

DH: My favorite summer getaway is going to the San Diego area and spending time at the beach.

LC: How long have you been a member of AZ Water?

DH: I have been an AZ Water member since 2005.

---

LC: Why did you join AZ Water?

DH: I joined AZ Water to network with other water professionals and have a place where I felt I could discuss and learn about issues related to my profession.

LC: What roles have you served in during your membership in AZ Water?

DH: I started as a member of the Awards Committee in 2006 and then became chair in 2007. I was also involved in the Conference Technical Program Committee and the Water Distribution Committee. I have been a Member of the Select Society of Sanitary Sludge Shovelers since 2012, and I was elected to the Board at the 2017 Conference in May.

LC: What is the best/greatest thing about being an AZ Water member?

DH: Being an AZ Water member, has given me an opportunity to build so many relationships with people across Arizona who are a part of the water industry. I have gained resources through these relationships over the years. I am so thankful for all the people who are AZ Water!

LC: Who within AZ Water helped mentor and guide you in your career? What was the best advice or wisdom they gave to you?

DH: I didn’t have anyone in AZ Water provide career mentorship. But, I consider Teresa Smith-DeHesus my AZ Water mentor. She was instrumental in helping revamp the AZ Water Awards as the Board Liaison during the five years I was the Committee Chair. She provided great leadership and was always

continued on page 50
The AZ Water Association (Arizona) has named the 91st Avenue Wastewater Treatment Plant Digester 1 Rehabilitation in the City of Phoenix as the wastewater treatment plant (WWTP) project of the year, recognizing the proactive planning, collaborative process and design innovations that resulted in an efficient implementation of upgrades to this critical public infrastructure.

The need for upgrades to the plant to protect public health was identified by the City of Phoenix through their asset management program. GHD worked with PCL Construction, the general contractor, to determine what rehabilitation work would be most effective, and the City actively encouraged design innovations throughout the rehabilitation process. It was determined that appropriate rehabilitation activities would include the removal of the existing steel dome, pipe and appurtenances, repair of concrete and steel structures, and the design, fabrication, and construction of a new steel dome and features. The project delivery method allowed PCL Construction and GHD to collaborate from the very beginning of the process, allowing them to identify and mitigate impacts and challenges that could compromise the schedule or cost of the project.

The GHD team conducted a condition assessment, topographic survey, 3D-scanning, and mapping of the existing components in order to develop a holistic approach and design construction documents for the concrete repairs and steel dome removal, as well as the replacement of one 56-year-old digester, which is a 1.2 million gallon, above ground concrete tank, that is 90 feet in diameter and 30 feet tall with fixed steel cover.

Prior to construction, PCL implemented two mock-ups to ensure realistic conditions were created, which enabled the team to identify and correct any constructability issues before construction began on Digester 1. The coordination between GHD and PCL resulted in a lasting solution that will serve the City of Phoenix for years to come.

“The successful management of such a large and complex project requires multi-discipline approaches to develop, design, and deliver the rehabilitation of such aging infrastructure,” said GHD Project Manager Frederick Tack. “This is a significant project, rehabilitating large public infrastructure, that has demonstrated the value and benefit of effective life cycle planning and budgeting to meet the wastewater treatment and water reuse needs of the community.”

Originally built in the early 1960’s, the 91st Avenue WWTP is the largest in Arizona with an ultimate permitted design flow of 230 MGD. It includes seven individual activated sludge treatment systems operated in parallel, and also serves as a reclamation plant that provides an average of 60 MGD to the Palo Verde Nuclear Generating Station (PVNGS) for reuse. The project team was able to prepare the design and construction documents within six months, and PCL Construction completed the demolition, rehabilitation, and dome replacement in just over 12 months. By November 2016, the work was substantially completed and Digester 1 was turned back over to the 91st Avenue Wastewater Treatment Plant for operation.
American-BFV® Butterfly Valve
Available in sizes 3”-144”

- Tri-Loc™ Seat Retention System
- Field Adjustable/Replaceable Seat
- T316 Stainless Steel Uninterrupted Body Seat
- Fusion Bonded Epoxy and Rubber Lining Available
- Meets AWWA C504, C516; NSF/ANSI 61 & 372 Certified
- Multiple actuation options available

Val*Matic
630-941-7600

www.valmatic.com

West Tech Equipment
623-476-5600
encouraging us to do more to make the Awards Program a highlight of AZ Water. I can’t think of any specific words of wisdom she gave. But, she encouraged me to be more confident with my ideas and thoughts about how to make the organization better. She was also an advocate to find a committee in AZ Water and be involved. And, of course her energy and positive attitude definitely were infectious.

LC: You are a registered PE. What benefits do you see in obtaining licensing/certifications/registrations such as the PE, Operator Certificates, or project management for career development and progression?

DH: I believe it very important for personal growth as well as career development to obtain certifications/registrations for engineers and operators. Obtaining these certifications/registrations show a person’s capability and dedication to the industry which most organizations require to advance in our industry.

LC: You were just elected (at the Annual Conference in May) to the Board of Directors. What areas of managing the Association are you most interested in learning about?

DH: I am most interested in learning about membership demographics and the membership services committee. As an organization that continues to grow, I think it’s important to not lose sight of our individual members and to make sure we continue to have representation from all communities in Arizona.

LC: What do you see as the greatest challenge facing the organization in the next 2-5 years?

DH: Over the next 2-5 years, our organization’s ability to collaborate with Arizona communities during possible shortages on the Colorado River will be a huge challenge as many of our members work to ensure their communities continue to provide safe, reliable drinking water during the possible shortages.

LC: What advice would you give to a new water professional as they start their career?

DH: I think the best advice I could give to a new water professional is to find a job/career you love and then find an organization like AZ Water to build a network of people who will become resources throughout your career.

LC: Let’s close with another easy question. What’s your favorite food or restaurant?

DH: My favorite restaurant is Sauce.

PIPELINE ANSWERS

See questions on pages 30-31

WATER TREATMENT GRADES 1 & 2


WATER TREATMENT GRADES 3 & 4


WATER DISTRIBUTION GRADES 1 & 2


WATER DISTRIBUTION GRADES 3 & 4


WASTEWATER COLLECTION GRADES 1 & 2


WASTEWATER COLLECTION GRADES 3 & 4


WASTEWATER TREATMENT GRADES 1 & 2


WASTEWATER TREATMENT GRADES 3 & 4

As a former water utility manager, I would probably agree with the items contained in this list and probably rank them in similar priority order. Actually, when you look a little closer all five of these issues are very closely linked. Basically, you can’t be successful in any one of these areas without having some measure of success in addressing the others. I think the following statement from the 2017 Report sums it up pretty well:

“Thirty percent of utility personnel reported their utilities are currently struggling to cover the full cost of providing services, including R&R and expansion needs, through customer rates and fees, and this jumps to 37% when respondents considered the full cost of service in the future. Notably, 12% of respondents felt that their utilities were currently not at all able to cover the full cost of providing service.”

