

TASWATER OPERATOR SUBMITS BEST PASS ENTRY AGAIN

ALL THE AWARD WINNERS FROM NSW RECOGNISED

MAR - CAN IT COMBAT FUTURE <u>DROUGHTS</u>

NSW BEST TAPPING TEAM FROM NARROMINE



Leading Edge Innovations





From the MD's Desk - George Wall

The WIOA Inc AGM was held online on 21 April with a strong turnout of Members logging in to hear about the activities in 2021. Our congratulations are extended to Mark Samblebe for being re-elected President along with Sally Shepherd as Vice President. We welcome Jillian Busch who was elected to the Committee along with the remainder of the Members from 2021. Bill Collie decided not to nominate this year, and we thank him for his service.

It was exciting to be able to hold the NSW Conference in Tamworth in April. our first face to face event in NSW since July 2019. More than 500 people attended the event despite the floods and ongoing COVID issues which severely affected staff numbers available to attend from several Councils. All in all. it was very successful and there was a real buzz about being able catch up again. We thank our NSW members and volunteers who helped us stage the conference, along with all the sponsors, exhibitors and attendees. Hopefully things will be onwards and upwards from here.

We are now working with great anticipation on the Victorian and Queensland conferences in June and August respectively. Although the formal COVID restrictions and the need for a COVID Safe Event plan are no longer required by the Health Departments, WIOA will still maintain several of the COVID safe measures adopted in Qld in 2021 and NSW in 2022. This is to protect the safety of our staff, along with providing employers of operators with some degree of confidence to be able to send their staff to the events.

All the state based Advisory Committees met in early May. Although the appetite for arranging face to face events is not high right now, with water service suppliers still managing their operational staffing very carefully, we do hope that conditions will improve in the coming months and we can return to providing development opportunities and sharing information face to face with our Members.



Finally, WIOA has just completed the first edition of WaterWorks where we have managed the production and distribution internally. It will be distributed to Members shortly and we hope that you will enjoy reading it. We are always on the lookout for articles and if any Corporate Members would like to advertise, feel free to contact us at the office.

Until next time.



May 2022

Cover NSW Minister for Water, Kevin Anderson (L), Bruce Logan from Tamworth RC and Kurt Barrow from Leading Edge Innovations at the 2022 WIOA NSW Conference in Tamworth.

Operator is produced by the WIOA PO Box 6012, Shepparton, Victoria 3630

Managing Editor George Wall

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NSW Water Operator of the year Birds Eye View Blackmans Bay STP Corporate Members News

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Member Profile - Martie Aristorenas Agot

Senior Water Treatment Technician

Position Assignment: STP/WTP – Hela Province, Papua New Guinea

Employer TWM PNG Limited - (contractor to ExxonMobil PNG)

Nickname JKD Martie

Favourite team Chicago Bulls – years with Jordan

Pets African Eyering lovebirds

Favourite food Spaghetti, sweet and sour fish (Tilapia)

Least favourite food Anything with lamb

Favourite TV show Mr Bean

Worst TV show The Bachelor

Favourite Movie Enter the Dragon

Favourite Musical artist/s Eminem, Adele

Ambition To leave a legacy to the company I worked for

Hobbies Reading books

Best Trait Compassionate

Worst Trait Timid

Who do you admire? Bruce Lee

Favourite saying Mistakes are always forgivable, if one has the courage to admit them

Four people you would invite to dinner

Lee-jun Fan, Enrico Ayson, Steve Morton, Adam Robinson

How long haveyou been a WIOAmember? For about1.5 years - since July



2020; looking ahead for more years being a member and being involved in WIOA future activities

Your involvement with WIOA, what contributions are you hoping to be able to make? Webinars; to be able to reach out to other water operators not only in PNG but within the Pacific thru WIOA.

How long have you worked in the water industry and what attracted you to it? I've started working in the water industry in 2003. Firstly the pay was high and that



encouraged me to pursue working in the water industry, and most importantly the learnings never stop. With the new technologies, leads to new ideas on operation and process approach.

What do you enjoy most about your job? I've worked in Afghanistan – to support the US-NATO troops and Papua New Guinea for the client ExxonMobil PNG and the government entity, Eda Ranu & Water PNG with a combined 9 years- to provide a safe drinking water and protecting the environment in my line of work.

What are the major challenges in your current role? I am new to my current role; This is my first time working in an Oil and Gas environment — Upstream. Starting in a new work makes it difficult to being heard. Also it is a challenge working here in PNG with 839 living languages. But it is amazing working with "wanwoks" (fellow worker) with rich cultural diversity. Spare parts were difficult to bring here; need to get it from nearby country most particularly Australia — as most technology coming from Australia. Proper planning is required to eliminate runout of equipment parts, and also laboratory consumables.

Thoughts on the water industry at the moment Climate change, urbanisation, and sustainable energy supply are a few key words in the water industry now. Starting to have strict regulations with treated effluent in every community, being mandatory to have a municipal sewage treatment plant.

How do you relax? Social media, communicating with the family back in the Philippines

Where do you live and what's the best thing about it? I live in Santa Rosa, Laguna. Philippines; a province south of Manila (45 mins drive), a perfect place to live and unwind. Most to look forward to are the amazing waterfalls, hot natural springs and delectable dishes and delicacies. With the hospitable and warm people living in the community.

Dave is NSW's Best

The winner of the 2022 NSW Operator of the Year is Dave Miller, Parkes Shire Council's, Treatment Plant Supervisor. Sponsored by the NSW Water Directorate, the award winner was announced at the WIOA Conference & Exhibition in Tamworth in April.

Dave has worked for Parkes Shire Council for over 35 years and is an exceptional operator who is not only passionate about sharing his industry knowledge and experience with new employees,

but is also an advocate for Council's core values.

Dave has an intimate k n o w l e d g e of the Parkes water supply n e t w o r k. This proved invaluable in



the design phase of the WTP, when he identified a method of transferring water throughout the network that has negated the need for a second pump station.

Dave constantly researches latest treatment processes and advancements in chemical technology to optimise treatment costs. He has trialled different pumping and treating times to optimise the use of solar generation at the WTP, as well as utilising the cheaper off-peak tariffs which has seen power costs fall.

