



WATER SERVICES DIVISION



WS Monthly Update August 2021

Recruitments

- **Andy Bertelsen** is moving over to Water Services as Director on September 6. He has a great track record with Public Works and getting things done. It was a hard decision, leaving his commitments with Public Works, but he has developed a good team to carry on. Thanks to **Erin Young** for serving in an interim capacity.
- Water Services has announced that **Ed Schenk** has been promoted to Stormwater Manager. This is well deserved, based on his proactive measures prior to this season's floods and his performance during the emergency events.
- While the Engineering Section Director position is under recruitment, Water Services has contracted **Paul Turner**, Turner Engineering to serve in this capacity. Paul is well-versed in city water projects and brings a lifetime of experience to the table.
- We still have openings for the Stormwater Floodplain Project Manager and Plan Reviewer, as well as other section openings, listed below.

Retirement

Greg Sidwell is retiring after **32 years, 8 months of service** to the City of Flagstaff. Greg began his career on December 12, 1988 as a Maintenance Worker 1. He promoted to a Meter Service Technician on August 18, 1997 and worked in his current position as Utility Locator since October 16, 2000. He will retire on September 3, 2021. He will take a lot of institutional knowledge, and good memories, with him. We wish him well and thank him for his service!



Acknowledgements



Wildcat Hill Water Reclamation Plant received a special award from Arizona Department of Environmental Quality (ADEQ) on August 16. The Bronze Level Voluntary Environmental Stewardship Program (VESP) award marked three years of no violations and going beyond compliance regulations to protect human and environmental health. Way to go, Wildcat Hill TEAM!

Director

- Mark Richardson, Operations Section Director, is working with Human Resources to develop a Step Plan as part of the City's new Compensation Plan. The Step Plan for

Water – Wastewater – Reclaimed Water – Stormwater

Administration Offices

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Flagstaff, Arizona 86004

Water Services will be similar to Police and Fire and will replace the Multi-Skilled Worker Program. Multiple meetings have occurred, with good attendance, and a draft is under review. This will be a blend of tiers between the existing skill-based pay plan and the police and fire step plan structure.

- A re-entry plan for WSAB – Water Services Admin Building is being formalized and will be shared soon.
- We are working on two presentations for the upcoming City Council retreat on infrastructure scheduled for September 30:
 - The Wastewater Story will address pressing needs at Wildcat Hill Water Reclamation Plant.
 - The Stormwater presentation will discuss City-wide infrastructure needs and funding options.
- Stormwater Section is funding a project above Paradise Road. This is a precedent setting mitigation effort to take place on national forest land. This looks to be a great collaboration between the Forest, County and City. Stay tuned!
- Next all-employee meeting will be on October 20, at 8 am.

Safety

Travel protocols kept staff from travel to Tri-State and 3CMA conferences, due to high risk for covid. The local, Rural Water Association conferences were local and selectively attended. Online Water College Courses are available for training, to attain required certification hours.

Water Commission Meeting, August 19

- Erin Young presented on revisiting criteria defining a “large body of water”, looking to reclassify amenity lakes and allow the use of reclaimed water.
- Ed Schenk presented an update on Stormwater flood mitigation efforts
- Lisa Deem provided an overview of the 2021 Report to the Water Commission

Section Updates (alphabetically)

Admin – Budget & Communications

- Administrative staff is tracking the emergency declaration for Museum Flood Events-time and overtime. A lot of resources are still being dedicated to this effort.
- Communications released the August blog, focused on tank infrastructure -a new tank for Continental Well and refurbishment of Rio de Flag WRP Clarifiers.

Customer Service/ Meter Services

- As customer service begins their meter invoice process, they will miss Jim Davis’ knowledge with capacity fees.
- Disconnects for non-payment began this month. Customer service staff will reach out by phone, email, then place door hangers, allowing 48 hours prior to disconnect. In August, 61 door hangar notices resulted in 29 in disconnects, with most turned back on that day. We have 75 accounts on payment plans with \$62,000 in past due charges. It’s winding down to only 5 or so per week. Staff is directing customers to the Emergency Rental Assistance Program, federally- funded, which can pay the entire past due balance, plus 3the next three month’s service bills, through AZ DES.
- Meter Services hired a new meter technician on August 6, and a new customer service rep – Welcome, Cameron!