Assuming that the survey results represent the industry as a whole, this means that about 30% of our public water/wastewater utilities are not financially stable. This is a sobering thought. It is also a scary thought to imagine that these utilities have a key role to play in the health, safety and welfare of the people who live in the communities they serve. I don’t have any simple solutions – no silver bullet – to offer up, but the water industry really needs to take this information seriously. It should be seen as a call to action for all of us and we need to collectively come up with some solutions.

In closing, I think if you have a passion for this industry – and I believe all of us do – you might want to read through this report and get involved in some way to make the situation better. Perhaps that could be getting involved in the CECorps. Just saying!
BUILDING BETTER WATER QUALITY ONE JOB AT A TIME
National Green Infrastructure Certification Program celebrates a first year of successes

By Pallavi Raviprakash

The National Green Infrastructure Certification Program (NGICP) has two main purposes: to encourage water quality improvements via green infrastructure (GI) projects and to create jobs for those who know how to build them. NGICP took several major steps in the past year toward achieving these goals and has several more in the works.

Initiated under the leadership of DC Water and the Water Environment Federation, NGICP sets certification standards for green infrastructure (GI) construction, inspection, and maintenance workers. The program takes a different tone than most GI and water quality programs. It focuses on the “how” of GI. The program’s certification establishes green workforces to give utilities and private customers confidence in their choice of landscape and construction providers. It also provides a credential to certified workers that meets international best practice standards. And because the program is national scope the same certification will apply from coast to coast, providing a “portable” credential that will expand beyond the U.S. eventually.

Major development
During the development phase of the program in 2016, NGICP took several major steps to carefully conceive a nationally relevant certification program. WEF convened 14 founding partners (see list on p. XIX) to create the necessary governance and foundational materials.

Representatives from the founding partner organizations participated in the Technical Advisory Group (TAG) and the Strategic Advisory Group (SAG). The TAG oversees the development of the program’s technical components, while the SAG develops the vision and the implementation plan for the national rollout of the NGICP. A separate Certification Council oversees the program’s governance elements.

First, these groups conducted a job task analysis survey to determine what components the program needed to cover. They fed these survey results into an exam blueprint, which led to an official curriculum. Training support materials came next as the first exam was developed.

First exam
This progression led to the inaugural NGICP exam on Dec. 13, 2016. Seven locations — corresponding to many of the founding partners — hosted the exam for more than 90 applicants. Exam locations included:

- Washington, DC
- Baltimore, MD
- Rockville, MD
- Harrisburg, PA
- Pittsburgh, PA
- Fairfax County, VA
- Milwaukee, WI

The 3-hour exam tested applicants on their knowledge of entry-level green infrastructure fundamentals, construction methods, inspection techniques, and maintenance procedures in accordance with the Exam Blueprint.

First class and continued improvement
On Jan. 26, 2017, NGICP announced its first class of 62 certified individuals who passed the exam.

Now, NGICP will use this year to refine policies and procedures and continue to build the exam database.

For 2017, training and exams will be available only through the NGICP founding partner organizations. Plans are underway to offer additional NGICP training sessions and exams in the spring and fall. The first exam date in 2017 is set for June 6 and the second in November (specific date TBD).

National debut
In 2018, NGICP will celebrate another milestone: the national launch of the program. This expansion will broaden the partnership and enable other utilities and municipalities to join. Affiliate partners could include nongovernmental organizations, workforce centers, government entities, trainers, and training providers who share a common goal of developing a GI workforce.

Through this nationwide program certified individuals can set foot on long-term and sustainable path for living wage jobs — often in dense, urban areas where such opportunities can be scarce. By design, these are the same communities where utilities are investing in GI projects.

NGICP will help to ensure a beneficial cycle of employment, water quality improvement, and community development. The workers benefit from employment. The utilities benefit from low-impact, distributed stormwater management. The community benefits from the ancillary advantages of GI such as more green spaces and neighborhood beautification as well as air quality and habitat improvements.

For more background on NGICP as well as the latest news, visit www.ngicp.org.

Pallavi Raviprakash, Technical Programs Manager at WEF has provided technical support on several stormwater initiatives at WEF. She has been involved with the development and management of the NGICP. She has over ten years of experience working in the water resources field, both in the private consulting and non-profit worlds, and holds a bachelor’s and master’s degree in Environmental Engineering.
Odor problem?
ECS offers the right solution for your odor control problem.

ECS Environmental Solutions provides an unbiased approach to odor control with a complete line of technology and media offerings.

CHEMICAL SCRUBBERS • BIOTOWERS • BIOFILTERS • CARBON ABSORBERS

We offer a complete line of odor control equipment and accessories including Pre-Filters, Fans, FRP Ductwork, Dampers, Degasifiers, Chemical Storage Tanks, Sound Attenuation Packages and more.

All major components are manufactured in our 110,000 square foot facility located in Belton, TX giving ECS complete control over quality and delivery expectations.

ECS EQUIPMENT IS PROUDLY MADE IN THE U.S.A.

32211 N 16th Ave., Phoenix, AZ 85085  www.iessouthwest.com
Many of the present day processes and/or machines that we take for granted today — had their beginnings back in the late 1800’s — early 1900’s. Their source of power was true horsepower and, in the case of the first traveling concrete mixer — one horse power. The article included below was published in the Fall of 1900 in the Engineering News (Volume XLIV).

The concrete mixer described was developed as a “spin off” of the Washington D.C. capital improvements project for the construction of electric conduit railways in that city. Note that the mechanism was designed with a way to take the mixing facet out of gear — if the (one) horse pulling/powering this machine couldn’t handle it while going uphill, etc.!

**A TRAVELING CONCRETE MIXER**

With the great increase of the use of concrete in recent years, inventors have turned their attention to machinery for its preparation; and the standard and well-known machines for this purpose are now supplemented by a number of ingenious contrivances, many of which have been illustrated in these columns. Decidedly the most novel apparatus in this line which we have ever seen, however, is that which is illustrated in the accompanying cuts. It has been christened the “dromedary”, not, we believe, with any intention of disrespect to the beast which furnishes the motive power, but because the two halves of the concrete carrying case, as they lie inverted on the frame after dumping, can be made to resemble, with a good imagination, the two humps of a camel.

The idea of the mixer will be evident at a glance. Instead of using steam power to churn the concrete in a box, like the common mixer, the box or drum is placed on wheels and is so connected to them as to slowly revolve while a horse is drawing it from the place where the ingredients are piled to the place where the concrete is to be used. The accompanying half-tone views show the machine with the mixing drum in different positions.

The capacity of the drum is 21.6 cu. ft., or 0.8 cu. yd., and it is designed to hold sufficient ingredients to make 1/2 cu. yd. of rammed concrete in place. The ingredients shoveled in separately will nearly fill the drum, but they shrink rapidly as the cart moves off and they become incorporated with each other. In operation the makers advise that the sand and cement be first shoveled in and then the mixer be hauled 50 to 60 ft. or more to the stone pile, where the rest of the materials may be added. For a wet concrete it is advised that the water be put in first; for a dry concrete it should be added with the stone after the sand and cement have been mixed.