He has also sourced local contractors to carry out servicing of equipment at the plants and in the reticulation system, removing the need to rely on Sydney or interstate suppliers. This has resulted in a significant reduction in maintenance costs.

As award winner, Dave receives a Perpetual trophy, a plaque to keep and the best bit - the NSW Water Directorate provides an all expenses paid opportunity to join the WIOA delegation on their tour to New Zealand in May next year valued at over \$2500. Congratulations to a worthy winner of the award.

Yes Minister

In a first for a WIOA NSW conference, we were excited to be paid a visit by the Hon Kevin Anderson MP, Member for Tamworth and the NSW Minister for Lands and Water, Minister for Hospitality and Racing.

He was greeted and shown around the expo by Bruce Logan, Tamworth Regional Council's Director – Water and Waste and George Wall, WIOA's MD.



Bruce Logan, Kevin Anderson and George Wall looking over the exhibition

He asked some very insightful questions about the operational side of the water industry and the issues we deal with. Droughts, floods and COVID and how they impacted the operational side of the industry were all discussed. He also showed a very strong interest in the technology on display and took the time to stop and chat with a number of the exhibitors.

He was particularly interested in the Realware technology developed by a local Tamworth company in Leading Edge Technologies.

Having the Minister at the conference brings back long buried memories of the first time that a Minister visited the Bendigo conference many years ago. Unfortunately, there is no permanent record of the occurrence as the intrepid photographer assigned the task of capturing such a momentous occasion for posterity, forgot to take the lens cap off the camera. The only evidence when the film was developed was two black photos.



NSW Conference Wrap Up 2022

The 14th NSW Water Industry Operations Conference and Exhibition hosted around 520 people from across the water industry at the Tamworth Regional Entertainment & Conference Centre on the 6th & 7th April. This was a fantastic result when you consider the number of councils across the state that were severely affected at the time by flooding and COVID isolations.

After a welcome to the region from Mayor of Tamworth, Cr Russell Webb, Ms Erin Cini from NSW Department Planning and Environment provided the Opening Address and insight about — The *Town Water Risk Reduction Program (TWRRP) — Reducing risk for utilities in NSW*. Erin commenced her address by recognising the contribution by the operators required to maintain plant operability when faced with fire, floods & drought. She noted that the TWRRP program aims to focus on improvements to the regulatory framework along with operator access to training and how the critical shortage of RTOs & trainers will be addressed through a skills & training action plan.

Mr Brendan Guiney, CEO, NSW Water Directorate then delivered the Keynote Address providing a well-received insight into why NSW Local water utilities need to invest more into operator training. The presentation supported the opening address with operator training and competency again in the spotlight with some very interesting facts on human error that can be contributed to a lack of training. Again, this topic was well received by all the operators and hopefully we can see some of the recommendations implemented in the not-too-distant future.

At the Awards Dinner held on Thursday evening, David Miller from Parkes Shire Council won the 2022 NSW Operator of the Year award. A fitting testament to David for his years of work, problem solving and operating of the water and wastewater infrastructure across Parkes.

Others recognised at the Dinner included Shawn Charlton from Albury City Council who won the Award for the Best Paper by an Operator while his





Erin, Mark and Brendan

his work colleague, Zach Eyers took out the Best Poster Award.

The Best Paper Overall at the conference was awarded to Lucy Parsons from Atom Consulting.

The event included a comprehensive exhibition with a slightly smaller expo than normal due to COVID space requirements. It included 98 companies in the 110 sites who exhibited the latest in equipment, services, and process technologies available to the water industry.



Checking out some of the equipment on display

The team from Thermo Fisher Scientfic received the Ron Bergmeier Award for the Best Exhibition Site.

The conference again hosted the Ixom Best Tasting Tap Water in NSW/ACT with the entry from Shoalhaven Water being judged the winner.

WIOA also hosted the second staging of the NSW Water Main Tapping Competition with a great roll up of spectators to support the contestants. The Narromine Shire Council team of Anthony Everett and Duanne Donnelly took out the top prize. Tamworth Regional Council, Reece Civil and Viadux supported the competition with \$1000 donated to Narromine Cancer Support Network on behalf of the competition winners.

COVID again caused havoc during the year with face-to-face seminars and charity fundraising events out of the question. With a drone as the prize in the raffle, everyone dug deep raising \$1,500 with all proceeds going to the Dolly Parton's - Imagination Library. Tamworth Regional Council is grateful to all the members and supporters who helped raise these funds.

NSW Conference Award Winners



NSW Operator of the Year Dave Miller Parkes Shire Council



Best Paper Overall Lucy ParsonsAtom Consulting



Best Paper by an Operator Shawn Charlton Albury City Council



Best Poster by an operator Zach Eyers Albury City Council



NSW Mains Tapping Competition Narromine Shire Council Team



Best Exhibition Site Ron Bergmeier Award Thermo Fisher Scientific



Water Taste Test Shoalhaven Water Team

"Bluesday" at the Morwell WWTP

On Tuesday 22nd February 2022, the Morwell WWTP received a large amount of contaminated wastewater. How did we know it was contaminated? Well... it was bright BLUE!



Morwell WWTP Forebay (inlet works)

Treatment technician, Scott Kitwood, first spotted the indigo influent around 10.00am whilst inspecting the inlet screen. Both influent pumps were shut down immediately to ensure no more of the mystery chemical made its way into the bioreactors, with the flow diverted to the emergency storage lagoon.



Splitter box

A sample was taken from the splitter box, which splits the wastewater flow into the North and South bioreactors evenly.

Lab testing showed that the pH was higher than normal, and Chemical Oxygen Demand was three times higher than normal.

	рН	Total COD (mg/L)	Soluble COD (mg/L)
Contaminated Influent	9.6	1433	810
Normal Influent	8.2	580	250



Testing the pH

The splitter box was pumped out and clarifier effluent was diverted down the bypass line overnight to allow any remaining contaminant in our system to be diluted in the emergency storage lagoon. Putting the plant into bypass mode meant a reduced risk of sending the potentially hazardous chemical to the receiving waterway, which is the Morwell Wetlands.



