



THE Pipeline

Regional Wastewater Reclamation Department

Prince and Oracle Sewer Improvement Project Wins 2021 AZ Water Award

by Lilian von Rago

Every year, the AZ Water Association recognizes the outstanding engineering design and construction accomplishments of its members. This year, it selected the Prince and Oracle Road Sewer Improvement Project as Wastewater Large System Project of the Year. The Prince/Oracle intersection has an interesting past—which makes the project's completion a real victory for RWRD.

In 1990, a 27-inch diameter concrete sewer pipe failed under one of Tucson's busiest intersections, the intersection of Prince and Oracle Roads. This created a sinkhole, an emergency situation in which a new 27-inch pipe was needed immediately. Unfortunately, the only size pipe readily available was a 24-inch PVC pipe. The emergency solution was to construct two new manholes, and lay 430 linear feet of 24-inch diameter pipe to replace the failed section of 27-inch pipe under the road. The PVC sewer pipe was intended to be a temporary repair and needed to be replaced with a 27-inch pipe to reinstate the original capacity of the interceptor sewer (an interceptor sewer is a major sewer line that receives flows from



Above: Aerial view of the intersection of Prince and Oracle.

Left: Installation of a PVC pipe at night during the Prince and Oracle project.

a number of trunk sewer lines, and conveys the wastewater to a treatment plant).

The emergency fix was working well, and there were no capacity issues until northeast Tucson continued to grow—which, over time, created a capacity bottleneck.

RWRD began receiving odor complaints from neighborhoods surrounding the intersection. In 2017, a charter (a project outline including scope, budget, risks, etc.) was written to address capacity and odor issues. Feasibility studies were conducted, and the RWRD CIP team began exploring solutions. There were stumbling blocks along the way which delayed this

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**SANTA CRUZ RIVER CLEAN-UP
EVENTS**

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**TRES RÍOS BIOGAS PROJECT
CHOSEN AS A FINALIST**

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DIRECTOR'S VIEW



Last April, my "Director's View" article focused on the emerging virus first seen in Wuhan, China (in January 2020) known as the novel coronavirus or COVID-19, an extremely contagious respiratory illness that is transmissible from person to person. The virus had spread from China and was leaving people all over the world very, very sick; many were dying. The medical directive, at the time, was "wash your hands often, wipe down surfaces and do not touch your face." We know that advice was sound, but now we know much more. We know what it means to be in a "state of emergency," and about executive orders such as Executive Order 2020-18 issued on March 30, 2020, by **Governor Doug Ducey** entitled "Stay Home, Stay Healthy, Stay Connected." We learned about many other things too:

- PPE
- Social distancing
- Contact tracing
- Gig workers
- The concept of "Wash, wear, wait"
- Masking/masking directives
- Super-spreader events
- Quarantine pods (and quarantine hair)
- Herd immunity
- Vaccine eligibility (and Pfizer-BioNTech, Moderna, Johnson & Johnson)

by Jackson Jenkins

- Flattening the curve
- Contactless delivery
- Shutting down/opening up the economy
- COVID nose and COVID toes
- Working from home/(School) learning at home
- Prescription and grocery delivery
- The "New Normal"

News reports documented the horrible effects of COVID-19 on the body, the terror of not being able to breathe, isolation, and the fear of death. We learned about grieving families and how one life has an impact on so many others.

We also learned about recovery from illness, gratitude, and appreciation of what we have: family, a home, a job, income. Pima County wants all of its employees to stay healthy, and is expanding current vaccine eligibility throughout the County to Frontline Essential Workers (state and local government workers) and people ages 55 and older. Because we know that getting a vaccine appointment can be challenging, employees may take up to 90 minutes of work time to get vaccinated, and, if you are vaccinated between March 1, 2021, and February 28, 2022, you may be eligible to receive 50 Healthy Lifestyle Activity points toward the 2022/23 Discount #2 (which is active July 2022). For more information, visit the Pima County Human Resources [Employee](#)

[Wellness Programs](#) web page.

Stay healthy, and as always, I appreciate your efforts on behalf of the Department every day. You play a vital role in delivering vital services to our community. Hang in there just a little longer...we'll get through this together, and the light at the end of the tunnel gets brighter every day.