- The load out station software contract is being finalized, moving over to the implementation group. Credit card payments can be made with the software; we're hoping for a smooth transition.

Engineering

- This month is all about transitions. With Jim Davis' retirement, Doug is focused on filling in for plan review. There are utility relocates for Lone Tree Overpass and Butler over Rte. 66/railroad tracks. Customer Service will invoice for the commercial water buy-ins.
- Paul Turner is coming on board as interim Engineering Section Manager. Staff is supporting the challenge of providing the institutional knowledge to find data and files to support engineering needs.
- We're tidying up a few items at McAllister well; mostly warranty items. A main breaker was replaced, due to overheating from loose connections and epoxy paint was re-applied in some areas.
- The next steps at Ft. Tuthill #2 well are testing and determining the configuration for the pumphouse. There is also some clean up work going on- culvert cleanup of escaped sands and debris from the drilling operations. In the meantime, we're capturing water depth data at Ft. Tuthill #1 well to determine trends and combine this with data from portable transducers for Ft. Tuthill 2 well.
- A Water and sewer impact analysis is being conducted for Northern Arizona Healthcare, developing a campus near Ft Tuthill. It's a large footprint and will have significant impact on water, sewer and stormwater. Doug and engineering ECI are coordinating efforts, and we are meeting with the consultant to ensure a good water-sewer impact analysis. All components need to be addressed- sewer to the plants, fire flows and peak demand.
- The meter and vault project at Citizens Cemetery is complete
- The next meter and vault replacement project will be at Cameo Mobile Home park, off Empire. We will replace the service meter and vault, 1964 AC pipe and leaky hardware.
- Design for the reclaimed water line upsizing is underway, from Ellen Street to Buffalo Park. This is a retro fit of an 8" line installed in the 90's meant to bring reclaimed water from Buffalo Park to Coconino High School. We'll replace with a 20" line that will serve pumping from Wildcat Hill WRP to Bushmaster Pump Station, up to the Buffalo Park tank. We are slated to speak with the Open Space Commission to discuss the project, as it crosses open space in two locations.

Operations

- The Stormwater truck has been working non-stop, and is down for repairs, after cleaning out a 44" line packed solid with mud and debris.
- Contractors are trying to locate a buried storm drain, under concrete rubble and debris. This drain handles Appalachia St. and ties into Spruce Wash.
- IMT operations are heading the drainage group, clearing drainages in all sections of the 5 identified areas. We have two private contractors clearing debris. The City of Tempe sent a service truck for one week; it was well equipped to do whatever was needed. By the end of the month, the channels were managing the rainfall well. It's keeping up the maintenance that counts.
- Security –We are working with City facilities staff to integrate access cards, where possible.
- Covid- There is a mask mandate in any city facility. Masks and disinfectant are available.
- Facility assessments underway, seeing what still needs to be done.
- Red Gap- getting invoices for work done by rancher, as will follow up on the work performed.

- Purchasing Lake Mary Water Treatment Plant from the US Forest service is still waiting on Forest Service action.
- There is currently one stormwater technician position open, and three in wastewater collections.

