



SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation Facility

Construction Update: Winter 2022

As we greet another winter, it is exciting to look back at what we've accomplished over the past year with the design and construction of Salt Lake City's New Water Reclamation Facility and to provide an overview of what to expect in the coming months.

The Water Reclamation Facility treats wastewater collected across Salt Lake City to remove solids, pollutants, pathogens, and other items that are potentially harmful to the public and the environment. Wastewater includes sewage, wastewater from industry, and some stormwater and groundwater that infiltrate into the sewer collection system.

Like the existing Water Reclamation Facility, the New Water Reclamation Facility is comprised of two treatment "trains": one that treats the liquid component of wastewater, and one that treats the solid components of wastewater. Over the past year our team has been focused on completing the design of the liquid train, issuing a bid for the work,

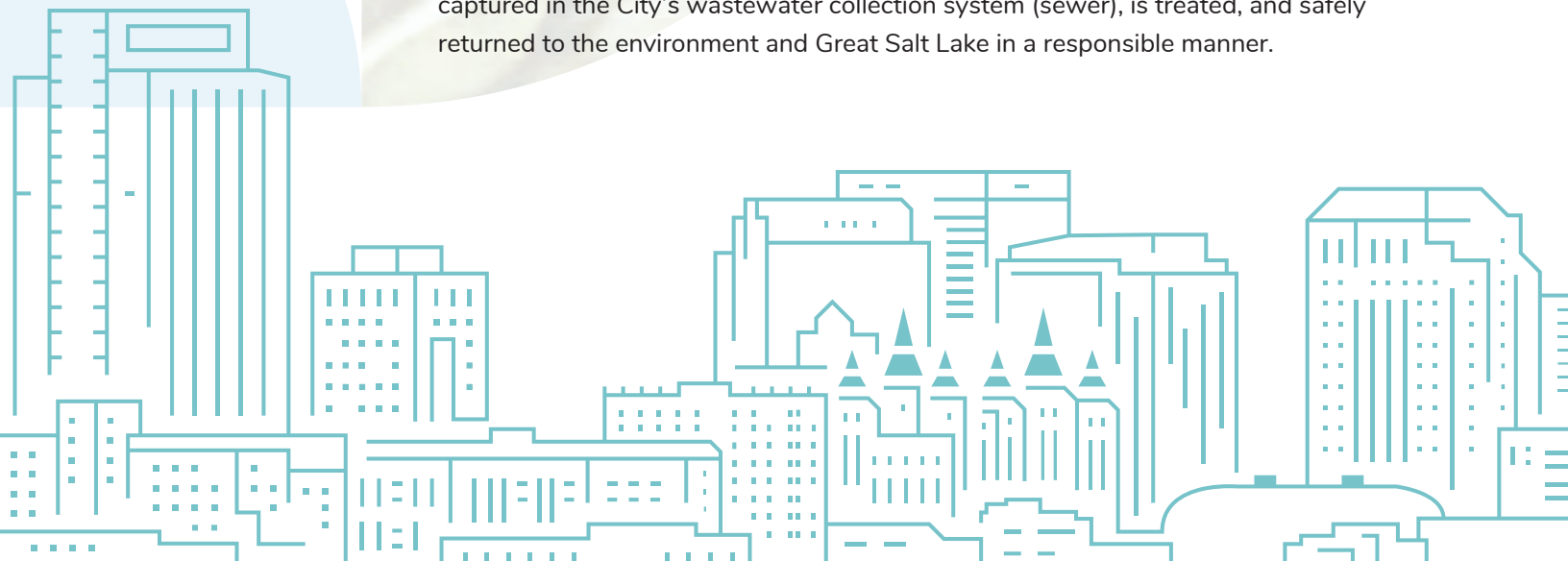
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About the Project

We are rebuilding the New Water Reclamation Facility to meet new water quality regulations, improve efficiency, resiliency, and reliability, and avoid risks associated with the operation of a now 60+ year-old facility that is near the end of its service life.

The existing Water Reclamation Facility is the only wastewater (sewage) treatment facility serving Salt Lake City and treats an average of 35 million gallons of wastewater every day. That means the facility must operate 24/7/365 without interruption, even during construction.

This project will ensure that water used by residents, businesses, and industry, which is captured in the City's wastewater collection system (sewer), is treated, and safely returned to the environment and Great Salt Lake in a responsible manner.