Blue tinge can be seen in the South Clarifier

After testing the following morning, the plant was brought back online and monitored throughout the day to ensure the effluent met the EPA licence requirements.

Most people don't give much thought to what they put down the drain, but situations like this highlight that "flushed doesn't mean forgotten". Everything that goes down your toilet or sink ends up at a wastewater treatment plant. It's our job to ensure events like this don't impact downstream waterways. Only flushing pee, poo and paper is a way you can directly help to support and keep our local environment safe.

Gippsland Water has never found out exactly what the blue substance was, or where it came from. The trade waste team traced it to the industrial estate on the south side of Morwell but couldn't determine exactly which business was responsible.

Contributed by Stephanie Badger, Gippsland Water

Shoalhaven wins again

IXOM

Shoalhaven Water was announced as the winner of the Ixom 2022 Best Tasting Tap Water in NSW/ACT at the WIOA NSW Conference in Tamworth.

The heats to determine the three Grand Finalists were held on the Tuesday afternoon. All the samples submitted for judging by the various NSW Councils and water service providers were randomly allocated to 3 tables.

Using a blind taste test approach, the samples were judged on colour, clarity, odour and taste. The conference attendees were invited to taste all the samples and place their vote into the one they preferred most from each table.



The serious business of being a taste test judge - the judging panel put their taste buds to the test

The three Grand Finalists chosen were Shoalhaven Water. Tamworth Regional Council and Port Macquarie Hasting Council. The Grand Final judging took place at lunch time on Wednesday under the watchful eye of the media all anxiously awaiting the result.

This year's grand final judging panel included WIOA NSW Advisory Committee member Adam Callendar, from Yokogawa, Leah Thomasi from Ixom, Tricia Fidock from Australian Industry Standards and WIOA national Committee Member, Grant Waite. The grand final was very close with the judges asked to taste two of the samples again to break the deadlock.



Lindsay Walsh interviewing Andrew from Shoalhaven Water during the Grand Final judging

There can only be one winner and the team from Shoalhaven were ecstatic to be awarded the prize yet again, backing up on their victory from 2019.



The very excited Shoalhaven Water team

The competition is a fun way of allowing WIOA and the industry to raise awareness of the hard work that our operational staff do behind the scenes to ensure a quality drinking water supply is available to communities all around Australia.

The Shoalhaven Water sample will now go on to represent NSW/ACT in the Ixom Water of Origin Taste Test at the WIOA Queensland Conference in Logan in August.

Look-a-Like

We couldn't help but notice that Stephen Westgate, Chair of WIOA's Tasmanian Advisory Committee could easily pass for Late Show host James Cordon. What do you think?



Stephen Westgate



James Cordon Late Show host.

Women to the fore in Tamworth



I was fortunate to attend the Tamworth Conference and exhibition, and be a part of the Woman of Water breakfast kindly sponsored by ProDetec. The breakfast is a wonderful initiative of WIOA to help female conference attendees meet up at a social breakfast.

The breakfast is a great way to break the ice and help fellow female conferences attendees feel supported. The breakfast eliminates the anxiety of attending a conference as the only female from your organisation, and we hope it helps to attract more woman to the events. The conferences are a great way to grow your social network and the breakfasts are a great head start. This is my 4th WOW breakfast and I have met some wonderful professional woman at these events, who I have maintained contact with.





NSW Women Of Water Breakfast in Tamworth

WIOA will be hosting a WOW breakfast on the Wednesday morning of the Bendigo conference. Make sure you register and come down for breakfast and a chat before the event.

Another highlight for me at the Tamworth conference was the extended input from our female volunteers. In a first for WIOA, it was great to see Kiara and Sally stepping into the important job of driving the forklifts to help our exhibitors set up and pack up their displays without a hitch, great work!

Contributed by Heidi Josipovic, Albury City Council

Colourful With a Cause

WIOA Committee member Grant Waite was observed wearing an extremely bright shirt at the NSW conference. We asked Grant to explain the significance of the shirt.

North East Water have always been committed to supporting mental health initiatives, and for a little over a year now, the business has been part of an initiative to promote conversations around men's mental health in the workplace.

How we do this is by having operational staff and indoor staff wearing TradeMutt Mental Health shirts which are designed to trigger the conversation.

It came about after a visit to a local manufacturing company where all the staff were wearing the TradeMutt shirts.

North East Water staff now wear the shirts on a Friday

and the shirts represent an invitation for people to speak about a topic which in the past has been hard to lean into, particularly amongst men, due to the

attached stigmas and perceived weakness.

The two founders of this conversation starting initiative (who were working in construction), were profoundly affected by the loss of a close friend and work colleague to suicide. On each shirt there is a tribute on the top of the pocket of YNWA — You'll Never Walk Alone, due to their friends love of the Liverpool Football Club.

The shirts can be found on this site, ## https://tinyurl. com/yckabj3h and offer both operational Hi Vis work wear as well as corporate style shirts.

The Claw Wins

The winner of the 2022 **PASS award** was announced at the NSW Conference in Tamworth in April. For the second year in a row, the winner came from TasWater in Tasmania. Congratulations are extended to Matt Holz whose winning idea was the Pump Sump Claw. The Claw was created to replace the manual process of using a rake and muscle power to remove rag and other debris from pump stations safely and efficiently.

Matt and the TasWater staff investigated ideas and ways to mechanically grab and lift the rag out of the pump stations. The TasWater team along with a manufacturer created a prototype which was later further improved.

The claw has clamps that grab the rag without cutting or breaking it, and as the claw is lifted up, the scissor action causes the clamp to grab tighter as the weight is taken up. This way, the rag is lifted as a large wad. The claw can be operated on the lift arm of service utes or larger trucks.

One operator holds a rope that opens the jaws - a later design has a holding mechanism that can be pulled to releases the jaws to close

holding mechanism that can be pulled to releases the jaws to close

The claw in action

rather than the operator holding them open. The jaws also enable the collection of smaller debris and gravel that was impossible to capture previously. The original rake or a pole can be used to push the claw under ledges and position it on a rag ball. Rag that is torn off very large rag balls is captured and held fast in the jaws, unlike with the rake.