Regulatory Compliance

- Changes to the enforcement response plan will be presented to the Water Commission. Changes include adding a violation when a backflow tester does not upload testing data to our database within 5 days. We're having issues with results not being uploaded by testers and, as a result, issuing warning letters to unsuspecting customers that have paid testers to complete testing of their equipment. These enforcement changes allow us to focus on compliance with backflow testers, rather than unknowing end users.
- We received a waiver to not require testing at our North Reservoir Filtration Plant. The spring sources and a pipeline break did not allow enough flow to operate the plant this year. We will continue our sampling schedule in 2022.
- We're having discussions with private pond owners and ADEQ. Ponds located in the Continental Country Club and Pine Canyon Golf Course areas are currently designated as urban and/or amenity ponds, as defined by ADEQ. The ponds were removed from being a Water of the US and are currently listed as navigable water under the ADEQ designation of Water of AZ. These ponds were built and used as reclaim water storage ponds and were never part of a natural waterway. If the ponds are removed from the designation from a Water of AZ, they will be regulated as water ponds and no longer require a surface water discharge permit.
- Sampling of the Wildcat Hill monitoring well detected E Coli. E-Coli is typically a result of heavy rains and not an indicator of our plant discharge. It's a shallow well, which is easily contaminated by heavy rain and the resulting surface runoff. The depth of the water in the well is only 1-2 ft below ground surface. We've reported on exceedance to ADEQ and are chlorinating the well to be resampled.
- Julia Connors, our new Lab Technician starts work on Sept 7. We were not successful in our hiring attempt for a lab supervisor.
- An Air Quality Registration Renewal was submitted to ADEQ, which includes the new Co-gen for digester gas. The initial calculations indicate a permit will not be required and the facility can remain operating under the existing Registration.
- Pretreatment inspectors are going to the Rural Water Association conference next week.
- Our Pretreatment inspectors are working on getting restaurants signed up with SwiftComply. This program will help assure grease traps are being properly pumped and operating efficiently.
- The Pretreatment Supervisor is assisting in plan review, after the retirement of Jim Davis.
- The annual Municipal Separate Storm Sewer system (MS4) report is due to ADEQ and will be completed by the end of September

SCADA Information Systems

- Rod is working on communications and SCADA upgrades at the Lake Mary raw water pumphouse and Lake Mary wellfield. Lorne is tuning in McAllister and planning out the Continental upgrades. McAllister communications are working for time being. There are network issues and we're working on solutions.
- SWI is wrapping up design of a radio tower for the Lake Mary wellfield, and then we'll be ready to go out for bid. We're moving to create a separate Master radio site for SCADA. The finalized site plan was delayed, due to flood events.

- We are starting work on the Rio servers upgrade plan, beginning with network cleanup-consolidating three cabinet into one, and replacing primary/secondary servers with new software.
- IT has new badge for security which don't work in our system. The security planning group will schedule city-wide security updates, working with IT for a system that will work at all facilities.
- SCADA is installing humidity and temp sensors for the HVAC system in Water Services Admin Building and East Side Shop.
- The Wildcat Hill gate controller is working, but still waiting on chip-sets. The septage cameras are back online, after a lightning strike fried lines back to main switches. We're looking at running fiber to that area.
- We still need to fill the SCADA electrician opening. We'll re-name the position, SCADA Analyst- Electrical. We may need to train someone into that position, as it is a very specific focus area of SCADA Electrical knowledge.
- We're keeping up with work order management for flood mitigation. The post-flood work orders now include individual crew hours for ease of reimbursement.
- The confined space data reporting has now been incorporated into the into field inspection and Pressure Relief Valve inspection forms.
- The Tv van is pulling data and calculating locations of services.
- Sophia Melfi, our new Water Services GIS Specialist, is working on improvements to the Stormwater GIS and collector app by utilizing the Pole camera and inspection stormwater manholes. She spent time with Greg Sidwell in the map room before his retirement.
- Temporary pressure sensors in the reclaimed system are collecting spikes in the system. This data will be used for modeling the reclaimed system. We've also added 3 pressure sensors on reclaimed system to help with reclaim modeling effort at the Rio de Flag, Wildcat Hill WRPs and east side locations.