The details of the machine may be understood by reference to Figs. 4 and 5. The drum can be opened either by the trap door, for filling, or by separating in two halves for dumping. When the trap door is opened, the drum goes out of gear with the carrying wheels, so that the mixer may be moved about as desired for convenience in loading. Closing the trap door throws the drum in gear automatically; and it is then ready to start off and mix its contents as it goes. In case of a hard pull or of the horse becoming stalled on the way to the dumping place, the driver can throw the mixer out of gear temporarily.

At the point where it is desired to dump, the driver raises a lever and releases an unlatching bar which opens the latch holding the two halves of the drum together, and it at once dumps its contents and at the same time automatically goes out of gear. This is all done without the horse or driver stopping. To close the drum the driver gives a pull on cleats on the back of one of the inverted sections and the two halves close and automatically lock the drum out of gear at the same time, so that the horse goes back to the loading place with the drum stationary. Numerous useful hints regarding the methods of operating the mixer and its most convenient application are given in a neat pamphlet just issued by the makers of the mixer, Messrs. Fisher & Saxton, 123 G St., N. E., Washington, D. C.

It will be apparent that this type of mixer finds its most advantageous application on street work, where it dispenses with the swarm of hand shovelers, the wheelbarrow brigade and the mixing platforms, usually employed on such work. The mixer was in fact developed as a result of experience in the construction of electric conduit railways in Washington, D. C. Mr. E. Saxton, of the above-named firm, is a contractor of large experience in the construction of cable and electric conduit railways, and in the first development of the “dromedary” mixers he used them for over 20,000 cu. yds. of concrete on conduit railway construction in Washington. They have since been successfully used for numerous other classes of street concrete work and are claimed to be advantageous in all concrete work, with the possible exception of work so large that it is desired to dispense with shoveling so far as possible and discharge materials from storage bins directly into a stationary mixer.

The quality of concrete made with the mixer is claimed to be the very best, and with proper care in proportioning the materials there...
seems every reason to believe that the machine should give perfect satisfaction in this respect.

The machine is the invention of Mr. Isaac H. Fisher, and is patented in the United States and foreign countries. We are indebted to the manufacturers, named above, for the photographs from which our illustrations are reproduced.

Figure 2 - The “Dromedary” concrete mixer loaded, closed and ready to move

Figure 2 - The “Dromedary” concrete mixer in dumping position

Figure 4 - Drum of “Dromedary” mixer in closed position.

Figure 5 - Drum of “Dromedary” mixer in dumping position.
UPDATE ON KW (H20) USING SUNSHINE TO POWER ARIZONA’S WATER FUTURE – A SURVEY OF ARIZONA WATER OPERATORS WITH SOLAR

The Spring edition of the Kachina News featured the above article highlighting experiences of water operators with solar at 15 communities in Arizona. From a chance encounter at the AZ Water Annual Conference & Exhibition with Jeremy McCall, Yuma’s Utilities Division Manager, article author Janet Bunchman learned Yuma installed a large sized solar system at both their water treatment and reclamation facilities. Yuma’s 1.2 MW total adjusts Arizona’s deployment of solar at water plants to 25.7 MW expected in 2017. The following is a brief synopsis of Yuma’s experiences with solar:

Yuma’s Agua Viva Water Treatment Facility (29 MGD) and the Desert Dunes Water Reclamation Facility (3.3 MGD) each installed a solar system similarly sized at 604 kW-DC in November of 2014. Solar power provides about 20% of the electrical use of the Agua Viva WTF and 23% of the Desert Dunes WRF. Yuma’s water plants combined annual solar production in 2016 of 2,358,868 kWh is equivalent to CO2 reductions from 1,768,983 pounds of coal or 245 home’s electrical use for a year. Both facilities’ systems are under 20 year Power Purchase Agreements (PPA’S) with a rate of $.045/kWh with a 1.5% annual rate escalator. This initial rate secured by Yuma with its solar vendor is the lowest cost/kWh reported in the survey. However, two other surveyed cities recently secured “fixed” 20 year rates of $.05 and .055/kWh for their systems. Yuma reported solar savings in excess of $33,000 in 2016 for the two installations.

Utilities Division Manager Jeremy McCall reports “no issues with preventative or routine maintenance. Maintenance events are scheduled in advance and the tasks are generally completed within one working shift with no impacts to staff or facility operations.” He further highlighted the motivation for solar at the Yuma’s plants was a City cost benefit analysis identifying solar would lower operational costs and be a good “hedge against rising electrical costs.” Plus he summarized, “Our solar project in Yuma is successful, as it provided a cost savings to our ratepayers and it allowed for no out of pocket expenses.”

(Please contact janet@bunchman.com if you are water facility with solar in Arizona and were inadvertently not contacted during research for the article.)
Partner with us
Optimize Operations and Improve Water Quality

Systems that complete the Partnership’s self-assessment process reduce filtered water turbidity by an average of over 60% and are recognized nationally! That’s an impressive accomplishment—one that builds confidence with customers, community, and regulators. Subscribe today and join the hundreds of utilities that rely on our guidance to optimize performance and deliver safe, high-quality water to millions.

The Partnership is an alliance of six prestigious drinking water organizations.

www.awwa.org/partnership

IN 1929, AMERICAN INVENTED THE MECHANICAL JOINT. TODAY WE BRING YOU ALPHA™.

Few things in the waterworks industry have been as innovative as the Mechanical Joint. Times have changed. And so has AMERICAN. Introducing the AMERICAN Flow Control Series 2500 with ALPHA™ ends. Now, you can use the same valve for ductile iron, HDPE, PVC, and even cast iron pipe. Unlike MJ, the restraint accessories come attached, leaving only one bolt on each end to tighten. That saves you time and money.

The AMERICAN Series 2500 with ALPHA™ ends—it’s the only gate valve you’ll ever need.

almost any material. no time at all.

AMERICAN FLOW CONTROL
the right way

www.american-usa.com
PO Box 3727, Birmingham, AL 35207 • Ph: 1-800-326-3051 • Fax: 1-800-616-3559
EOE/Vets/Disabled
ALPHA™ is a trademark of Romac Industries Inc. (U.S. Patent 8,494,106)
Call for Abstracts
91st Annual Conference & Exhibition

Call for Abstracts to Open August 2017
Share your knowledge with over 2,000 of your peers
Watch for a notification from AZ Water

91st Annual Conference & Exhibition
Phoenix Convention Center
May 2nd - 4th 2018 | Phoenix, AZ
The AZ Water Association’s 90th Annual Conference & Exhibition broke new ground as we lit the marquee at the Phoenix Convention Center for the first time! Almost two years of planning and preparation allowed us to continue the tradition of being the premier Water Event in the state while moving to the largest convention venue in Arizona. The move allowed us to increase the size of our Exhibition Hall space, resulting in over 240 manufacturer exhibits this year. Overall, we had over 2,000 conference participants, including over 1,440 attendees, 35 sponsors, and 550 exhibitors. With these numbers, we definitely filled our new venue, and the Conference had an air of excitement that was fun to be a part of.

