

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

WATER RECLAMATION FACILITY

Construction Update

SPRING 2023





With the arrival of spring, snow in the beautiful Central Wasatch Mountains begins to melt and recharge our streams, lakes, and groundwater. As this precious natural environment revives and reinvigorates after the cold winter months, we are reminded of our stewardship responsibilities.

As one of the oldest retail water providers in the West, Salt Lake City Department of Public Utilities has a long and successful history of providing customers with high-quality drinking water, managing flood control and stormwater, collecting and treating wastewater to standards that exceed EPA regulations, and maintaining and enhancing the City's Street lighting system. We understand the stewardship responsibility we have been given for water, the environment, and protecting public health, and we take that stewardship very seriously.

RANGE-TO-LAKE STEWARDSHIP

Providing high-quality, safe drinking water to growing communities in the Salt Lake Valley, when Utah is the second driest state in the nation, is no easy task. We're tremendously fortunate that we have an amazing source of pure water in our nearby mountain watersheds. And we're fortunate that our forebears had the wisdom to start watershed stewardship efforts more than a century ago—efforts we continue today. It would be a sobering and very expensive reality if we had to build new water infrastructure because our water coming from the Central Wasatch Mountains was no longer as pure or available as it is now. That's why we simply cannot take our watershed areas for granted. The stakes are too high. Having safe, clean, reliable water is essential to life; we simply can't live without it. Likewise, our quality of life would suffer without the ability to capture and treat the water that we use every day, then safely return it to the environment and Great Salt Lake in a responsible manner.



The majestic Central Wasatch Mountains produce naturally pure water that around 365,000 people depend on every day. More than half of the drinking water in the communities we serve — Salt Lake City, Cottonwood Heights, Holladay, Millcreek, Alta, Brighton, parts of South Salt Lake, and unincorporated areas of Salt Lake County — comes from the Central Wasatch Mountain watershed areas.

For more than 150 years, Public Utilities has worked hard to protect our watershed areas — City Creek, Parley's, Big Cottonwood, and Little Cottonwood canyons — to keep our drinking water pure. Public Utilities developed the Keep It Pure initiative to help make people aware of where their water comes from and the importance of keeping our water pure. Because conditions in the watershed areas change over time, Public Utilities is also in the process of updating our Watershed Management Plan, which guides watershed policies and programs. For more information, visit: slcwatershedmanagementplan.com.

When visiting watershed areas, please remember these recreation-friendly areas provide a lot of our drinking water. Here's what you can do to keep the water pure:

- ✓ Stay out of the water
- ✓ Stay on designated trails
- ✓ Only use bathroom facilities
- ✓ Observe all posted guidelines
- ✗ Keep dogs and other domesticated animals
OUT of the watershed areas
- ✗ Do not litter



Did you know it can take less than 24 hours for a drop of water in the Central Wasatch Mountains to reach a faucet in the Salt Lake Valley?





Because water is such a precious natural resource, it must be used wisely, so we have enough water now and in the future. For decades Public Utilities has been actively involved in the Slow The Flow initiative and promoting water conservation. Last year, customers in the Public Utilities service area saved 2.9 billion gallons of water. We should all be proud of this community effort and remember that if we each save a little, we all save a lot.

Here are some ways you can help:

- ✓ Water your lawns less
- ✓ Water your lawn at night to reduce evaporation loss
- ✓ Plant water-wise plants
- ✓ Reuse cooking water on your indoor plants
- ✓ Fill your sink to rinse food, pans and dishes, instead of just letting the water run
- ✗ Don't water your lawn when it's windy
- ✗ Cut your time in the shower by one minute
- ✗ Turn off the water while brushing your teeth





Every day an average of 35 million gallons of wastewater is treated at Salt Lake City's Water Reclamation Facility. This wastewater is created by everyone who lives, works, and plays in the City. Wastewater is used water from homes, businesses, and industry. In homes, it comes from sinks, showers, bathtubs, toilets, washing machines, and dishwashers.

Did you know there are thousands of miles of collection pipes below our streets to transport wastewater to the Water Reclamation Facility, the only sewage treatment facility serving the City? Dedicated teams of people embrace the daily challenge of keeping the systems up and running 24/7/365.