As operators no longer have to enter the pump well or use a rake to remove rag, confined space entry and manual handling risks associated with this task have been eliminated. It is much quicker and much less physically demanding than the rake. Less rag is dislodged and sucked back into pumps or lost on filters. Gravel and other debris that may arise in combined sewer /stormwater systems can be captured. Roots can be held firmly and pulled out or cut with

the action of the jaws. The claw has also been very effective at grabbing tree roots which are hard to hold fast and pull out.

There is an option to use the same design to make smaller and larger versions which would be useful for different situations.

The 2022 PASS awards had 6 great ideas submitted for consideration with entries from South Australia, Victoria, NSW and Tasmania. **Aqualift** is the PASS Award sponsor and provided sponsorship for the winner to join the WIOA team on their annual operational tour of New Zealand in May 2023.



Matt Holz (R) winner PASS award & Brett Rosser



BIRDS EYE VIEW

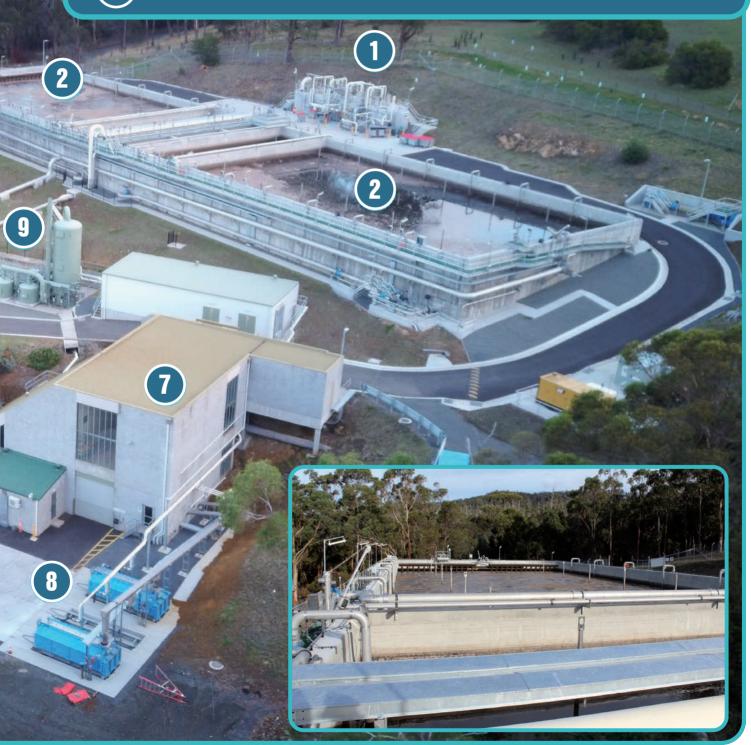
Facilities Members Operate

Blackmans Bay Sewage Treatment Plant



- 1 Inlet Works
- (2) IDEA/SBR aeration tanks
- (3) Effluent attenuation tanks
- (4) UV disinfection effluent
- **5** Waste sludge gravity
- **6** Aerobic digester

- 7 Dewatering tanks
- 8 Dewatered bins
- **9** Odour treatment
- 10 Blowers for IDEAs
- 11) Old anaerobic digester



Top Tappers



The second staging of the NSW Main Tapping Competition was held at the Tamworth conference with excellent support from sponsors Reece Civil & Viadux, along with Tamworth Regional Council.

There was a mixture of experienced operators as well as a few keen just to have a go, amongst the seven teams that participated. Run in two heats each day, the participants were certainly taking things seriously.

The winners were the Narromine Shire Council duo of Anthony Everett and Duane Donnelly – the 76ers, in a time of 4 minutes 23 seconds which eclipsed the NSW record set in Orange in 2019 of 4 minutes 24 seconds. It is fair to say that the best team in NSW has a lot of improving to do if they want to catch up with the fastest Queensland teams who regularly complete the task in less than 2 minutes.



Tapping competition about to get under way

The competition provides the opportunity to showcase the work done by the network operators, much of which is buried and out of view of the general public. A large crowd of keen onlookers watched the proceedings each day and Doug Moorby as MC did a great job describing the tapping equipment, the parts and how it all goes together through the course of the competition.

Thanks to the Tamworth Regional Council (Nathan Felstead and staff) for their efforts in setting up the pipework and water supply used for the main tapping competition.

Thanks also to Reece Civil and Viadux for sponsoring the event, supplying all the equipment and providing the prize of \$1,000 which was donated to the charity nominated by the winning team. Duane and Anthony chose the Narromine Cancer Support Group as the recipient of the \$1,000 donation and made a very emotional and heartfelt acceptance speech at the dinner.



Duane and Anthony on stage receiving the trophy

WIOA will be staging more competitions at the Victorian and Queensland conferences, again with Reece Civil & Viadux supporting the competitions as sponsors. Make sure you get a team in, or alternatively check out all the action first hand if you happen to be at one of the events.



(L - R) Duane, Kyle Fowler from Reece, Nicki from Narromine Cancer Support Group and Anthony

20 WIOA TALKS

The WIOA Talks webinar series continue in 2022.

Utilising the expertise of our Members, a WIOA Talks webinar will be staged on a monthly basis from March 2022. The webinars will run for around one hour and will share practical information on a range of operational topics.

The May event was managed by WIOA's South Australian Advisory Committee and focussed on works being undertaken by the water sector to reduce our carbon footprint.

The August webinar will be hosted by the NSW Advisory Committee and will investigate Realware VR and advanced

technology and its potential uses in the water industry, including for training or assessment purposes. It will be held on Wednesday 15 June from 11.00am and is open to everyone. With many of the water and wastewater facilities still under COVID lockdown to visitors, all the Advisory Committees have decided to postpone any face to face events until at least the second half of the year. Instead each Advisory Committee will be assisting with the organisation and hosting of webinars.

15 June WIOA Talks – Realware/VR and advanced

technology - NSW AC host

6 July WIOA Talks – Indigenous water –

Coinciding with NAIDOC week

24 August WIOA Talks – SCADA



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(Pictured above) - Dean Braden -Director ECA Australasia ECA Australasia is an Australian owned & operated company since 2006 that was formed specifically to develop and promote products using Electro Chemical Activation (ECA) technology.