As Conference Chair, I was blessed to have an amazing group of people who helped in the planning and execution of this event, led by our Conference Program Chair, Gretchen Baumgardner, and our Conference Coordinator, Lisa Culbert. We had great assistance from our Association Manager, Debbie Muse, our Manufacturer’s Representative, Mike Ambroziak, and our Registration Chair, Cindy Martinez, and an army of volunteers who made this year’s event a remarkable success. The willingness of our volunteers to selflessly take responsibility in service to our water community speaks volumes about the dedication we all have as water professionals and to our Association.

While the formal Conference program did not begin until Wednesday, the Conference activities kicked off on Tuesday with our Annual Golf Tournament, which supports the AZ Water Scholarship Fund. We sold out our foursomes for an awesome round of fun at the Legacy Golf Resort. Thanks to our sponsors and golfers, we raised over $20,000 for the Scholarship Fund. A special thanks to our Tournament organizers, Dave Iwanski, John Masche, Mike Ambroziak, and Jesse Black for planning an outstanding event!

With a new venue, we made some changes to our Conference program. A welcome site for many was the return of breakfast while waiting for the program to begin! Board President Marie Pearthree started the Conference proceedings by introducing Phoenix Council Member Thelda Williams, who welcomed us to Phoenix and the Convention Center. We then had our opening Keynote Address, given by Chad Pregracke, founder and President of Living Lands and Waters. Chad’s energy and enthusiasm was evident as he spoke about his passion and commitment to cleaning up the Mississippi River. It was a truly inspirational address, and Chad’s genuine style and personality provide a great start to the Conference.

Wednesday morning also featured the Grand Opening of the Exhibition Hall, and in addition to all the new vendors, this year saw the return of the Sewer History Exhibit, which has been on display at over 75 events across the United States since its last stop in Arizona in 2014. The Exhibition Hall also featured the Arizona Pure Water Brew Challenge mobile treatment unit, which will be on the road all across Arizona this summer educating our citizens about the benefits of direct potable reuse through a unique concept – creating pure water from effluent supplied by local treatment plants and pairing up with local craft brewers to make specialty beers for a taste challenge that will occur at the National Reuse Conference this September in Phoenix. They need volunteers to help at the various events this summer, so this is your chance to connect with the public and talk about water!

The Wednesday lunch was “on your own” this year, with no formal program, allowing you to stay on-site and eat in the Exhibition Hall while meeting up with friends and colleagues, or to go off-site and eat lunch in downtown Phoenix. Many enjoyed the relaxed atmosphere and the time to engage in conversation or walk the Exhibition Hall. The Wednesday events finished up with over 600 people attending the Conference BBQ at Copper Blues/Stand-up Live. Those of you who stayed around after the fire alarm went off found shorter food lines and some great entertainment, including a special set by our very own vocalist, Lisa Culbert!

In addition to technical sessions and operator training classes, Thursday’s schedule included our Job Fair, the Student Poster Competition, and the exciting Meter Mania finals in the Exhibition Hall. Thursday’s sessions also included technical presentations by our national AWWA and WEF representatives. Lunch was once again held in the Exhibition Hall, and numerous awards were presented to recognize and honor our operations professionals from around the State for the important work they do every day of the year. Immediately after the formal program on Thursday, an Awards Ceremony was held at the Hyatt Regency, which included a number of Association Awards as well as the induction ceremony for the...
Celebrating 90 years of educating Arizona’s water professionals

90th Annual Conference & Exhibition

2017 Sponsors

PLATINUM

ARCADIS

Design & Consultancy for natural and built assets

Carollo

Engineers...Working Wonders With Water®

EPCOR

Supporting community and economic development through access to capital.

AZ Water Association
Celebrating 90 years of educating Arizona’s water professionals

90th Annual Conference & Exhibition

2017 Sponsors

GOLD

BLACK & VEATCH

ch2m:

Brown and Caldwell

HDR

M.E. Simpson Co., Inc.

Stantec

SILVER

Kiewit

Felix Construction Company

Mortenson

Achen Gardner

Hazen

Stanley Consultants Inc.

PCL Construction

Southwest Groundwater

MGC

COPPER

CDM Smith

Clow Valve Co.

Garney Construction

GHD Inc.

Hach

J.L. Wingert Co.

Keller Electrical Industries, Inc.

Mead & Hunt

Mueller Co.

Nanostone

TestAmerica Laboratories Inc.
AZ WATER AWARDS

PROJECTS AND INDIVIDUAL AWARDS

2017 Water System Project of the Year
See article on page 22
Scenario 6 Water Transmission Main
• City of Phoenix
• Dibble Engineering
• Kiewit Infrastructure West Co.

2017 Wastewater System Project of the Year
See article on page 14
Manganaro Lift Station Rehabilitation
• City of Chandler
• Wilson Engineers
• Archer Western

2017 Water Treatment Project of the Year
See article on page 32
Superstition Area Water Plant
• Apache Junction Water District
• Garney Construction

2017 Wastewater Treatment Project of the Year
See article on page 48
91st Avenue WWTP Digester 1 Rehabilitation
• City of Phoenix
• GHD, Inc.
• PCL Construction, Inc.

2017 Water Reuse Project of the Year
See article on page 36
Ocotillo Recharge Facility ASR Well Expansion
• City of Chandler
• Wilson Engineers
• PCL Construction, Inc.

Nathan Burbank
Environmental Educator Award
Morteza Abbassazadeh
Congratulations!

Engineer of the Year
Matthew Adams
Congratulations!

Construction Professional of the Year
Ken Slota
Congratulations!

Operations Leader of the Year
Sarah Rogowski
Congratulations!

Young Professional of the Year
Sarah Rogowski
Congratulations!

Quentin Mees Research Award
Biofouling Mitigation in Forward Osmosis Using Graphene Oxide Functionalized Thin-Film Composite Membranes
Francois Perrault and co-authors,
Congratulations!

Select Society of Sanitary Sludge Shovelers
Congratulations!

Environmental Stewardship Award
Brad Hill
Congratulations!

Kachina Award for Outstanding Service
Don Manthe
Congratulations!

Environmental Stewardship Award
Brad Hill
Congratulations!
OPERATIONS & PLANT AWARDS

Operations Supervisor of the Year
- Large System
Kurtis McDavis, Town of Gilbert
Congratulations!

Operations Supervisor of the Year
- Small System
Thomas Jessing, City of Peoria
Congratulations!

Operations Supervisor of the Year
- System - Small System
Ray Diaz, City of Goodyear
Congratulations!

Operations Supervisor of the Year
- Large System
Leonard Moreno, City of Avondale
Congratulations!

Operator of the Year
- Large Treatment Plant
Mark Williams, City of Peoria
Congratulations!