SAFETY SHARE



April is National Distracted Driving Awareness Month

The hands-free law, enacted on January 1, 2021, bans the use of any type of electronic handheld device while driving. A driver may only use their cellphone to report illegal activity, call for help (while parked), or at a red light. Drivers breaking the law will be fined between \$75 and \$149 for a first violation, and between \$150 and \$250 for each following violation.



Do you have a Safety Share to share?
Email pipeline@pima.gov

The Pipeline, an Award-Winning Publication

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MISSION STATEMENT

Our mission is to protect the public health, safety, and the environment by providing quality service, environmental stewardship, and renewable resources.



PIMA COUNTY
WASTEWATER RECLAMATION

BE A CONTRIBUTOR

Is there something happening in your Division? On your team? In your office? We want to read about it! Share it with us by emailing pipeline@pima.gov or call 724-6721.

SUBMISSION DEADLINES

Please submit your stories for the May issue to pipeline@pima.gov by Monday, April 17. If you will be submitting a photo, please send as a separate high-res JPEG attachment.

RWRD Safety and Security Relationship

During Annual Safety Training, we always say that we are all the eyes and ears of the Department. Safety and security depend on us to look out for each other, understand and be knowledgeable of the tasks we conduct, and be familiar with the area that we work in. We can always show a close relationship between safety and security, even though they come from different locations. Let's take a quick look at both.

Safety focuses mostly on internal hazards and threats to our well-being. Our Safety Program builds itself from the core values received from training, teamwork, and experience. It is critical that everyone is aware of circumstances and processes that have a high likelihood of causing injury. The goal is always to reduce the potential of injury through various means including policies and the Hierarchy of Controls. We conduct extensive safety training during onboarding, annual safety training, and task -

related training. We discuss it in all of our meetings, tailgate trainings, safety shares, and during other discussions and communications.

Security focuses on mostly external threats. Our Security Program starts with the physical means to keep unauthorized persons from entering our critical infrastructure such as fences, gates, key-card access, and policies. The goal is to eliminate or reduce the likelihood of persons with nefarious intentions gaining access or control to any location within our organization, including through electronic means. There is no doubt that with robust security, employees are safer from physical harm. In this short year, we have experienced an arrow shot into a building, a cut fence, and a couple of incidents of graffiti. While none of these caused an injury, they certainly make employees feel vulnerable to such criminal acts.

It's easy to see the close relationship between safety and

security. Both have formal and informal audits designed to protect employees. Both can have internal and external threats. All members of the organization should keep their eyes open for something that is out of place, and protect their coworkers. Anything placing a safety or security risk should be reported to their supervisor or manager through reporting procedures. The organization as a whole takes these reports seriously, investigates them, and determines causal factors and prevention strategies. Safety and security never go away and always need to be a focus. When either one of them are relaxed, there is a risk of something tragic happening. Everyone within this organization is literally the eyes and ears to a safer workplace, whether those threats and hazards come from within or outside the organization. Thank you for doing your part in protecting each other and making our Department a safe place to work.

Preparing for Power Outages

The recent winter storm events that rocked a large swath of the nation in February resulted in blackouts for over 9 million people in the U.S. and Mexico. The extensive power outages and damage to life and property seen across the country during this single event highlights the need to prepare for a power outage - while the lights are still on.

We tend to take the power grid for granted, until it fails us. There are several things you can do to prepare yourself and your family for a power outage.

Preparing for a Power Outage

Take an inventory of the items you

need that rely on electricity. Plan for batteries and other alternative power sources to meet your needs when the power goes out, such as a portable charger or power bank. Have flashlights for every household member. Determine whether your home phone will work in a power outage and how long battery backup will last.

Know Your Medical Needs

Talk to your medical provider about a power outage plan for medical devices powered by electricity and refrigerated medicines. Find out how long medication can be stored at higher temperatures and get specific



guidance for any medications that are critical for life.

Food Storage

Have enough nonperishable food and water. Keep freezers and refrigerators closed. The refrigerator will keep food cold for about four hours. A full freezer will keep the temperature for about 48 hours. Use coolers with ice if necessary. Monitor temperatures with a thermometer. Throw out food if the temperature is 40 degrees or higher.