Keep fats, oils, and grease out of the sewer system, so it doesn't back up.

- ✓ Scrape food into the trash from plates, pots, and pans before you rinse and wash
- ✓ Use a screen in your sink to capture food particles and prevent them from going down the drain
- ✗ Do not pour cooking oil down the drain. Instead, pour it into a container, allow it to cool, then dispose of it in your trash
- ✗ Do not use your kitchen sink disposal to grind food waste into the sewer. Dispose of food waste by composting it or placing it in your trash

Remember, flushable wipes aren't so flushable.

Don't use your toilet as a garbage can. Only three things belong in the toilet — poo, pee, and (toilet) paper. It's the 3P rule.

Public Utilities created the Make It Pure initiative to educate people about how wastewater is captured, treated, and returned to the environment and Great Salt Lake in a responsible manner.



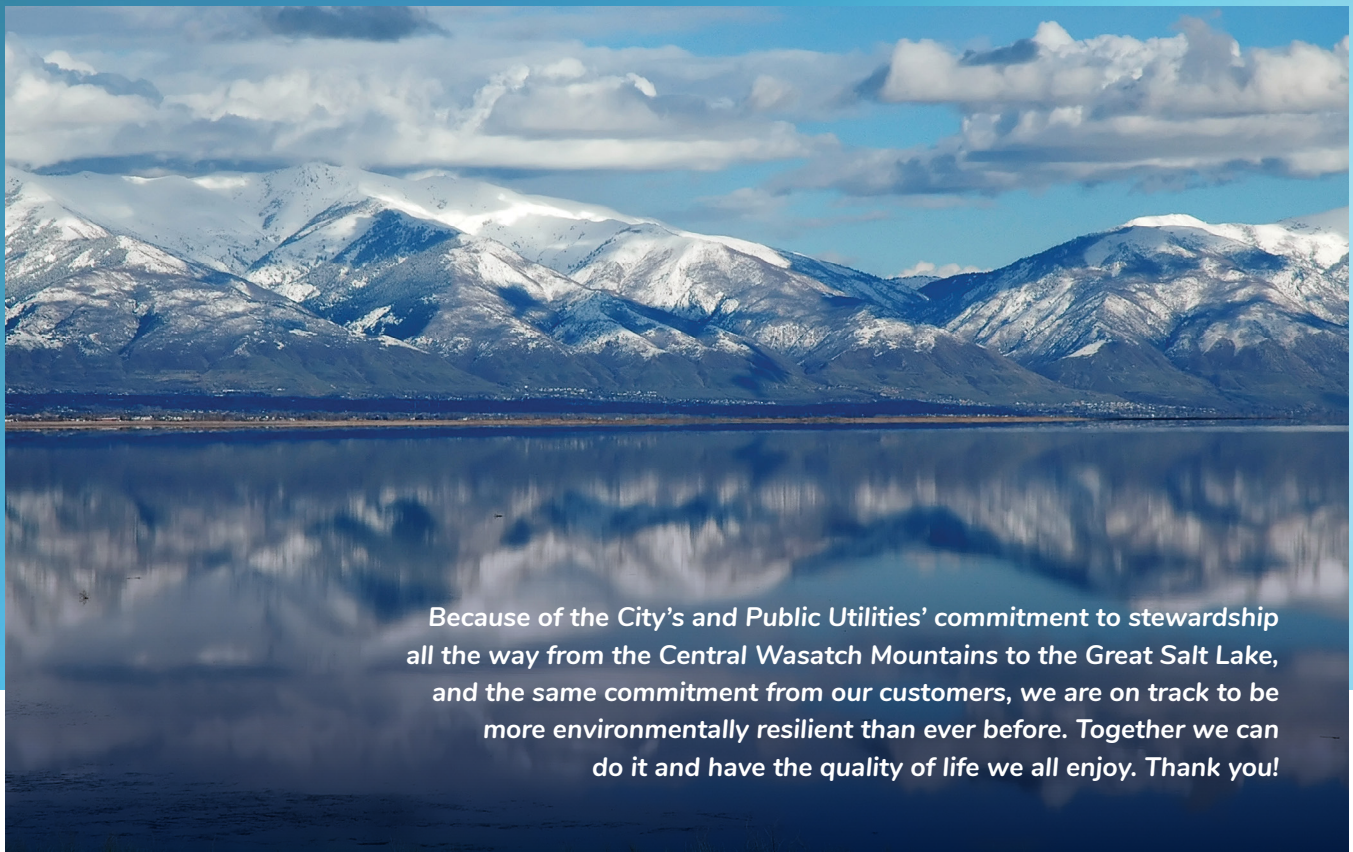
GREAT SALT LAKE COMMITMENT

The Great Salt Lake has shrunk to its smallest size in recorded history because of water diversions, a changing climate, and the region's mega-drought. In early January, a team of noted scientists presented the results of a study, finding that, in just five years, the entire lake could be gone and that the time to act is now.

Gov. Spencer Cox and the Utah State Legislature are making the Great Salt Lake a priority, and numerous environmental organizations are focused on raising awareness and looking for ways to remedy the situation. During Salt Lake City Mayor Mendenhall's State of the City address in January, she said, "History will judge us for the choices we make and don't make right now. Five years is not a long time, so it won't be our grandkids who judge us, or even our kids – we will

be able to judge ourselves." She went on to say that we must do more and that she would not sit back and watch the Great Salt Lake turn to toxic dust and say we've done enough.

Mayor Mendenhall has proposed the City conduct a review of its water usage in every facility, cemetery, and green space to identify opportunities to do better. She also proposed the City implement a temporary drought surcharge on the biggest water consumers to encourage reductions in outdoor watering. The Mayor also asked for the City Council to stand with her and formally pledge that the high-quality treated **water from the Water Reclamation Facility would not be diverted and reused but would go to the Great Salt Lake. This amounts to an annual contribution of nearly 13 billion gallons from the City.**