Operator of the Year
- Small Treatment Plant
Michael Osborn, Marana Water
Congratulations!

Operator of the Year - Large System
Joe Neitzel, City of Scottsdale
Congratulations!

Operator of the Year - Small System
Raymon Laborin, City of Goodyear
Congratulations!

Maintenance Mechanic of the Year
- Large System
Cory Bott, Metro Water District
Congratulations!

Electrician of the Year - Large System
Lee Potacki, Glendale/West Area Reclamation Facility
Congratulations!

Electrician of the Year
- Small System
Shaun Meehan, Metro Water District
Congratulations!

Laboratory Analyst of the Year
Brian Griego, City of Peoria
Congratulations!

Technology Professional of the Year - Large System
Kathleen Garcia, City of Peoria
Congratulations!

Technology Professional of the Year - Small System
Phil Combs, City of Goodyear
Congratulations!

Large System of the Year
Distribution System, City of Glendale
Congratulations!

Small System of the Year
Marana Water Dept. Town of Marana
Congratulations!

Large Treatment Plant of the Year
Tres Rios Regional Wastewater Reclamation Facility, PCRWRD
Congratulations!

Large System of the Year
Tres Rios Regional Wastewater Reclamation Facility, PCRWRD
Congratulations!
Small Treatment Plant of the Year
Superstition Area Water Plant
Apache Junction Water District
Congratulations!

Gimmicks and Gadgets
WAKR® Eye Wash Safety Device
(Wash Activated Key Retrieval)
EPCOR, Anthem Campus

Meter Mania Competition
A complete write up on this year’s competition and solicitation for involvement at the 2018 Annual Conference & Exhibition with plenty of event pictures will be highlighted in the fall issue of the AZ Water Kachina News.

1st Place Individual
Adrian Servin, City of Goodyear, Congratulations!

1st Place Team
City of Peoria: Jacob McKenna, Rafael Rios, Keith James, Towanda Heape, Tom Davis, Congratulations!

SAFETY AWARDS

City of Chandler
• Airport Water Reclamation Facility

City of Glendale
• Arrowhead Ranch Reclamation Facility
• West Area Wastewater Reclamation Facility
• Distribution System
• Wastewater Collection System
• Oasis Water Treatment Campus
• Pyramid Peak Water Treatment Plant
• Cholla Water Treatment Plant

Yavapai Nation
• Fort McDowell Water Reclamation Facility

City of Peoria
• Well Production Division
• Water Distribution Division
• Jomax Water Reclamation Facility
• Wastewater Collections Division
• Quintero Water Treatment Plant
• Beardsley Water Reclamation Facility
• Greenway Water Treatment Plant

City of Surprise
• SPA 2 Water Reclamation Facility
• Water Distribution System
• Water Treatment
• Wastewater Treatment

CH2M
• Prescott Valley Collection System
• Prescott Valley Advanced Treatment Facility
• Prescott Valley Mingus System
• Prescott Valley Viewpoint System
• Prescott Valley Lower System
• Prescott Valley Upper System
• Prescott Valley Water District

City of Safford
• Safford Water Reclamation Facility

City of Tucson
• Tucson Water

Red Rock Utilities, LLC
• Red Rock Water Reclamation Facility

Town of Gilbert
• Gilbert Neely Wastewater Reclamation Facility

EPCOR Water
• Verrado Water Reclamation Facility
• Tubac Water Treatment
• Tubac Water Distribution System
• Anthem Wastewater Collection System
• Anthem Water Distribution System
• Paradise Valley Water Distribution System
• Chaparral Water Distribution System
• Lake Havasu Water Distribution System
• Sun City Water Distribution System
• Fountain Hills Water Distribution System
• Anthem Wastewater Treatment
• White Tanks Water Treatment
• Northwest Valley Wastewater Treatment
• Bullhead City Wastewater Treatment
• Bullhead City Water Distribution System
### WEF AWARDS

**Arthur Sidney Bedell Award**

**Stephen E. Davis, P.E., BCEE**

The Arthur Sidney Bedell Award is presented annually by the Water Environment Federation (WEF) to the sections’ respective selected member to acknowledge extraordinary personal service to the WEF Member Association.

Paul Bowen, WEF Representative, congratulates Steve Davis (L).

### WEF AWARDS

**Laboratory Analyst Award**

**Cynthia Garcia, Congratulations!**

The Laboratory Analyst Award is presented to individuals for outstanding performance, professionalism and contributions to the water quality analysis profession.

### AWWA AWARDS

**George Warren Fuller Award**

**Matthew Rexing**

The George Warren Fuller Award is presented annually by the American Water Works Association to the sections’ respective selected members for their distinguished service to the water supply field in commemoration of the sound engineering skill...brilliant diplomatic talent...and constructive leadership which characterized the life of George Warren Fuller.

Mitch Kannenberg, AWWA Representative, congratulates Matt Rexing (L).

**Water For People**

**Kenneth J. Miller Award**

**Amy Baker**

Congratulations! A person who has provided exemplary service to Water For People through project facilitation, fund raising, education and/or raising the awareness of Water For People and its work. AZ Water has been recognizing its most committee volunteer with the Kenneth J. Miller Founder Award since 2002.

**AWWA Tenure Awards**

#### Life Member Award Recipients

- Nick Androsiuk
- Charles P. Gerba
- Don B. Hammon
- Robert A. Hollander

#### Silver Drop Award Recipients

- Scott L. Anderson
- Theodore B. Bailey
- Wick Baker
- Charles R. Barney
- Frank L. Bianco
- Stan R. Bullard
- Zaid K. Chowdhury
- Aimee D. Conroy
- Laxman M. Devkota
- Craig E. Dotseth
- Timothy Francis
- Joel S. Goode
- Larry A. Hanson
- David A. Heighway
- Rhonda M. Heinl
- Lisa A. Jackson
- Ronald D. Joost
- Rex P. Kontz
- Eric Laurin
- Billy J. Linville
- Jim C. Lozier

- David R. Mahaffay
- George P. Maseeh
- Dan W. Meyer
- Kim Neill
- Steve Olae
- Carlos A. Padilla
- David B. Petty
- Robert L. Prince
- Matthew M. Rexing
- Kenneth D. Rock
- Philip C. Saletta
- Thomas G. Sands
- Vicki-Lynne Scott
- Gayle D. Thorneycroft
- Jeffrey A. Van Hoy
- Chris E. Ward
- John B. Wesnitzer
- Gary S. Whitten
- James L. Williams
- Damon S. Williams
## Exhibitors