Using Appliances During Power

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Santa Cruz River Clean-up Events

by Lilian von Rago

RWRD staff joined forces this year with the Pima County Regional Flood Control District, Tucson Clean and Beautiful, the Sonoran Institute, Tucson Water, Paragon Space Development Corporation, Tortolita Area Alliance, and Boy Scout Troop 122 to host its annual Santa Cruz River clean-up. Because of Covid-19, there were new rules: social distance and wear a mask or two.

RWRD held its employee-only event at the Water Campus on Friday, March 5, 2021. This represents the sixth year that RWRD has been involved with the clean-up effort, the brainchild of Permit Regulatory Compliance Officer, **Jason Grodman**.

Jason modeled the event after the Arizona Department of Transportation's (ADOT) Adopt a Highway Program. He thought the idea could be replicated on the Santa Cruz River and felt that RWRD had a responsibility to the river since it released millions of gallons of effluent from the outfall. The section of the river that RWRD cleaned was from the outfall to RWRD's solar fields at the end of the property - which could be described as RWRD's back yard. This year, RWRD staff pulled 1,000 pounds of trash out of the river at the outfall site. Crews came prepared...they used the winch on their 4x4 pick-up trucks to help pull out big items like shopping carts and mattresses.

A BIG thank you to RWRD volunteers: **Laura Arnold, Kimberly Baeza, Irene Castillo, Max DiSante, DeAnn Drottz, Juan Echanove, Jason Grodman, Jenny Hanson, Ava Hopkinson, Jessie Jones, Courtney Kaufman, Lea Liburdi, Mike Manchester, Kent McRae, Steve Mitchell, Fernando**



Above: Outfall area prior to the Santa Cruz River clean-up effort.

Below: Outfall area after the clean-up.



Orduna, Mike Silva, and Tom Tomchak.

RWRD's partners hosted community participation river clean-up events at four different drop-in points from Ina Road to the north to just south of Silverlake Road on Sunday, March 7, 2021. This event marks the first time that RWRD has collaborated with other agencies for clean-up efforts. The collaboration was fruitful, with 138 volunteers gathering 197 bags of garbage from the four drop-in points.

According to Jason, everyone

can help keep the Santa Cruz River clean by taking personal responsibility. He suggested that everyone should think about their own property, and what is on it that could be washed into the Santa Cruz during a rain event. Illegal dumping is also a contributor to the trash and debris found in and around the river. If illegal dumping is seen, Pima County's Department of Environmental Quality should be notified. Projects like these help RWRD promote a healthy environment.

Tres Ríos Biogas Project Chosen as a Finalist

RWRD was chosen as a finalist by the Metropolitan Pima Alliance for its 2021 Common Ground Award. This annual award recognizes community leaders, projects, and events demonstrating collaboration to the overall benefit of the community. Common Ground Award finalists endured a multi-step vetting process that included a panel interview that weighed the complexity and uniqueness of the collaboration.

RWRD's submission was for the Tres Ríos WRF Biogas Cleaning and Utilization Project which represents the first renewable natural gas (RNG) production facility in southern Arizona to partner with Southwest Gas for distribution of a sustainable fuel source.

The gas cleaning facility is located on the Tres Ríos WRF property. This facility will receive all the biogas from anaerobic digesters. It will process the biogas to remove moisture and impurities and compress the cleaned biogas to the proper pressure. Once



Aerial photo of the biogas pipeline from the digesters to the gas cleaning facility.

compressed, the facility pipeline will deliver the cleaned biogas to the Southwest Gas pipeline near the Tres Ríos WRF in order to be delivered to a biogas buyer who will, in turn, pay RWRD for the biogas purchased.

The completion of this project will reduce reliance on imported oil, and

the sale of renewable fuel credits will benefit sewer users by offsetting operational costs—and postpone future rate increases. The top finalists and winners will be celebrated at the Common Ground Awards Ceremony on May 14, 2021 at the JW Marriott Starr Pass Resort.

RWRAC UPDATE

The Pima County Regional Wastewater Reclamation Advisory Committee (RWRAC) held its monthly meeting virtually on March 25, 2021.