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and authorizing the contractor to proceed with construction. This is a major milestone for the project because the liquid train elements consist of approximately 80 percent of the costs for the project at \$616 million in construction work. Overall design of the New Water Reclamation Facility is near 95 percent complete; the remaining 5 percent of the design will be completed over the next year.

Throughout the project, our team has been working hard to minimize the impacts of surging materials and labor on construction costs, while still building a high-quality facility that will last for generations. We understand the stewardship responsibility we have been given for protecting our water supply, public health, and the environment, and we take that stewardship very seriously.

The Project's Guiding Principles

- Treat wastewater
- Cost and budget
- Safety
- Public engagement and education
- Sustainability

Construction Activities

You Might Have Noticed a “Little” Something

Construction work at the site has included the erection of four tower cranes. The tallest tower crane reaches 240 feet into the sky. For comparison, that’s nearly as tall as the Utah State Capitol building (285 feet) and more than twice as tall as the water tower at Trolley Square (97 feet). If you line up eight passenger buses front to back, they will measure about 240 feet. The strongest crane onsite can lift 44,000 lbs. The four cranes will be used to build multiple elements of the New Water Reclamation Facility simultaneously, allowing for faster construction.



Mechanical Dewatering Building Update

The concrete frame for the three-story, 75-foot-tall mechanical dewatering building is complete, and the building has been topped out, meaning the last beam has been placed on the top of the structure. Construction of the mechanical dewatering building started on November 30, 2020. The next step is to install the exterior precast concrete walls, as well as the interior plumbing and mechanical elements. The mechanical dewatering process is part of the solids treatment train, removing excess water from biosolids using some chemical addition and physically “squeezing” the water out to produce a soil-like, nutrient-rich product that is used for land application or landfill cover. Water removed during the dewatering process is returned to the head of the plant for treatment through the liquid train.



Wastewater Treatment Process

RAW WASTEWATER → **INFLUENT PUMP STATION** → **SCREENING** → **GRIT REMOVAL** → **PRIMARY CLARIFICATION** → **BIOLOGICAL TREATMENT** → **SECONDARY CLARIFICATION** → **UV DISINFECTION** → **OUTFALL**

SCREENING → **TO LANDFILL**

GRIT REMOVAL → **TO LANDFILL**

PRIMARY CLARIFICATION → **PRIMARY SLUDGE THICKENING** → **ROTARY DRUM THICKENING** → **BIOSOLIDS DEWATERING**

ROTARY DRUM THICKENING → **POLYMER** → **BIOSOLIDS DEWATERING**

BIOSOLIDS DEWATERING → **FERRIC CHLORIDE** → **PRIMARY DIGESTION** → **SECONDARY DIGESTION** → **BIOSOLIDS DEWATERING**

RETURN STREAM EXISTING / NEW

SOLID STREAM EXISTING / NEW

LIQUID STREAM EXISTING / NEW

The liquid train, which is the treatment stream for liquid wastewater, includes pumping, screening, grit removal, primary clarification (separation of the liquids and solids by allowing solids to settle), biological treatment, secondary clarification, and UV disinfection. The excavation work for the liquid train components has already begun and is expected to be complete in November 2022. Construction of a groundwater dewatering system around the perimeter of the liquid train excavation is complete. This system includes 155 wells and 110 pumps that removes approximately 200 gallons of groundwater per minute, which prevents water seepage into the excavation to make construction much easier. Over the next year, concrete foundations and walls of basins will be poured and the New WRF will begin to take shape.



Salt Lake City has wisely invested in its green mission to help our community conserve resources, reduce pollution, minimize carbon emissions, and ensure a healthy, sustainable future. Sustainability measures have been incorporated throughout the New Water Reclamation Facility project.

1,431,372 tons of material have been recycled to date.

Use of recycled materials has saved the project around **\$13,120,940.**

Additional sustainability efforts have also included selection of energy efficient equipment, right sizing of piping and basins to balance capital costs and operational costs, and repurposing of existing structures to meet the needs of the New Water Reclamation Facility. For example, the City's former mosquito abatement facilities have been repurposed as the new administration building for the New Water Reclamation Facility and a larger storage facility will be converted to the new storehouse for parts and equipment for operation and maintenance of the New Water Reclamation Facility.