ECA Technologyis the term used for Electrical Chemical Activation processes that produce powerful but entirely safe disinfectants and biocides using only the simple inputs of ordinary water and salt passed across a patented electrochemical cell.

Having been involved in 100's of Disinfection systems and solutions previously across Australia via "Major Water Authorities" with our knowledge, experience and application know how, we are looking to the industrial and retail sector to help expand and reach more people. ECA Australasia has recently partnered with "Centrego" as a



distributor to offer a wide range of ECA technology products, including our TGA approved "Toucan" systems & solutions. These, together with our own "BIOzolv®" fully automated systems, can cover a very wide range of applications.

To find out more info Check out our website:







PRODUCT SPECIFICATION

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Spray Volume
Spray Diameter
Spray Rate

Tank Volume
Suitable Solution

Spray Mode Areas of Use

Moving Speed Battery Life

Charging time
Body Weight

Safety Protection

BA-3.16_4.5

Diameter 530mm height 1340mm Maximum 2600 ml/h (adjustable)

5-6mtrs 2~3 L/Hr 16Ltr

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Four OR Single Directional Nozzle(s)
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schools, shopping mall etc.

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3hrs (80%) 48.4kgs

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Filters Refurbished at Mt Crosby

SEQ Water identified the need to upgrade the Mt Crosby Eastbank Water Treatment Plant (The Plant) as it forms a key part of its potable water treatment supply to its constituents in the greater Brisbane Area. The Plant, along with its sister Plant at Westbank is able to produce 800 megalitres of drinking water per day (ML/d) and so the determined scope was to make a number of repairs and upgrades to the Plant to ultimately improve the longterm capacity and reliability of the infrastructure.

A key component of these upgrade works was to refurbish existing mono-media sand filters and convert them to Dual-Media Filters. In total there are 20 filters at the plant which needed to be refurbished. Segwater, with the help of its design partner identified a state-of-theart Filter Floor system and Dual-Media to achieve greater throughput and Filter run times than what was achieved with the Mono-media Sand Filters.

Segwater committed \$45 million to upgrade the filters and selected BMD Constructions (BMD) as their preferred contractor for the refurbishment work given their experience and expertise. The refurbishment of the filters was to be staggered over a 24-month program which was carefully managed by BMD in consultation with all the major stakeholders.

Through BMD's tendering process, James Cumming and Sons Pty Ltd worked with BMD and Segwater to ensure the appropriate product, delivery schedule and rigorous testing and quality controls were adhered to and all involved were confident that the prescribed specifications were met and the product delivered was the best fit for the application.



New media and filter coal being placed into the filters

C&S Brand Australian Filter Coal with an effective size of 1.5mm was selected as the primary filter media. C&S Brand Australian filter coal was selected over imported anthracites due to its high attrition resistance properties

in backwash, high quality, size specification and proven performance in pilot plant testing. James Cumming and Sons, like most of the other sub-contractors and suppliers for the Plant is proudly an Australian manufacturer, which supports Segwater's remit of supporting the local economy and maximising community engagement through project delivery.

Most importantly, through installation of the new filter floor and C&S Brand Australian filter coal. Segwater are able to achieve superior results through the Plant. particularly when comparing plant performance prior to the refurbishment works.



Finished filter

Specifically, filter run times have been extended significantly, at typical operating ranges, the need for backwashing only occurs every 4 days, as opposed to the old filters, backwashing would occur every day and half. This significant improvement results in a saving on ongoing maintenance costs and running costs for the plant.

With the installation of C&S Brand Australian filter coal. high turbidity events have also been managed, and the formation of mud-balls and other filter clogging events have been greatly reduced in comparison to the monomedia sand system resulting in easing conditions for the operators.

Overall, the project is to be finalized by the middle of 2022 and thanks to the committed co-ordination of Segwater, BMD Constructions, James Cumming and Sons and other stakeholders, the refurbishment works have been a success with the plant's production and performance being significantly improved and exceeding expectations for the greater benefit of the community.

Contributed by John Cumming from James Cumming & Sons.

NODP Back on Track

We did it! The 2020 Network Operator Development Program (NODP) has finally been completed, thanks to COVID. The 2020 group were very excited to have finally completed the program after a very tumultuous couple of years. Congratulations and a big thank you must go out to them all for their patience and understanding over this difficult period. The group will have their final gathering at the WIOA Conference in Bendigo on the 22 & 23 June 2022 to be presented with their certificates and find out who will be the 2020 Network Operator of the Year.

Enter the 2022 Group. The 2022 NODP cohort met at the Best Western Airport Motel and Convention Centre in Attwood in April for the first of their session program. Session one has a Leadership and Industry focus.

The 2022 group consists of 10 participants from water Corporations across Victoria, including one participant from Albury City Council. The first day included an overview of the program and a presentation by a former 2017 participant and now Advisory Committee member in Andrew Povey. This was followed by presentations by DHHS and EPA on the expectations of the regulators and the possible impacts water Corporations, in particular maintenance operators, could have on safe drinking water and the environments we operate in.



Our very own George Wall presented on WIOA's Diversity and Inclusion journey and then we were privileged to have Wannon Water Managing Director Andrew Jeffers and Jeff Rigby, former Coliban Water and Western Water Managing Director and now Executive Advisor for the newly formed Greater Western Water present. Andrew



Andrew Jeffers and Jeff Rigby presenting

and Jeff spoke very openly on topics such as Safety in the industry, legal, political and consumer influences and drivers, water plan and budget. They were then bombarded with numerous questions which created plenty of discussion and was well received by the group.

That evening was a "get to know everyone" dinner and program briefing which included what participants hope to get out of the program and the expectations of both the committee and participants. This finished up shortly after 10pm which highlights the enthusiasm everyone showed. The following day was a day with Mike Rankin from Water Training Australia. Mike is also an Advisory Committee member and he devoted the day to leadership behaviours, personality profiling, integrity and ethics and mental health and wellbeing. This created a lot of great conversation and insights for everyone around the room on some challenging topics including leadership and the types of issues, goals and expectations emerging leaders may have or face throughout their careers, and the achievements and successes that are possible for them within the water industry.