Stormwater

- CONGRATS go out to Chris Palmer's family, with a new addition to their family, a baby girl!
- The Coconino County Flood Control District (FCD) and the City of Flagstaff hosted a one-and-a-half-day Engineering Summit to identify long-term flood mitigation for the Museum Flood Area. Representatives from the U.S. Forest Service, Army Corps of Engineers, Flagstaff Unified School District, Arizona Department of Water Resources, the Federal Emergency Management Agency (FEMA), Arizona Geological Survey, Arizona Department of Transportation, and ten civil engineers from six private engineering consulting firms, as well as staff from both the County Flood Control District and City of Flagstaff participated. The engineers heard about the history, challenges, and opportunities from FCD and City staff. They also discussed lessons learned from the Schultz Flood Area and held a workshop to facilitate brainstorming. Brainstorming was based in foundational principles of forest restoration, and an integrated approach of watershed restoration along with



neighborhood conveyance, which has long-term benefits that increase through time as the watershed recovers.

- Spruce Ave Wash flood damage is estimated at 7.8 million (city side only). Staff has been taking FEMA around to view the damage. We're conducting a benefit-cost analysis for available funding sources to mitigate impact in a more permanent nature.
- The detention basin planned at Killip School site is estimated at \$4 million.
- City-County Joint Work Session on August 23 provided updates on the Museum flood events.
- 300 trees being removed from Fanning Wash, with the help of wildland fire crews.
- August rains created some big flood events on Rio de Flag, Cheshire, downtown, Fort Valley Trails, Museum Burn Scar and Southside neighborhoods experiencing 200 to 500-year events.
- Crews are working on Dortha Street and expanding the channel along Cedar and Paradise, working with USFS crews.
- In addition to flood mitigation, the floodplain Community Rating Service audit is coming up. This is a comprehensive annual reporting of development reviews, elevations, floodzone determinations and FEMA mapping. This allows the community cheaper flood insurance. As a Group 5 designation, residents get a 20% discount.
- Stormwater infrastructure needs will be a topic for the upcoming council retreat in September.
- Phoenix Ave. bridge is in the process of being removed and replaced. This has been on Stormwater's CIP project list for a few years. It's schedule to be completed this fall, but may be extended through winter, due to contractor delays.
- Conceptual designs for flood mitigation above Shadow Mountain neighborhood have been submitted to the property owner (Kinder Morgan).



Wastewater Collections

- The combo trucks have been working consistently on stormwater clean-up, clearing drains and ensuring all culverts remain open. One truck is down, waiting on parts.
- TV van is working with GIS to verify data for computer modeling and future mitigation in the area.
- Two 6" taps and one-4" tap were completed at night in Coconino Estates project.
- We also installed a flow meter by the Rio de Flag Water Reclamation Plant.
- We're conducting interviews for Wastewater technicians, with multiple openings.

Water Distribution

- Distribution staff is trying to get caught up, after helping out with the flood.
- We're also participating with interviews for Meter Read Supervisor
- We're experiencing a long lead time on meter boxes and lids, dealing with shortages.
- Three crews responded to a water main break on Country Club at Edgewood. There was also a water leak on Elm St.
- We replaced a hydrant on Rte. 66 and Park. This was coordinated with ADOT and Shaum Electric, holding a telephone pole in place. Work was completed ahead of schedule.
- The next meter vault project is a 6" fire service for Cameo Mobile Home park.

