

ADVANCED WATER PURIFICATION FACILITY



El Paso Water is preparing to implement the most innovative and largest direct potable reuse project in the country in order to augment its current water supply portfolio. The Advanced Water Purification Facility will transform treated wastewater from the Roberto R. Bustamante Wastewater Treatment Plant into purified drinking water and distribute directly to El Paso water customers.

This project will produce up to 10 million gallons per day (MGD) of purified water. This project allows EPWater to continue conserving the Hueco Bolson aquifer, while adding an additional water source to meet the city's demand during times of drought and fulfill long term water supply needs due to city growth.



Renderings of the exterior and interior of the Advanced Water Purification Facility.

WHAT IS PURIFIED WATER?

Purified water is high-quality drinking water that is produced using the most advanced treatment processes available. Treated water from our wastewater facilities is reused for irrigation and industrial processes. But with today's technological advancements, we can take the next step.

Water passes through several phases of membrane filtration and disinfection using advanced water purification. This multiple-stage treatment process transforms the treated wastewater into a safe, reliable and drought-proof drinking water supply.

Unlike other potable reuse facilities in the United States, which return drinking water to a treatment plant or blend with other raw water sources, the Advanced Water Purification Facility will use a direct-to-distribution approach, with the purified water flowing directly into the drinking water distribution system.

WHY DO WE NEED IT?

EPWater meets the challenge of serving a Chihuahuan Desert city by conserving water resources and diversifying the water supply. We balance water from the river and two under-

ground aquifers and recycle treated water from our wastewater plants. However, upstream climate conditions can reduce river water supplies, and El Paso's population continues to grow. We need additional water resources to meet our customers' demands.

Purified water is a sustainable, drought-proof resource. As the population increases, there will be more treated wastewater to purify. Advanced water purification makes sense for El Paso.

PILOT TESTING – ADVANCED WATER PURIFICATION FACILITY

In early 2016, EPWater completed a pilot test that could lead to a full-scale facility. The pilot facility, co-located at the Roberto R. Bustamante Wastewater Treatment Plant, was designed to purify cleaned wastewater through a rigorous four-step process, which included:

- Membrane technology
- Reverse osmosis
- Ultraviolet disinfection with advanced oxidation
- Granular activated carbon filtration

The pilot testing successfully demonstrated that highly purified water can be consistently produced with this process. Thousands of water samples were analyzed at state-certified laboratories showing that the purified water meets and performs better than all primary and secondary drinking water standards.

Results of the pilot test were submitted to the Texas Commission on Environmental Quality. TCEQ has reviewed the pilot facility data and other information on the Advanced Water Purification Facility and gave EPWater approval to proceed with design of the full-scale facility. TCEQ will review and comment on the plans and specifications before construction begins, and their final approval is needed before the plant goes on line.



Taking samples from the nanofiltration process at the Advanced Water Purification Pilot Facility.