All in all, a great start to the 2022 program for this great group of future industry leaders.

Contributed by Mick Mahoney, Wannon Water and NODP Advisory Committee Member

Additional protection for regional Tasmania's drinking water





The Bracknell Water Treatment Plant in northern Tasmania now has an ultraviolet (UV) disinfection treatment facility on site which will add an additional layer of treatment to further safeguard the water quality.

TasWater Senior Project Manager Dheeraj Rajan said the UV disinfection does not affect the taste, colour or odour of the water, but adds an additional layer of protection, further reducing the risk of harmful microbes entering the water supply.

"These facilities will also be built at Scottsdale, Bridport, Deloraine, Westbury, St Helens, Longford, Glen Huon and Smithton." Mr Rajan said.

"It will further safeguard the quality of water at these small water treatment plants. We are pleased to announce that the facility is now online at Bracknell, with more soon to be complete."

TRILITY is the main contractor carrying out the works.

TasWater's priority is that water is safe to drink, and UV treatment helps ensures we can continue to do so and meet modern drinking water standards. The project features a containerised plant being installed at five of the nine locations, while at the remaining sites the plants are being built within a steel framed building, which will be connected to the existing water treatment plant at each site.



TRILITYS Tony-Hourigan, TasWater Acting CEO, Tony Willmott and TasWater Central North Coordinator, Jake Ward

"At each site a large amount of preparation work is being conducted to ensure the existing plants can be fitted out properly with the UV capabilities," Mr Rajan said. "In addition, we will also be installing feed pumps and tanks at some of the locations so the new treatment facilities can be connected and operate effectively."

The remaining ultraviolet (UV) disinfection treatment facilities will be completed in the new year.

Can't Flush This

Sydney Water has launched a new campaign, 'Are You Flushing Kidding Me', featuring Shane Jacobson, which aims to tackle the very serious issue of fatbergs.

Every year, 500t of non-biodegradable items are flushed down the toilet.

Sydney Water's General Manager for Customer, Strategy and Engagement, Maryanne Graham, said the campaign uses humour to address a very serious problem.

"This campaign is about raising awareness around a critical issue which not only costs Sydney Water more than \$14 million a year to fix, but customers thousands in sewage overflows, bathroom and street flooding," Ms Graham said.

"We've used humour to put the spotlight on what can be an unpalatable conversation around what can and cannot be flushed down the toilet.

"The environmental impact is also huge when you look at the number of blockages and overflows which amount to around 870 a month or up to 13,000 chokes across the network a vear."

The campaign focuses heavily on wet wipes which do not break down and cause the biggest blockages.

The most recent customer data shows men aged between the ages of 18 and 29 are the biggest culprits when it comes to flushing the wrong things down the loo.

"If we work together, the impact on our environment and the cost to customers will be significantly reduced."

Extract from article by Stephanie Nestor in Utility Magazine 20 April 2022

https://tinyurl.com/mr2brjss



Water banking for future use - MAR

In 2019-2020, nearly 50 communities in New South Wales and southern Queensland were within months of running out of water. For many farmers, this drought disrupted crop and livestock production and income.

Since then, we have seen significant rainfall. As communities go from flood recovery to preparing for the next drought, it raises the question: how can water be better put aside for future use?

CSIRO groundwater systems expert, Dr Declan Page, is exploring water banking opportunities to better prepare for drought. "We could use existing dams to replenish underground aquifers creating water banks for future use when surface water storages dry up." Dr Page said. Rainwater captured in an existing dam, can be slowly, trickle fed to infiltrate or recharge an aquifer to become an underground reservoir using a technique known as managed aquifer recharge (MAR).

MAR is a catch-all term for a system to replenish groundwater resources intentionally, safely and in a way that conserves the surrounding environment. Geographical assessments determine exactly where suitable underground aquifers are and ensure they have capacity to store water.

"Other factors to assess are their proximity to the source of water for recharge or the demand for water supply so that water can be effectively recharged and later recovered economically."

MAR uptake is growing but is still relatively small. In Australia, 8.3 per cent of Australia's yearly groundwater extraction was replenished through MAR, despite there being greater opportunities.

There can be more uncertainty in storing water underground, which requires investigations to



understand the properties of the subsurface, such as infiltration rate or groundwater salinity, before building the system. So water banking is often discounted in favour of traditional surface storage systems. In a recently published cost analysis study, CSIRO found that water banking can be cost-effective and feasible for town water and agriculture. CSIRO developed 10 hypothetical scenarios based on different MAR systems including recharge releases, infiltration basins, recharge weirs and well injections.

The most affordable solution involved a simple recharge release system coupled to an existing dam to recharge a shallow water table aquifer, costing six cents per kilolitre for water suitable for irrigation purposes.

Comparatively, the highest cost came in at 36 cents per kilolitre for a deep well injection system. This system was designed for coastal use to protect drinking water supply from sea water. Costs increased with greater system engineering and complexity, and if drinking water was one of the end uses.

Through their Drought Resilience Mission, CSIRO is exploring with local communities, government and industry how to establish scalable demonstrations of water banking. This will build confidence in MAR and hopefully deliver strategic water banking schemes for drought resilience to regional Australia.

CSIRO's Drought Resilience Mission aims to reduce the impacts of Australian droughts by 30 per cent by 2030. Extract of article by Emily Lehmann April 2022 in CSIRO Ecos Issue 289

Unitywater reaccredited as a White Ribbon Workplace



Unitywater is proud to have been reaccredited as a White Ribbon Workplace for the next three years.

Having first received White Ribbon Australia Workplace Accreditation in 2017, the reaccreditation furthers Unitywater's commitment to the prevention of domestic and family violence (DFV).

Unitywater Acting CEO Pauline Thomson said it was an honour to be involved in the program.

"Our Healthy Relationships program ensures our team members understand how to recognise, refer and respond to DFV through awareness training, contact officers, a strong policy position and a supportive culture.

"We also support front-line community organisations in our region that help women and children impacted by DFV."

Ms Thomson said the water and sewerage service provider furthered its commitment through its partnership with charity Challenge DV.

"We're proud to help create a world without domestic and family violence and are committed to ensuring we have a safe and respectful workplace for our people. We can all stand up and speak out against behaviours that contribute to violence in our communities."