Deputy County Administrator for Public Works **Carmine DeBonis Jr.** gave an update on some recently passed state legislation that might affect RWRD, including bills about occupational safety and water quality. He said that finding a more efficient method for billing and collection of wastewater reclamation fees is one of Pima County's legislative priorities.

RWRD Director **Jackson Jenkins** discussed a number of topics, including concerns about the current supply of plastic pipes, a

by Justyn Dillingham

recent sanitary sewer overflow, and a new antenna at the Salida Del Sol pump station. He also explained current RWRD policies regarding delinquent user fees and Sewer Outreach Subsidy accounts during the pandemic. Finally, he provided updates on the struvite recovery program, the biogas project, and the vaccination status of RWRD employees.

Finance and Risk Management Department (FRMD) Director **Michelle Campagne** reviewed a draft of the 2021 Financial Plan, including operating costs, new debt, and debt service payments. **Matt Matthewson** was named the new Vice-Chair of the Financial Subcommittee, and **Asia Philbin** was

named to take Matthewson's place as Chair of the CIP Subcommittee. Matthewson said that there has been no CIP activity in the past month.

FRMD Administration Support Services Manager **Mandy Armenta** provided an expense and revenue summary for Period 8 of the fiscal year 2020/21. Finally, **Alison Jones** of the Citizens Water Advisory Committee provided a summary of the committee's most recent meeting, which focused on differential rates.

The RWRAC will hold its next meeting on Thursday, April 22. The meeting will once again be held virtually. To view the agendas, minutes, and videos of previous meetings, click [here](#).



RWRD Conveyance staff show off their Irish spirit on St. Patrick's Day.

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Outages

Install carbon monoxide detectors with battery backup in central locations on every level of your home. Avoid carbon monoxide poisoning. Generators, camp stoves or charcoal grills should always be used outdoors and at least 20 feet away from windows. Never use a gas stovetop or oven to heat your home. Turn off or disconnect appliances, equipment, or electronics. Power may return with momentary surges or spikes that can cause damage.

FEMA has created a great flier, [Be Prepared for a Power Outage](#), that contains a lot of useful information.

Power Outage Tips

- Keep freezers and refrigerators closed.
- Use a generator, but ONLY outdoors and away from windows.
- Do not use a gas stove or oven to heat your home.
- Disconnect appliances and electronics to avoid damage from electrical surges.
- Have alternate plans for refrigerating medicines or using power-dependent medical devices.
- Check with local officials about heating and cooling locations open near you.



COMINGS AND GOINGS

NEW HIRES – None!

PROMOTIONS – Congratulations!
Ricardo Gonzales

WWTP Mechanical - Lead
Treatment Division

by **Patsy Padilla**

RETIREMENTS – Good-bye!
Jimmy Berndt

WW O&M Maintenance Technician
Treatment Division

"IMPROVEMENT" FROM PAGE 1

project: Oracle Road lies within the jurisdiction of the Arizona Department of Transportation, and Prince Road lies within the jurisdiction of the City of Tucson. Each jurisdiction needed to agree to work with RWRD on construction operations, traffic control, and flow management bypass operations as construction would involve closures of multiple lanes of traffic, detours, and lane shifts.

The original proposal was to perform a jack and bore operation under this busy intersection. Jack and bore is a trenchless method of sewer construction where a tunnel is cut underground without disturbing the surface of the road. At a cost of \$2M, this was an extremely expensive option which required extensive realignment of the interceptor. This method is usually reserved for tunneling under railroads and interstates.

The open cut trench method of

removing old piping and installing new 27-inch diameter piping at a cost of \$1.1M was ultimately selected. This method involved excavating down to, and exposing the existing pipe so that it could be repaired or replaced. Limiting traffic disturbances was the goal, so one of the major requirements was that the bulk of the work be performed nights and weekends. Crews encountered "sugar sand" (hard-to-compact soil), drunk drivers and intoxicated pedestrians, and a few design changes along the way, but the project was successfully completed significantly under budget. Public Works Administration Program Manager (formerly with RWRD) **Shawn Tillson** and RWRD Program Coordinator **David Badger** managed the project for RWRD, B&F was the contractor, and EEC was the designer. The intersection looks good, works well, and odor complaints have gone down substantially. The team has much to be proud of.