



Glossary of Terms

Advanced Water Purification (AWP): Advanced Water Purification is a process that produces high-quality drinking water using advanced water cleaning processes. EMWD will use both microfiltration and reverse osmosis as part of its future Purified Water Replenishment project to remove salts, minerals, personal care products (PCPs), pharmaceuticals and biological contaminants from recycled water before the water percolates or seeps into the ground, undergoing a natural filtration process.

Aquifer: An underground geologic formation that stores, transmits and yields significant quantities of water to wells or springs. An aquifer is also often referred to as a groundwater basin.

Brine: A highly concentrated salt solution that is the byproduct of water cleaning processes. The brine is processed at a wastewater treatment plant where it is cleaned to a regulated standard before the water is discharged.

Capital Improvement Project (CIP): A major rehabilitation project done to extend the life of or create alternative uses for an existing facility.

Chlorination: The process whereby chlorine is added to drinking water to destroy disease-causing organisms and protect the water as it flows through a distribution system to homes and businesses.

Connection Fees: Fees required to be paid by developers or others who want to connect new sewer or water services to the existing system. These fees fund capital projects and ensure new growth pays for itself, as well as alleviates costs not covered by grants or low-interest loans that would otherwise be passed on to ratepayers.

Department of Water Resources: The department responsible for managing California's water resources, systems, and infrastructure, including the State Water Project (SWP), in a responsible, sustainable way. Its responsibilities include Dam Safety, Drought Mitigation, Education, Emergency Management, Flood Preparedness, Infrastructure, Power, Sustainability, Recreation, Water Supply and Storage.

Disinfection: Disinfection removes naturally occurring bacteria and pathogens from groundwater, as required by the U.S. Environmental Protection Agency (EPA). Treatment processes to disinfect water include chlorination, chlorine dioxide, chloramines, ozone, and ultraviolet light.

Drought: A prolonged period of abnormally low precipitation, leading to a shortage of water. Drought can be caused by a lack of precipitation, high temperatures and water overuse.

Groundwater: Water that is in aquifers below the surface of the ground. When water seeps through soil, sand and rocks and is stored in the spaces between these particles, it is referred to as groundwater.

Groundwater Basin: A geologic formation that stores, transmits, and yields significant quantities of water to wells or springs. A groundwater basin is also often referred to as an aquifer.

Groundwater Reliability Plus: The program whereby EMWD has addressed and continues to address the community's water needs by developing and implementing projects and management practices that maximize the water supply portfolio from imported, local and recycled water sources. GRP includes stormwater storage, imported water, local water supplies, recycling wastewater, groundwater replenishment and groundwater storage, a new water banking project and in the future will include advanced water purification.

Groundwater Replenishment: The process of refilling groundwater basins with water from the surface. This process can be natural or intentional: natural processes refer to rain and intentional processes are accomplished by spreading water on the surface and letting it seep into the ground or by injecting it into the ground through wells. Groundwater can be replenished with stormwater, imported water and/or recycled water.

Metropolitan Water District of Southern California (Metropolitan): A regional wholesaler that delivers water to its 26 member agencies, which include municipal water districts and one county water authority. Metropolitan provides water to 19 million people in Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties.

Metropolitan's Local Resources Program: The Local Resources Program provides funding for local projects implemented by Metropolitan's member agencies. This includes the development of water recycling and groundwater recovery supplies that replace an existing demand or prevent a new demand on Metropolitan's imported water supplies, either through direct replacement of potable (drinkable) water or increased regional groundwater production.

Natural Filtration: Soil filters water naturally by trapping particles as water percolates down through the soil layers. Filtration mechanically removes large pieces of debris while bacteria and soil microorganisms further purify water naturally by breaking down nutrients and contaminants.

Oxidation Ponds: Large, shallow ponds designed to treat wastewater through natural processes that involve the interaction of sunlight, bacteria, and algae to remove bacteria and contaminants.

Primary Treatment: The first step in treating wastewater, primary treatment removes solid waste and large contaminants by passing them through several tanks and filters. This step removes about 50 percent of the suspended solids in wastewater.