Because of the City's and Public Utilities' commitment to stewardship all the way from the Central Wasatch Mountains to the Great Salt Lake, and the same commitment from our customers, we are on track to be more environmentally resilient than ever before. Together we can do it and have the quality of life we all enjoy. Thank you!



CONSTRUCTING A NEW WATER RECLAMATION FACILITY

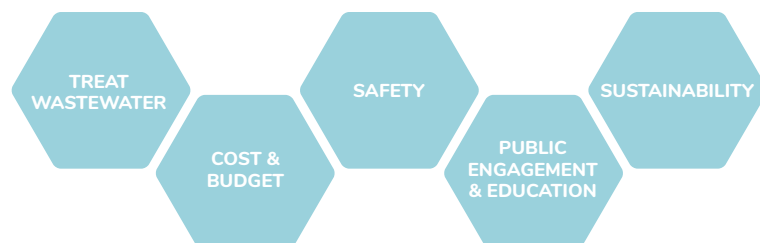
Public Utilities' Water Reclamation Facility treats wastewater collected across the City to remove solids, pollutants, pathogens, and other items that are potentially harmful to the public and the environment.

We are building a New Water Reclamation Facility to meet stricter water quality regulations, improve efficiency, resiliency, and reliability, and avoid risks associated with operating an aging facility that is near the end of its service life. While the new facility is being built, the existing facility must continue to operate without interruption.

Did you know it only takes 6 to 7 hours for the water you use to make its way through the Water Reclamation Facility's treatment processes and get returned to the Great Salt Lake? It is an amazing process to witness and one we all should be thankful for.

This is the largest public utility project in the City's history, and its current estimated project cost is around \$837 million. The project is being paid by revenue from bonds that will be paid off over time with user fees, and by leveraging one of the most favorable financing loans available, which can be paid off slowly. Construction on the New Water Reclamation Facility began in March 2020 and is expected to go through 2026. New federal and state water quality standards go into effect in 2025.

THE PROJECT'S GUIDING PRINCIPLES



CONSTRUCTION ACTIVITIES

It seems fitting that we provide a construction update on the foundations we are building for the New Water Reclamation Facility because in this issue we have highlighted Public Utilities' stewardship role and commitment, which really is our foundation and is so critical.