<table>
<thead>
<tr>
<th>Exhibitor/Booth Number(s)</th>
<th>Exhibitor/Booth Number(s)</th>
<th>Exhibitor/Booth Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABBI</td>
<td>637</td>
<td>Process Technology, Inc.</td>
</tr>
<tr>
<td>ACCUPLATE CORROSION CONTROL INC</td>
<td>2117, 1119</td>
<td>1226</td>
</tr>
<tr>
<td>Achen Gardner Construction</td>
<td>809</td>
<td>Professional Pipe Services (Pro-Pipe)</td>
</tr>
<tr>
<td>Adaptor Inc.</td>
<td>1023</td>
<td>Pump Systems, Inc.</td>
</tr>
<tr>
<td>Agilent Technologies</td>
<td>1206</td>
<td>Pure Technologies U.S. Inc.</td>
</tr>
<tr>
<td>American Flow Control</td>
<td>1058</td>
<td>Purilite Corporation</td>
</tr>
<tr>
<td>Amazon Water Transmission Group</td>
<td>1034</td>
<td>Quamea Technology</td>
</tr>
<tr>
<td>Applied Process Equipment</td>
<td>1203</td>
<td>Quantum</td>
</tr>
<tr>
<td>Applied Products Group</td>
<td>700, 702, 704</td>
<td>Raven Lighting Systems</td>
</tr>
<tr>
<td>Aqua Metrology Systems</td>
<td>1105</td>
<td>REACO Associates LLC</td>
</tr>
<tr>
<td>Aquatec Corp</td>
<td>925</td>
<td>Relevant Solutions</td>
</tr>
<tr>
<td>Archer Western Construction</td>
<td>600</td>
<td>Romac Industries Inc</td>
</tr>
<tr>
<td>Arizona Tap Maker, Inc.</td>
<td>1108</td>
<td>Roscoe Moss Company</td>
</tr>
<tr>
<td>Armorcoat Products Company</td>
<td>1039</td>
<td>Rosenfield Electric</td>
</tr>
<tr>
<td>Armorroc, LLC</td>
<td>514, 516</td>
<td>Rust Automation &amp; Controls Inc</td>
</tr>
<tr>
<td>AUC Group, L.P.</td>
<td>1204</td>
<td>Schweitzer Engineering Laboratories</td>
</tr>
<tr>
<td>AZ Wastewater Industries, Inc.</td>
<td>1028</td>
<td>Sea-Today, LLC</td>
</tr>
<tr>
<td>B &amp; W Distribution, Inc.</td>
<td>436</td>
<td>Soudler, Miller &amp; Associates</td>
</tr>
<tr>
<td>Bio-Aquatic Testing, Inc.</td>
<td>915</td>
<td>Southwest Groundwater Consultants</td>
</tr>
<tr>
<td>Border Marketing Inc.</td>
<td>406</td>
<td>Southwest Valve and Equipment</td>
</tr>
<tr>
<td>Building Products Company</td>
<td>511</td>
<td>Stanley Consultants</td>
</tr>
<tr>
<td>Burgess &amp; Niple, Inc.</td>
<td>1022</td>
<td>Stanice Consulting Services Inc</td>
</tr>
<tr>
<td>Calgon Carbon Corporation</td>
<td>502</td>
<td>SUEZ Water Advanced Solutions</td>
</tr>
<tr>
<td>Chemical Feeding Technologies, Inc.</td>
<td>1118</td>
<td>Sunbelt Rentals</td>
</tr>
<tr>
<td>City of Glendale Water Services</td>
<td>1217</td>
<td>Superior Tank Solutions</td>
</tr>
<tr>
<td>Cityworks</td>
<td>1130</td>
<td>SWY SERVICES LLC</td>
</tr>
<tr>
<td>Civitex Engineering, Inc.</td>
<td>529</td>
<td>Swan Analytical USA</td>
</tr>
<tr>
<td>Clai Val</td>
<td>904</td>
<td>Tank Industry Consultants</td>
</tr>
<tr>
<td>CPM - Rehab</td>
<td>819</td>
<td>Ten Solutions Consultants LLC</td>
</tr>
<tr>
<td>CPM - Valve Solutions Incorporated</td>
<td>825</td>
<td>TexasAquatec</td>
</tr>
<tr>
<td>CPM - Y-Tec Air Valves</td>
<td>922</td>
<td>TGO Technologies</td>
</tr>
<tr>
<td>CPM - Radlinger Primes Line</td>
<td>924</td>
<td>The Comerz Higgins Company</td>
</tr>
<tr>
<td>Delwh Water Systems/ Blue White Inc.</td>
<td>624</td>
<td>Thompson Pipe Group - Flowrite</td>
</tr>
<tr>
<td>Diana Kepner Company, Inc.</td>
<td>1001, 1003, 1005</td>
<td>TIMI</td>
</tr>
<tr>
<td>Delta Systems Engineering, Inc.</td>
<td>931</td>
<td>Tuthill Pump Group</td>
</tr>
<tr>
<td>Detection Instruments Corp.</td>
<td>1212</td>
<td>U.S. Pipe</td>
</tr>
<tr>
<td>DN Tanks</td>
<td>1216</td>
<td>USA-BOOK</td>
</tr>
<tr>
<td>Duke’s Root Control, Inc.</td>
<td>1216</td>
<td>USG, LLC</td>
</tr>
<tr>
<td>EarthTec</td>
<td>1209</td>
<td>USP Technologies</td>
</tr>
<tr>
<td>Ecovender</td>
<td>1000</td>
<td>Utility Crane and Equipment</td>
</tr>
<tr>
<td>EIC Engineers LLC</td>
<td>1228</td>
<td>VAF filtration systems</td>
</tr>
<tr>
<td>Ef</td>
<td>1114</td>
<td>Valentine Environmental Engineers</td>
</tr>
<tr>
<td>Engineered with Layton</td>
<td>634</td>
<td>VEGA Americas</td>
</tr>
<tr>
<td>Entellus Inc</td>
<td>405</td>
<td>Vertech</td>
</tr>
<tr>
<td>Environmental Express</td>
<td>530</td>
<td>Vic Myers Associates</td>
</tr>
<tr>
<td>Environmental Operating Solutions, Inc.</td>
<td>505</td>
<td>Vicksa Co of America</td>
</tr>
<tr>
<td>Environix Erosion Analytical</td>
<td>1029</td>
<td>WACHS</td>
</tr>
<tr>
<td>Felix Construction Company</td>
<td>430</td>
<td>Water Infrastructure Finance Authority of Arizona</td>
</tr>
<tr>
<td>Ferguson Waterworks - Meter &amp; Automation Group</td>
<td>520, 512</td>
<td>WEG Electric Corp</td>
</tr>
<tr>
<td>Field Lining Systems, Inc.</td>
<td>902</td>
<td>Wendel</td>
</tr>
<tr>
<td>Ford Motor Co. Box, Inc.</td>
<td>617</td>
<td>West Tech Equipment</td>
</tr>
<tr>
<td>Fowley, Inc.</td>
<td>415</td>
<td>Western Environmental Equipment Co.</td>
</tr>
<tr>
<td>FUSE IT Pipe and Supply, LLC</td>
<td>535</td>
<td>WILEU-USA</td>
</tr>
<tr>
<td>Gavco</td>
<td>923</td>
<td>Workplace Safety Specialists</td>
</tr>
<tr>
<td>Gbobb Sampson</td>
<td>522, 533</td>
<td>Xensor Laboratories</td>
</tr>
<tr>
<td>GSM Arkansas</td>
<td>501, 603, 605</td>
<td>YLS Enterprises, LLC</td>
</tr>
<tr>
<td>GT Environmental</td>
<td>916</td>
<td>VSYSystm Analytics</td>
</tr>
<tr>
<td>Hach</td>
<td>1221</td>
<td>Zemmer USA</td>
</tr>
</tbody>
</table>

Celebrating 90 years of educating Arizona’s water professionals
Thank You to All Our Raffle Sponsors!

