

Purified Water

For a sustainable future



Located in San José, the Silicon Valley Advanced Water Purification Center is the largest advanced water purification facility in Northern California. Open since 2014, the facility has helped expand water reuse in Santa Clara County. In collaboration with project partners, Valley Water has been exploring additional recycled and purified water supplies and opportunities to make sure we have a reliable, clean and safe water supply for today and our future.

PUREWATER4U.ORG



DID YOU KNOW?

The center can produce up to

8 million gallons per day



of purified water.



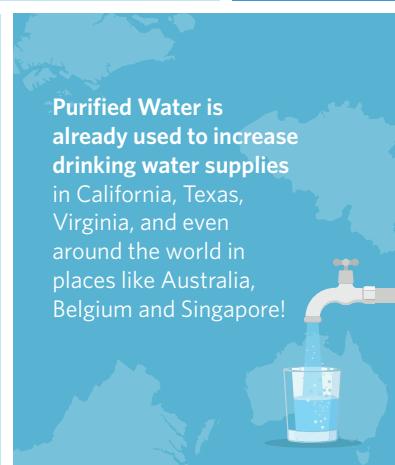
All water on earth is **recycled**—it's a natural process!

In Silicon Valley, we're speeding up the natural process with innovative advanced water purification technology.



About **half the water** we use in Santa Clara County **comes from outside** our region, making our water supply vulnerable during droughts.

Purified Water is already used to increase drinking water supplies in California, Texas, Virginia, and even around the world in places like Australia, Belgium and Singapore!



Valley Water is seeking to increase purified water production by providing **nearly 3.6 billion gallons a year**—enough to serve **up to 22,000 households** in Santa Clara County.



The purification processes use some of the same technologies in the food production and bottled water industries to produce water that is pure, clean and safe.

Advanced purification uses some of the same technologies that are used for desalination, but at a much **lower cost** and **carbon footprint**. This purification process uses 40% less energy to produce purified water.



WHAT IS PURIFIED WATER?



Wastewater comes from what flows down the drains of your homes and is treated at a wastewater facility.



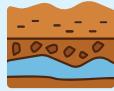
Purified water is highly treated wastewater (i.e. recycled water) that has been cleaned further to meet drinking water quality standards through advanced water purification processes.



Recycled water refers to municipal wastewater that has been cleaned and meets requirements for industrial and irrigation use.

Purified water is highly treated municipal wastewater that has gone through additional advanced treatment and disinfection to meet and exceed state and federal drinking water standards.

WHY DOES IT MATTER?



Groundwater is water naturally found beneath layers of earth, rock and soil; it forms an important part of our drinking water supply.



Purified water provides a reliable, locally controlled and drought-proof water supply; we don't have to wait for it to rain.



Purified water can be used to supplement our drinking water supplies through groundwater replenishment.



Using purified water to replenish our groundwater ensures our water supply is more drought-resilient in the face of climate change and more frequent and severe droughts.



It will also help us maintain groundwater levels and prevent overpumping of groundwater, which can cause the land to sink.



Purified water can help reduce our dependency on imported water—water from sources hundreds of miles away.



Reusing water is good for the environment because it recycles an important natural resource.

HOW IS WATER PURIFIED?

During advanced purification, we take highly treated wastewater—water that has already undergone multiple treatment cycles (approximately 10 hours of treatment)—and further purify and disinfect it to nearly distilled water quality.

Purification happens with three advanced steps that remove dissolved microscopic contaminants, so that the end product is clean, safe and drinkable water.

3 Ultraviolet Light

At this point, the water is very clean, but one more step ensures its safety—ultraviolet light disinfection and advanced oxidation. This step causes any remaining organic molecules to break down, removing pathogens and destroying any remaining trace levels of chemicals and pharmaceuticals.



1 Microfiltration

The water undergoes microfiltration where it is pumped through tubes with thousands of tiny straw-like fibers. Each fiber is made up of membranes with pores that are 0.1 microns in size, or 300 times smaller than the width of a human hair. As water moves through the membranes, larger molecules and particles, such as solids and bacteria, are caught in the fibers.

2 Reverse Osmosis

The water then goes through reverse osmosis, where it is forced through membranes that remove salts and microorganisms, including viruses, bacteria and most chemicals of emerging concerns. The membranes have pore sizes so small that anything larger than a water molecule gets removed.