Building a good foundation requires a lot more than digging a hole and pouring some concrete into forms. It must be tailored to the structure itself and the site. It's like tailoring a nice custom suit. A foundation is there for the life of a structure, so it is important to pay attention to the details to ensure it holds up. A proper foundation holds a structure above ground, keeps out moisture, insulates against the cold, and resists movement of the earth around it. That is why people often say that without a good foundation, you're sunk.

Thank goodness Public Utilities has such a solid foundation and so will all the structures at the New Water Reclamation Facility.

NUMBERS OF INTEREST

87K

87,000 cubic yards of concrete to be poured for the new Water Reclamation Facility. A 3,000 square foot house built on a concrete slab uses about 50 yards of concrete.

26M

More than **26 million** pounds of reinforcing steel will be placed to strengthen the concrete structures and provide seismic resistance.

NOW THAT'S A LOT OF CONCRETE AND REINFORCING STEEL!

HEADWORKS BUILDING FOUNDATION

The foundation for the Headworks Building is underway with construction starting on two of the building's main structural slabs. The Headworks Facility includes both screening of raw sewage and grit removal. The new screens are sized to remove objects larger than ¼ inch in size.



PRIMARY & SECONDARY CLARIFIERS FOUNDATION

Construction of the center cone structures, which will support the mechanisms for both the primary and secondary clarifiers is being built. Clarifiers are large, circular basins designed to allow solids to settle and be removed from the wastewater's liquid stream.



BIOLOGICAL NUTRIENT REMOVAL (BNR) FOUNDATION

We have begun the process of pouring the concrete to create the foundation and walls of the Biological Nutrient Removal (BNR) reactors. The BNR reactors are really the heart of the New Water Reclamation Facility. These large basins are partitioned to allow for various treatment processes to encourage microbes in the water to break down organic matter in the wastewater liquid stream, uptake phosphorus, and convert ammonia to nitrogen gas.



DISINFECTION BUILDING FOUNDATION

We have completed the foundation and channels of the Disinfection Building. Ultraviolet radiation will be used to disinfect the treated wastewater before it is returned to the environment. This process uses a high frequency light that is an effective disinfectant. It will replace the chlorine disinfection process that was previously used to make the treatment process safer for plant staff and the surrounding community.



MECHANICAL DEWATERING BUILDING FOUNDATION

The Mechanical Dewatering Building is being built on its foundation and continues to take shape with the completion of the roof slab, the beginning of exterior wall construction, and installation of piping/mechanical systems. Two screw presses (large machines designed to press water from biosolids collected through the treatment process) are already in place.



MEET LAURA BRIEFER

A PASSION FOR NATURE, A DESIRE TO HELP PEOPLE

"From a very young age, I was passionate about protecting our natural environment. I also wanted to help people," says Salt Lake City Department of Public Utilities Director Laura Briefer.

As luck has it, Laura picked the perfect career path to accomplish both things and many people and places have benefited from it. She has worked as an environmental consultant, executive director of a non-profit environmental organization, Friends of Alta, and a public administrator focusing on natural resources and the environment for one of the smallest cities in the state, the Town of Alta, and the largest city in the state, Salt Lake City.

FROM MOUNTAIN PEAKS TO WATER TAPS

As Public Utilities Director Laura's role, extends all the way to the tops of the 11,000-foot Central Wasatch Mountain range that form the eastern wall of the Salt Lake Valley, south to Utah Lake and the Jordan River that winds through the valley floor, and the Great Salt Lake. It's a big job and one that Laura is grateful for.

"Serving as Public Utilities Director fits perfectly with my personal ethic of environmental protection and public service. My role includes participating in the stewardship of a broad watershed. It also includes providing critical water, wastewater, stormwater, and street lighting services to people in Salt Lake City every day. Public Utilities also provides drinking water to portions of Cottonwood Heights, Holladay, Millcreek, and other communities in Salt Lake County. In total we serve around 365,000 people. The work that my team and I do every day has profound benefits to the environment and the public, which is extremely fulfilling to me and in alignment with my personal values," says Laura.