10,000 cubic yards of concrete have been placed since September 2022.

100 construction workers are working on the project; by spring 2023 we expect to have around 150 personnel onsite.

We Appreciate Everyone Working on This Project

We'd like to express our sincere gratitude to the people working on this project. There are around 100 people who have been hired to help design, build, and construct the New Water Reclamation Facility. This number is soon to be around 150. The team has worked so well together and has been able to accomplish so much.



Meet Holly Lopez

She's Manager of Sustainability. Mom of a 4-Year-old.
And a Master of Public Policy.



With a little guy at home, Holly Lopez thinks a lot about the future and how she can make life the best it can be. She does the same thing at work, just with 200,000 more people in mind.

As Sustainability Manager

for the New Water Reclamation Facility, Holly's job is to look to tomorrow – and the tomorrows beyond tomorrow – to help ensure the project incorporates sustainability measures so we all have a more sustainable future.

"The existing WRF is 60+ years old and the new one will be with us for at least that long, hopefully longer," Holly says. "It's our responsibility to ourselves and current and future City residents to make this project as functional and efficient as possible for the long term. Focusing on sustainability helps us realize that goal."

Given her sustainability focus, it's not surprising that the features of the New Water Reclamation Facility that Holly is most excited about are those that nurture our natural world and enrich our residents, today and in the future.

"The most important thing for me is that this facility continues to clean the water we as a community use so that it can flow downstream to the Great Salt Lake," she says. "And the learning opportunities provided by the improved wetlands and educational facilities give us a chance to engage future generations on the importance of water in our community."

Holly's long-term perspective will be put to good use in her new role as Salt Lake City Department of Public Utilities' first-ever Policy and Public Affairs Director.

"I will still oversee sustainability for the department at the policy level but will also support the Director in intergovernmental relations and legislative efforts; seek out funding opportunities for the department; coordinate departmentwide policy; and provide research and analysis for projects as needed – all in an effort to support the department's mission of community service, water stewardship, and environmental protection."

Traveling and observing how various Central American countries deal with environmental policy and urban planning inspired Holly's career. With an emphasis in water policy, she was one of the first five graduates of the University of Utah's Master of Public Policy (MPP) program. After an internship in then-Mayor Ralph Becker's office, she signed on for eight years as a project and policy manager. That was followed by five years as assistant to the executive director of Park City Public Utilities before joining Salt Lake City Department of Public Utilities in 2020 as Sustainability Manager.

When not at work, Holly, her wife of six years, Tish, and their four-year-old son spend as much time as possible in nature, whether it's camping in their vintage fiberglass trailer or skiing at Snowbird. "Our son has brought a new perspective to my life," she says. "He makes my goal of improving our community for the long term that much more important."





Salt Lake City
Department Of Public Utilities
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Salt Lake City, UT 84115

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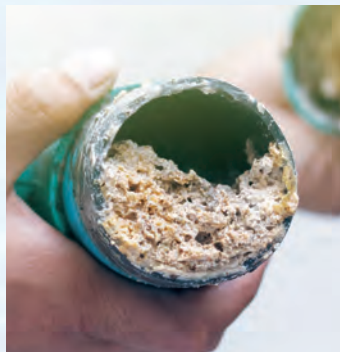
CONTACT US

If you have any questions about the Water Reclamation Facility or Salt Lake City Department of Public Utilities, please call our Project Information Line at 801-917-1124 or visit MakItPureSLC.com. You may also call Public Utilities customer service department at 801-483-6900 or visit slc.gov/utilities.



www.slc.gov/utilities

Fats, Oils & Grease Impact the Sewer System



The Water Reclamation Facility receives and treats approximately 10,000 pounds of food-grade fats, oils, and grease (or “FOG” in industry jargon) every day. These substances are difficult and costly to treat. FOG can cause sewer backups in your pipes that are costly and inconvenient to remove. In fact, grease is one of the leading causes of sewer clogs and overflows.

Here are a few things you can do to help:

- Scrape food into the trash from plates, pots, and pans before you rinse and wash.
- Do not pour cooking oil or bacon grease 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.
- Use a screen in your sink to capture food particles and prevent them going down the drain.

With your help we can continue to provide superior sewer service, minimize costs, and protect public health and the environment.