

A Resilient Water Supply System

Natural disasters such as earthquakes, severe storms, flooding, and droughts can affect drinking water supplies, thereby threatening health and safety as well the region's economy. Creating a clean and reliable water supply system that is resilient against these risks is of utmost importance to the Willamette Water Supply partners.

Critical Need for Infrastructure Protection

The [Oregon Resilience Plan](#) provides guidance for reducing risk and improving recovery in the event of a major earthquake. The Plan indicates that a major earthquake would seriously compromise our region's water systems. Most water systems were designed and built before engineers had a good understanding about the magnitude of potential earthquakes we could experience. Without significant improvements, the region's water systems will experience thousands of leaks and breaks; many reservoirs and treatment plants may be damaged, some beyond repair.

The Willamette Water Supply System is being designed to withstand the impacts of a large earthquake or other natural disaster so that water service can be restored quickly and our communities can recover sooner.

Advanced Engineering Design Will Limit Damage

Pipelines, water storage tanks, and other infrastructure along the 30+ mile route will be strengthened, decreasing the likelihood of cracking or breaking during an earthquake. In areas along the route where the soil is likely to liquefy due to the shaking from an earthquake, special precautions are being taken, including locating the pipeline in some places at a depth below where this kind of geologic hazard would affect the pipe.

Robust Water Treatment Maintains Water Quality

During major storm events, more debris and silt will wash from the watershed into the Willamette River. Though this can result in very dirty river water, the treatment plant will continue to produce water exceeding drinking water standards. This is accomplished through a series of [state-of-the-art treatment processes](#) such as high rate clarification, granular activated carbon filters, and ozone to produce high-quality drinking water.



Crews assess infrastructure damaged from an earthquake in California. Advanced construction techniques used for the Willamette Water Supply will limit damage and help to maintain critical services to water customers during emergencies. *Photo: Carlos Avila Gonzalez, The San Francisco Chronicle*

Learn More

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Our Future Water Supply

The Willamette Water Supply Program (WWSP) is a partnership between Tualatin Valley Water District, the City of Hillsboro and the City of Beaverton to develop the mid-Willamette River at Wilsonville as an additional water supply source. This new system, when operational in 2026, will provide a reliable water supply for the region while also helping water system operators balance supply during times of drought or other supply interruptions, and recover more quickly after a large natural disaster.