The White Ribbon Australia Workplace Accreditation Program required Unitywater to meet 15 criteria under three standards and is internationally recognised for three years.

Clean wash water for Circular Plastics Australia



Located in Albury-Wodonga, the Circular Plastics facility is a joint venture between Asahi Beverages, Pact Group Holdings Ltd and Cleanaway Waste Management Ltd. The company projects the facility will recycle the equivalent of around one billion 600ml PET plastic bottles annually from 2022. The resulting recycled plastic will be used to produce new bottles as well as food and beverage packaging.

Circular Plastics Australia required a wastewater treatment plant that would allow for expansion of the recycling facility in the future. Aerofloat was contracted to design and construct the wastewater treatment system for the project to ensure clean, reusable wash water within the plant and a sustainable end-product.

Aerofloat installed its patented circular dissolved air flotation unit, the AeroCircDAF, to treat higher flow volumes of wash water if needed as the facility grows. It also included its fully automated, intelligent PLC control system to accommodate future business expansion.

The solution designed ensures a sustainable, longterm solution for Circular Plastics. Clean wastewater from the system is either re-used as wash water within the plastics recycling facility or discharged to sewer and there are significant savings in water usage. Aerofloat is working closely with the local council to ensure its strict policies and guidelines around managing microplastics in its inland waterways are met.

Aerofloat has created sustainable wastewater treatment designs for major plastics recycling businesses across Australia. The Australian, familyowned company has been awarded for its innovative approach to tackling plastics recycling wastewater issues and offers unique, patented designs to ensure economical and environmentally sustainable solutions for the industry.



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https://tinyurl.com/38ctxwpj

KDX taking water management to the next level.



For over 30 years. **TRILITY** has been an industry leader in the delivery of water and wastewater services in



Australia and New Zealand. The company has now made its extensive digital expertise available to other water operators with its independent KDX business.

Although the KDX name is new, the company brings significant real-world expertise and a proven track record to offer water operators a cloud-based software solution to take their water management to the next level.

KDX offers a full suite of solutions that are available separately or bundled together based on the client and the individual operator's needs, with water treatment, wastewater treatment, and network management capability.

Kalan Braun, Business Manager KDX, said it was an exciting time for the company, broadening its reach to help with water management across Australia. "We deliver world-leading water management software, applications and expertise to our clients. We use integrated solutions to deliver sustainable operational excellence with our digital tools, and provide consistent, reliable data to identify clear insights and opportunities" he said.

The next generation solutions offered by KDX come at a time when the uncertainties and complexities of water management and compliance are at an all-time high, so it is the perfect time to use fit-for-purpose digital solutions to meet these challenges.

According to Kalan, "Our software and people are transforming the way water operators work, using Al, automation, and expertise to remove uncertainty and give them the confidence to make better decisions."

With solutions designed by operators for operators, and fast, seamless integration into existing systems. there's no doubt water operators across Australia and beyond will welcome the opportunity to streamline and optimise their processes and make the most of their resources.



0438 857 640 Kalan Braun



kalan.braun@kdx.ai



https://tinyurl.com/5ycwe3cp

Rehabilitating maintenance holes using Vertiliner

Rangedale has successfully completed the colossal task of rehabilitating 14 fully deteriorated sewer maintenance holes on behalf of Programmed Facility Management and the Principal, Greater Western Water in Melbourne.

Rangedale used the Vertiliner® system, a proven UV-cured structural (cured-in-place pipe (CIPP) liner manufactured in Germany to the exact size and shape of each maintenance hole.

To complete the task, Rangedale had several challenges and risk factors to consider, including the state of the maintenance holes, which had fully deteriorated

after years of concrete corrosion. rulina out traditional maintenance rehabilitation hole processes.

position of the maintenance holes was also a challenge, located



downstream from where Greater Western Water had key customers discharging industrial waste into their sewer system.

Greater Western Water had also preferenced a solution that required minimal access to avoid risks associated with working downstream of these industrial waste flows.

David Dodemaide, general manager at Rangedale's Rehabilitation and Renewals division said that Vertiliner was the best solution for the task, due to its specialist design and advanced safety considerations.

"Unlike other systems, Vertiliner is a fully structural lining system that does not rely on the integrity of the existing maintenance holes, nor does it require extensive maintenance holes modification for it to be installed." said Dodemaide.

The Rangedale team had to undertake extensive training,

Do you have something

to contribute to Operator?

and as a business, invest in the equipment and materials associated with this complex task.

David added, "Our team was able to install the liners, inflate the liners and cure with our existing UV system all from surface level without having to enter the maintenance holes. minimising job site time and interruptions."

The result is a structural GRP liner, tailored exactly to the shape of the original

maintenance holes wall providing structural stability and surface protection for many years.

Rangedale were able to install the 14 maintenance holes liners with minimised risk from surface level, and then

carry out the reinstatement works such as new ladders and dropper installs, safely from inside the cured relined maintenance holes.

Rangedale's professional and skilled approach once again proves the Vertiliner system is an economical alternative to excavation maintenance holes renovation. More information on Vertiliner is at https:// www.pipecore.com.au/

manhole-rehabilitation/vertiliner/



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WIOA's quarterly publication Operator is produced in February, May, August and November each year and is an effective way of keeping the WIOA community in touch.

> Each edition we feature a number of news items from corporate members on new products or services to the industry. Content is not to be overtly promotional like an advertisement or advertorial, but more information that would be of interest to our members.



(m) wioa.org.au/publications/operator.htm



CST manufactures locally

CST Wastewater Solutions is to fully manufacture its rotary drum screen and screw screen/compactors locally to enhance quality and certainty of supply in Australia and New Zealand.

The move to total local production comes as intensifying supply chain issues interrupt, delay and lessen the supply of some of vital wastewater treatment technology. Managing Director Michael Bambridge says the switch to local production enables CST to offer full stainless-steel products with world-respected standards of Australasian metals engineering, replacing carbon steel components and further improving corrosion resistance in harsh local environments.

Covid has wrought havoc with imports and a reliable supply of products. Mike says a very important additional advantage of the move away from cheap imports to local manufacture of superior product, is the boost local spending gives to this country's jobs and skills base.