Purified Water Replenishment: The proposed Purified Water Replenishment (PWR) project is part of EMWD's Groundwater Reliability Plus (GRP) program to improve the quality and quantity of water in local groundwater basins. Purified Water Replenishment includes recharging a blend of advanced treated water (purified water) and recycled water into spreading ponds along the San Jacinto River corridor. Proposed facilities include an advanced treatment plant adjacent to the San Jacinto Valley Regional Water Reclamation Facility, brine evaporation ponds, a recycled water pipeline, and use of a raw water pipeline for water delivery.

San Jacinto Basin: The San Jacinto Groundwater Basin underlies San Jacinto, Perris, Moreno, and Menifee Valleys in western Riverside County. This basin is bounded by the San Jacinto Mountains on the east, the San Timoteo Badlands on the northeast, the Box Mountains on the north, the Santa Rosa Hills and Bell Mountain on the south, and unnamed hills on the west.

Santa Ana Watershed Project Authority: The Santa Ana Watershed Project Authority (SAWPA) is a joint powers authority under California law, composed of five member agencies: Eastern Municipal Water District, Inland Empire Utilities Agency, Orange County Water District, San Bernardino Valley Municipal Water District and Western Municipal Water District. Since its formation in 1968, SAWPA focuses on a broad range of water resource issues including water supply reliability, water quality improvement, recycled water, wastewater treatment, groundwater management, brine disposal and integrated regional planning.

Secondary Treatment: The second step in cleaning wastewater involves biological processes to remove additional matter to a level where the water may be safely discharged into the environment or used for irrigation at specific locations. This can be done with biofiltration, aeration or oxidation ponds that remove dissolved and suspended organic compounds.

State Water Project: The California State Water Project (SWP) is a water storage and delivery system of reservoirs, aqueducts, power plants and pumping plants extending more than 700 miles—two-thirds the length of California. Planned, constructed, and operated by the Department of Water Resources, the SWP is the nation’s largest state-built, multi-purpose, user-financed water project. It supplies water to more than 27 million people in northern California, the Bay Area, the San Joaquin Valley, the Central Coast and southern California. SWP water also irrigates about 750,000 acres of farmland, mainly in the San Joaquin Valley.

Surface Water Reservoir: An enlarged natural or artificial lake, storage pond or impoundment created using a dam to store water. Reservoirs can be created by controlling a stream that drains an existing body of water or be constructed in river valleys using a dam.

Tertiary Treatment: Physical and chemical processes (usually filtration and chlorination) to remove fine particles and disinfect wastewater that has already been treated to secondary level. Tertiary treated water is carried in purple pipes and is approved for multiple public uses as designated in California Law Title 22. Tertiary treated recycled water is also referred to as “purple pipe” water. Generally, water in purple pipes is only used for irrigation and industrial purposes and has not been treated to a level that it can be added to a raw water source such as a surface water reservoir. Tertiary treated water will be used as a source for EMWD’s Purified Water Replenishment project.

United States Bureau of Reclamation: A federal agency under the U.S. Department of the Interior, which oversees water resource management, specifically as it applies to the oversight and operation of the diversion, delivery and storage projects that it has built throughout the western United States for irrigation, water supply and hydroelectric power generation.

Wastewater: Used water that comes from domestic residential, commercial or industrial sources. Domestic wastewater or sewage is used water from ordinary living processes: bathing, toilet flushing, laundry, dishwashing, food washing, etc. Water makes up 97 percent of wastewater and solids are only 3 percent; water is the medium by which solids are moved to the wastewater treatment facility where they will be removed along with pathogens and other impurities. Wastewater is treated at either a wastewater treatment plant and discharged once it has been cleaned to meet regulated standards or cleaned further at a water reclamation facility and distributed via a recycled water (purple pipe) system.

Water Banking: Groundwater banking is a process in which local water agencies alternate using groundwater and surface water in order to maintain a healthy storage level in both. This is one of the components of EMWD's Groundwater Reliability Plus program.

Water Supply Cycles

- **Dry** – a period of lower than average precipitation/rainfall.
- **Normal** – a period of average precipitation/rainfall for the area.
- **Wet** – a period of higher than average precipitation/rainfall.