Setting the vision for and guiding a large organization with a very public-oriented mission is a multifaceted role, Laura says, "That broadly includes: 1) ensuring we meet our regulatory obligations under federal and state environmental laws; 2) maintaining water-related infrastructure; 3) protecting public health and the environment for current and future generations; 4) long term strategic planning for water resources, climate change, and growth; and 5) advocating for good public policies associated with water."

"I am also charged with ensuring that our organization continues to be resilient and sustainable, which includes important organizational components like financial health, workforce stewardship (we have nearly 500 people employed at Public Utilities), and risk management," says Laura.

Laura must also ensure the New Water Reclamation Facility is completed on time and within budget, and that it will be an asset that will serve the City for generations. The current Water Reclamation Facility is more than 50 years old, isn't built to withstand seismic events, and doesn't meet stricter federal and state water quality standards that go into effect in 2025. Construction on the \$835 million replacement facility began in 2020 and continues through 2026. It's Public Utilities' largest-ever construction project.

SOUNDING BOARD & PROBLEM SOLVER

“My role in the construction of the New Water Reclamation Facility is to provide general direction and input, especially for major decision points in the project as it progresses,” says Laura. “There are small and large decisions that are made during the project that have potential impacts on the cost and schedule of the project, and to the public. For instance, I made the decision early in the project to compete for federal financing under the Water Infrastructure Finance and Innovation Act (WIFIA). We were the first entity in Utah to achieve a WIFIA loan and were awarded a \$348 million federal loan with terms that ultimately will save the public about \$100 million.”

Laura is looking forward to sharing the new facility with the people who pay for it through service fees. “I’m excited about incorporating the New Water Reclamation Facility into the community when the project is complete through water cycle educational opportunities and a space to hold community meetings,” says Laura.



ACTIVE LISTENER & PUBLIC SERVANT

Reaching out to residents, customers, and other members of the community is vital since Public Utilities provides critical services and serves a role that impacts many people, businesses, organizations, and multiple jurisdictions.

Laura’s educational background and experience are well-suited to working with the community and the many different stakeholders. Along with a Bachelor of Arts degree in Environmental Studies from the University of California at Santa Barbara and a Master of Public Administration degree from the University of Utah, Laura completed a year-long certificate program at the University of Utah in Environmental Dispute Resolution.

Even more important, Laura says, are the skills and expertise she has gained during her career in public service. These include meaningful engagement with the community, and especially understanding the deep and complex environmental and social context of the role of water and other natural resources in our community.

“One of the most important skills for this job is the ability to listen to and understand the community we serve, as well as the many stakeholders that we work with every day. Being able to collaborate is especially important,” says Laura.

HERE TODAY, HERE TOMORROW

Stewardship and natural resource management is the heart and soul of the mission of Public Utilities, Laura says, adding that this mission aligns with her personal ethics and integrity. That long-term thinking means that the New Water Reclamation Facility is designed to serve current and future generations. The project also will protect the Great Salt Lake by returning water that is treated to appropriate clean water standards. Laura says she is working to ensure that treated wastewater is used to help maintain flows of water to the Great Salt Lake.

“Every person in our community is dependent on accessible, reliable water and a healthy environment,” says Laura. “In many ways, our most vulnerable community members are disproportionately impacted if water and our environment are negatively affected. If there is a legacy I could leave, it would be to help facilitate broad and widespread stewardship of the Wasatch Mountains and Great Salt Lake. Both have always been important to the well-being of our community and will be even more important in the future.”

TRAIL RUNNER & MOM OF TEENAGERS

With so much responsibility on her shoulders, what does Laura do in her (rare) free time? “I have a wonderful husband of 20 years and two great kids who attend West High School. We love to adventure together and have been fortunate to visit spectacular places in wilderness areas in Utah and in North America. On a daily basis I enjoy trail running in the foothills with my Australian cattle dog, Whiskey,” says Laura.



Salt Lake City Department of Public Utilities

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Water Reclamation Facility Construction Update: Spring 2023