Water Production

- Water consumption in mid-7 MGD
- Does the level in Upper Lake Mary rise with the monsoon rains? Not typically. Only four of the last 70 years has Upper Lake Mary risen significantly (10% or so) during monsoon season. Most years see only a single percent increase or less during monsoon season. The Lake level is currently at 29%, half of last year's level. Lower lake levels result in higher turbidity, currently about 100 NTU's. Surface water production has been accounting for about 15% of total production; right on track with targets set in the spring.
- We're experiencing issues caused by lightning.
 - The Railroad Springs booster station controller got fried.
 - The Lake Mary plant got a lightning strike, with an 8-hour power outage and flow measurements not recording properly from the plant's master flow meter.
 - Lightning also damaged automatic gates, causing a repeated shutdown at Foxglenn well. Staff have since downloaded a software update into the variable frequency drive, hopefully resulting in less shutdowns.
- There was a lot of runoff and erosion at WM wellfield, with Streets crews hauling cinders and water production staff grading the roads.
- There was more erosion from rains on Waterline road and in the Inner Basin. Staff have started clearing the road with heavy equipment. Due to minimal spring run-off and a pipeline rupture in circa 1980's cast-iron pipe, there are no plans on running Inner Basin/North Reservoir Filtration Plant this year.
- Continental well updates: The new tank has been installed (photo at right), interior coating and exterior painting are finishing up. The contractor is working in the well house on sand separators and piping interface while coatings are completed.
- The Woody Mountain #9 well is having components replaced, after a starter burned out. The Woody Mountain #6 well had some relays replaced.
- Geophysics are wrapping up on the 27" raw water pipeline from Lake Mary, in preparation for USFS thinning operations. Western Technology and Turner Engineering are providing recommendations and two options to mitigate crossing the pipeline.
- We have approval to replace six valves at the Lake Mary plant. Supply delays will schedule installation in January.
- It's been a year since the bid for Lake Mary sedimentation basins, with bids coming in at \$1.5 million over budget.
- Sarah Langley and the grants team were applying for funding through the Arizona Environmental Infrastructure program established through Section 595 of the Water Resources Development Act of 2020 (WRDA 2020) for three water production projects - Sedimentation basin, raw water pipeline and Woody Mtn powerline burial, among other projects in Water Services. We're waiting to hear on appropriations.
- McAllister well is moving along, with communications showing in SCADA. Regulatory compliance is doing sampling.
- We are making plans for Ft Tuthill #2 well aquifer testing and development this October to see what the well will potentially produce. The completion of the well at the surface and innermost casing configuration will likely affect well house location and/or configuration.



Water Reclamation Plants

- Staff is putting together the wastewater presentation for the Council retreat. Final draft being formalized.
- With a skeleton crew and virus uptick, reclamation plants are moving to Covid schedule, 12-hour shifts, alternating work weeks to isolate from co-workers~ Wed-Sat, Sun-Tues.
- Rio Clarifier rehabilitation project complete, with the next set scheduled for spring.
- Anoxic mixer replacement (energy-efficiency project) is underway. The completion date is mid-2022, due to long lead time for equipment.
- The Carbon rehab project for both plants is waiting on a P.O. to proceed, as is the reclaim modeling study.
- We're still doing clean up after monsoon storm's high flow events.
- We had an inspection on Aug 5 by ADEQ for the Aquifer Protection Permit and passed with no issues.
- ADEQ gave Wildcat Hill WRP a bronze-level Voluntary Environmental Stewardship Program award, marking three years of no violations and going above and beyond environmental stewardship compliance requirements. This is quite an achievement, considering the plant was operating under a consent order seven years ago.



Water Resources and Conservation

- We will be seeking bids from geophysical consultants for well-siting work this year.
- There will be an all-day workshop in late September to help complete the pipeline feasibility study for Red Gap Ranch.
- Conservation is conducting a data analysis for Parks Section, to determine if they are over or under watering. We're looking at a pilot project next summer
- The non-revenue water audit is still getting started.
- Our Water Resources tech is leaving for Rutgers University.
- We reinstated our free rain barrel workshops/handouts and gave away 20 barrels on the 8th, in partnership with the Co-Coop! Next workshop will be on September 12th.
- We've dealt with over 100 violations of the Water Conservation Ordinance, including the positive resolution of a maintenance issue at a local gym where they had been asking customers to turn on all the showers at once due to a faulty water heater!



- We've been out in the field at homes and businesses, assessing fixtures and finding leaks. Lots of positive feedback from the community on the work our staff do to empower people to understand their consumption and lower their bills.
- We sponsored the drinking water at Hullabaloo, see picture of the wonderful sign a local artist created for us on our chalk board!
- Project Wet on Sept 28
- Doubletree hotels to replace 100 toilets with efficiency fixtures.