Grand Prize Sponsors

- American Ductile Iron Pipe
- Ecoverde
- Hazen
- Hydrosil International Ltd.
- Greeley and Hansen
- Whiting-Turner
- Entellus
- HilgartWilson
- FELIX Construction Company

Raffle Prize Sponsors

- Black & Veatch
- McCarthy
- CH2M
- CPM
- DN Tanks
- Unique Solutions

Proceeds benefit the Young Professionals Committee’s outreach and volunteer activities

Future City Competition | Recruitment of new AZ Water Members | E-Week
K-12 STEM Outreach | College and University Student Outreach
AZ Water 2017 Scholarships

AZ Water awarded $10,500 in scholarships for the 2017 Scholarship Program to undergraduate and graduate students at Arizona colleges and universities pursuing studies related to water, wastewater, or environmental resources.

The AZ Water annual scholarship judging takes into consideration the experience and interest of the students as well as their academic status (graduate, undergraduate, etc.) and students were judged against their peers.

This year’s Recipients are:

<table>
<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Institution</th>
<th>Prize amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Schubert</td>
<td>BS</td>
<td>Northern Arizona University</td>
<td>$ 2,000.00</td>
</tr>
<tr>
<td>Sam Carr</td>
<td>BS</td>
<td>Arizona State University</td>
<td>$ 1,500.00</td>
</tr>
<tr>
<td>Adam Gushgari</td>
<td>Ph.D</td>
<td>Arizona State University</td>
<td>$ 1,500.00</td>
</tr>
<tr>
<td>Srivatsan Mohana Rangan</td>
<td>MS</td>
<td>Arizona State University</td>
<td>$ 1,250.00</td>
</tr>
<tr>
<td>Aaron Dougherty</td>
<td>AS</td>
<td>Gateway Community College</td>
<td>$ 1,000.00</td>
</tr>
<tr>
<td>Hadley Habeck</td>
<td>BS</td>
<td>Northern Arizona University</td>
<td>$ 1,000.00</td>
</tr>
<tr>
<td>Anjali Mulchandani</td>
<td>Ph.D</td>
<td>Arizona State University</td>
<td>$ 1,000.00</td>
</tr>
<tr>
<td>Katie Phillips</td>
<td>MS</td>
<td>Arizona State University</td>
<td>$ 750.00</td>
</tr>
<tr>
<td>Joe Rudder</td>
<td>AS</td>
<td>Gateway Community College</td>
<td>$ 500.00</td>
</tr>
</tbody>
</table>
The 2017 AZ Water Scholarship Tournament raised a record-setting $24,000

On behalf of our Board of Directors, the Scholarship Committee, and the Golf Committee we want to thank you for your support and generosity

Happy Gilmore Hole Sponsors ($2500)
Kiewit
PCL Construction

Hole-in-One Sponsor
Avondale Dodge/Larry Miller Dodge

Individual Hole Sponsors ($1000)
Construction Product Marketing (3 holes)
McWane Ductile
Ameron
Rust Automation and Controls
VinylTech Pipe
Project Engineering Consultants
Carollo
Stantec
Fry’s Food & Drug
Mortenson
McCarthy Building Companies
Siemens
HDR, Inc.
U.S. Pipe
GHD
Ludovic Electric
CDM Smith
Globe Sampspon
ALB Piping
Combs Hopkins
CH2M
Aerzen
VicLauraic
Iwanski Family

Off the Charts Sponsor
Miller-Coors
(Rocky and his entire team)

Raffle Prize Donations
Tata & Howard
Engelman Berger Law Firm
Miller-Coors
The Legacy Golf Resort
Iwanski Family
Young Professionals Committee

Student Poster Contest

The Young Professionals Committee Congratulates The 2017 Conference Student Poster Contest Winners!

1st place – Sean Zimmerman
2nd place – Warren Kadoya
3rd place – Majid N. Zarif

Students presented their research in the form of a poster at the Annual AZ Water Conference and were judged by a special judging panel in attendance within the Exhibitors Hall.

If you have questions about this contest or are interested in participating, please contact Dylan Lesan (dlesan@carollo.com)
The Young Professionals Committee
Congratulates This Year’s Fresh Ideas Winner!

Hannah Ray

Hannah’s presentation at this year’s AZ Water Annual Conference titled, “Urea hydrolysis characterization and inhibition by chemical addition”,

won her the 2017 Fresh Ideas contest!

As this year’s winner she attended the 2017 AWWA Annual Conference & Exposition (ACE) in Philadelphia where she also won 3rd place in the ACE poster session.

The Fresh Ideas Contest will return to Arizona in 2018!

One lucky Young Professional will receive a FREE trip to the 2018 AWWA Annual Conference & Exposition, in Las Vegas, NV.

To participate, simply submit an abstract for the 2018 AZ Water Annual Conference and indicate your Interest on the submittal form.

Young Professionals are characterized as having 10 or fewer years of experience.
85% WBV  Wine Tasting Event 2017

Sunday SEPTEMBER 17, 2017
Terroir Wine Pub, 7001 N. Scottsdale Rd. #157, Scottsdale, AZ
Proceeds to Benefit Water For People

Check-in/Registration: 1:00-1:30 PM
Welcoming Remarks: 1:45 PM
Wine Tasting: 1:00-5:00 PM
Silent Auction: 1:00-4:00 PM
Auction Announced: 4:15-4:45 PM

Admission Fees:
☐ $35 (Must be 21 years of age or older to attend. ID will be verified at the event.)

This event is limited to 100 attendees. If more than 100 registrations are received, the first 100 paid registrants will receive priority admission and the overflow will be reimbursed the admission fees.

Register online at http://azwater.org/wine

This fundraising event is organized by the AZ Water Association Water for People Committee.

Water for People is a registered 501(c)(3) non-profit international organization dedicated to providing safe drinking water and adequate sanitation resources in developing countries.

For more information, please visit: waterforpeople.org

Go to: azwater.org/wine

Platinum Sponsor Package  $2,000
• 5”x7” logo on sponsor board.
• 6 Complimentary admissions to the wine event.
• Recognition during the event welcome speech and in the AZ Water Kachina Newsletter.

Gold Sponsor Package  $1,000
• 4”x6” logo on sponsor board.
• 4 Complimentary admissions to the wine event.
• Recognition during the event welcome speech and in the AZ Water Kachina Newsletter.

Silver Sponsor Package  $500
• 3”x5” logo on sponsor board.
• 2 Complimentary admissions to the wine event.
• Recognition during the event welcome speech and in the AZ Water Kachina Newsletter.