Local manufacturing delivers a better whole-oflifecycle value and places the customer next to the source of supply for spare parts, future extensions and retrofits to boost performance long-term. This is a very important as many organisations don't have the engineering services on-site to totally maintain and repair equipment without delay if it needs rapid attention.



CST Wastewater Solutions' Mike Bambridge, left, and Moore Metals Mike Moore, right, with top quality locally engineered screening and compacting technology

Everyone benefits - the customer gets a better product and greater certainty of supply; local suppliers - including, tooling, cutting and component makers - get the benefit of the local spend; and more local families get the advantage of more and better jobs.



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SECA reveals new training

SECA has revealed а peek sneak of its new dedicated training, testina and demo facility. Built after the



Sydney lockdowns in 2020, this purpose-built facility offers a COVID-safe space for a number of practical and educational activities.

Following NSW Government health orders back in July 2021, SECA had to suspend its training courses due to caps on room capacity and face-to-face contact. The facility is now back up and running, offering a range of courses, testing opportunities and demonstration services.

The facility is built to accommodate any type of product training, offering nationally recognised

courses CCTV (with provided by Asset Training RTO No. 91255).

The site is also designed host product presentations and demonstrations with a fully-functional indoor pipe and drainage system, complete with manholes suitable for demonstrations.



SECA is your partner in productivity, providing you a 'one-stop-shop' for all your business' needs, talk to our experienced team today about how we can help boost productivity in your business.

The SECA Training, Testing and Demonstration Facility is located at SECA's head office in Sydney's southwest.



1800 028 584



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https://www.seca.com.au/

Mitigate odours *before* the neighbours complain!

Bad odours are more than distressing - they can be toxic. That's why it's critically important for water treatment plants and landfill operations to monitor and mitigate odours before they become a problem.

Introducing Odosense. An active odour analysis and public complaint validation system.

Odosense works by analysing the chemistry of an odour to identify the concentration of gasses such as sulphides, methane and volatile organic compounds.

This real-time chemical analyses of odours means issues can be identified for preventative maintenance and correction before the odour becomes a nuisance or health hazard. Odosense also provides a source for complaint validation and can be used to predict odour nuisance in surrounding areas as well as odour emission hotspots.



The Odosense Odour Emissions Tracking System tracks odour emissions every 2 minutes and continuously relays the information to a central server using a variety of wireless connectivity options. It's easy to retrofit in existing water treatment plants and landfills and comes with the option of using an external or solar power source. The Odosense system also has a 48 hour battery backup time.

Odosense is robust and built to operate in temperature extremes of -20°C - +60°C. It can also withstand humidity levels of 0-90%.

In Australia, the Odosense Odour Emissions Tracking System is available from Tecpro Australia - a specialist engineering supply company. If you would like to know more about Odosense and whether it's the right solution for your operation, contact Tecpro Australia.



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Beca HunterH₂O



Headquartered in Newcastle, Hunter H₂O is an employeeowned specialist water industry consultancy formed in 2014 to provide professional engineering and project management services. Hunter H₂O is well known for its industry leading strength in process engineering and its work in regional areas and the Pacific supporting heathy and sustainable communities.

The new Beca Australian water business, to be known as Beca HunterH2O, will provide clients with access to more than 300 water technical specialists across the Asia-Pacific. In addition to Beca's already strong Victorian water presence, Beca will now have offices in Newcastle, Tamworth, Brisbane, Adelaide and Fiii, all backed by 500-strong multidisciplinary employees in Australia and the 3,800 people in the wider Beca Group.

and Hunter H₂O group Beca will industry leading expertise in water, wastewater stormwater management. The combined expertise of the water teams will give access to some of the best minds in master planning and advisory services through to civil, mechanical, process, electrical and control system design, as well as project management and commissioning, backed by strong front-line experience in water utility operations and training.

The combined strength of Beca and Hunter H₂O continues Beca's purpose to make everyday better for clients and the communities in which Beca operates.



Managing Director of Beca Australia

New Members

Welcome to the following people and companies who have recently joined our Association as a Member or Corporate Supporter.

New Individual Members

Tahir Raifque, Graham Halley, Dona Tantirimudalige, Johanna Randall, Lachlan Hally, Stephen Fisher, Adam Drysdale, Brendan Sarton, Daniel Hawking, Allan Law, Rohan Phillips, Scott Casey, Michael Roberts, Rhys Morham, Aaron Jeffries, Brayden O'Donohue, Brendan Robertson, David Balchin, Gary Tickner, Peter Kilpatrick, Simon Mahomet, Michael Salu, Matthew O'Neill, Mahshid Mortazavi, Brandon Nona, Chris Schumacher, Jason Knight, John Boyle, Andrew Milford, Ian Fester, David Birdling, Karyna Hawks, Danielle Tuckwell, Andrew Park, Scott Watton, Dean Lewin, Matthew Gilbert, Thomas Moore, Steven Bennett, Jesse Revelly, Julian Pelletier, Ken Keats, Tim Newson, Luke Renshaw, David Bartley, George Masoudi, Troy Jansen, Christopher Stafford, Duane Franke, David Light, Riley MacDougall & Mitchell Napier.

New Utility Corporate Members

New Corporate Members

RPC Technologies, SNG Constructions, Siebtechnik Tema, Vendart Diagnostics, Fusion Training Solutions, Haztech Automation, Water Treatment & Filtration Solutions, Lycopodium & Pipe Core.

WIOA Coming Events

3 June	Kwatye Award, applications close
15 June	WIOA Talks – Realware/VR – NSW AC host
30 June	Nominations close for Queensland Operators of the Year
6 July	WIOA Talks – Indigenous water issues – coinciding with NAIDOC week
24 August	WIOA Talks – Process Control Charts and SCADA Data review, online
7 October	Team of the Year Award, nominations close

WIOA Conference & Exhibitions in 2022

22 & 23 June	83rd Victorian Conference & Exhibition, Bendigo
3 & 4 August	47th Queensland Conference & Exhibition, Logan
9 & 10 November	3rd WIOA South Australian Conference & Expo, Murray Bridge

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