Bronze Sponsor Package  $300
• 2”x3” company logo displayed on sponsor board.
• Recognition during the event welcome speech and in the AZ Water Kachina Newsletter.

Questions? Please contact Amy Baker at waterforpeople@azwater.org or (623) 773-8465
modern practices are critical to planning for, building, operating, and maintaining our water and wastewater facilities to meet environmental, social, and economic needs.

A critical step to being recognized as the leading resource on water, is to increase the visibility and positive image of water industry professionals. We are deluged with television programs about firefighters, police, doctors, and lawyers. There was even a program about Parks and Rec. These professionals are important, but water professionals are deep in the trenches, both literally and figuratively, in protecting public health and the environment. Water industry professionals are up there with our first responders, and in fact, are sometimes the first responders. The industry has made substantial improvements regarding their visibility, credibility, and transparency, but we must continue and expand those efforts.

Finally, we must stay on top of technology and distribute that information through our Annual Conference, seminars, webinars and webcasts, and our luncheon programs, so that we can keep our members and all members of the water industry up to date.

3. **AZ Water’s “Arizona Water Network” will be visible and vocal in supporting investment:**

Most of us have heard of the bad grades given the water industry by the American Society of Civil Engineers. A “D” is never acceptable. In that regard, the AZ Water Association works with our national organizations, the American Water Works Association and the Water Environment Federation to inform lawmakers and policy makers of the need for and substantial benefits of investing in water infrastructure. Members of AZ Water Association attended the annual “Fly-In” to Washington, D.C. in March 2017, to talk to representatives of Congress and key Administrative agencies in support of increased infrastructure funding. Infrastructure improvement and funding has assumed a substantial narrative lately. We will continue with and ramp up these efforts as infrastructure improvement and financing discussions commence at the federal, state, and local levels. See the discussion about infrastructure by our Executive Director in this issue.

4. **AZ Water will continue to be a thriving and healthy volunteer organization**

We need to maintain and expand our membership to sustain the organization and the things we do. During this past year we developed an aggressive Membership Development Plan. The plan incorporates important elements of member retention and growth, those being clearly communicated benefits and value to being a member. Not just for the information we disseminate and training we provide, but also opportunities to get energized by and obtain leadership skills from participation in one or more of our many committees, animation and skills which will translate to your professional jobs, helping to advance careers.

The Strategic Plan feeds into our Business Plan, a dynamic document which includes a detailed roadmap being used to reach the Strategic Objectives.

The boots on the ground implementation is carried out by our committees, the cornerstone of our organization. The Board of Directors and Committee Chairs will meet in July for our Summer Leadership Retreat to re-engage and energize the troops. Join a committee and get involved.

Throughout the year I will report back to you on these and other AZ Water and water industry topics. I hope they will be informative and thought provoking.
Select Society of Sanitary Sludge Shovelers (SS).

Conference attendees this year may have noticed some young faces on Wednesday and Thursday. Thanks to the outreach efforts by Doug Kobrick and the Wastewater Treatment Committee, approximately 180 students from Payne Jr. High School in Queen Creek and Carl Hayden High School in Phoenix came to visit the Exhibition Hall and learn about the water profession. This was a great experience for both the students and our members, and we hope to continue and grow this program in the years ahead.

Friday featured a plenary panel discussion on Drought Contingency Planning on the Colorado River. The panel was moderated by Sarah Porter, Director at the KYI Center for Water Policy, and featured representatives from ADWR, CAP, Tucson Water, agricultural irrigation districts, and the Gila River Indian Community. Following the panel discussion, over 700 people attended the Friday luncheon held in the Ballroom, which featured a special closing Keynote Address by Senator Jon Kyl highlighting the importance of water and the work we do as water professionals to provide a safe, secure water future for Arizona. The luncheon closed with the passing of the gavel and a welcome address by our new Board President, Bob Hollander.

While we made some changes in format this year, the one thing that remained the same was the high quality of the technical program and training sessions. Over 170 presentations filled six technical tracks, and two Operator Training tracks were held over the three days of the conference. In addition, attendees had the chance to become engaged in the Association by attending numerous Committee meetings and finding how they can become active participants in the providing quality programs for our membership. Many attendees kept track of the program and sessions they wanted to attend by using our Conference App, which continues to grow in usage and popularity thanks to the efforts of Amy Baker. Once again, the Conference provided a great learning environment and the opportunity to grow and develop your professional career.

A conference summary wouldn’t be complete without a “Thank You” to our conference sponsors. We had 35 sponsors who provided funding through our four sponsorship levels, which is critical to the success of the Conference. These sponsors allowed us to minimize registration cost increases, and helped to subsidize meals, breaks, and events. It would be difficult to continue to provide a high-quality event without their generous support.

We hope you enjoyed the opportunity to further your professional development through technical sessions and training classes, as well as the time to network with friends and colleagues in our new conference setting. If you know someone who missed the excitement and fun this year, invite them early and often to AZ Water’s 91st Annual Conference and Exhibition, May 2-4, 2018, at the Phoenix Convention Center.

Want to be part of a fun group? See something at the Conference that could be done better? Then bring your ideas and enthusiasm to life by serving on the Annual Conference Program Committee. To join, please contact Curt Courter, Annual Conference Program Chair, at ccourse@hazenandsawyer.com. You’ll be glad you did!!

By Tom Galeziewski, 90th Annual Conference & Exhibition Chair.
Magnetite-ballasted clarification enables this 18-ft diam. clarifier to handle 2.3 mgd. Dense floc settles immediately beneath the center well, rather than dissipating throughout the clarifier.

SETTLE THE FLOC DOWN

Evoqua’s BioMag® and CoMag® systems use magnetite to ballast floc and deliver rapid and reliable settling. Both systems dramatically improve plant capacity and treatment performance with existing tanks and a limited footprint.

Choose the BioMag System for ballasting biological floc to enhance activated sludge processes.

Choose the CoMag System for ballasting chemical floc to remove particulate contaminants in wastewater, drinking water and industrial applications.

Watch video of magnetite-ballasted settling compared to conventional options at www.evoqua.com/settledown

Represented by:

MISCOwater
1820 W. Drake Drive, Suite 105
Tempe, AZ 85283 p: (480) 941-6923

© 2016 Evoqua Water Technologies LLC
Offering Single-Source Delivery of Arizona’s Water Projects

CH2M is the full-service delivery firm of Arizona with a track record of successfully delivering single-source engineering design, construction, and operations projects. We have the local resources, experience, and technology to provide sustainable and cost-effective water, wastewater, and utility management services as we have done for our valued Arizona clients since 1981.

City of Chandler, Dobson South Rehabilitation Project
Agua Nueva Water Reclamation Facility (Pinal County)
Town of Prescott Valley

Phoenix 480.966.8188
Tucson 520.314.9835

www.ch2m.com

© 2016 CH2M HILL
WATER RESEARCH INC.