



The Japanese Garden Van Nuys, California

Westside: Recycled water from Hyperion Sewage Treatment Plant provides irrigation and industrial uses in the City of Los Angeles and surrounding communities through sales to the West Basin Municipal Water District. Customers include Phase 1 of the Playa Vista development.

Harbor Area: The Terminal Island Water Reclamation Plant supplies recycled water to the Dominguez Gap Seawater Intrusion Barrier to protect drinking water aquifers and to LADWP's power plant, Harbor Generating Station, for irrigation.

Los Angeles-Central City: The LA-Glendale Water Reclamation Plant supplies recycled water to Griffith Park, Forest Lawn Memorial Park, Mount Sinai Memorial Park, Universal Studios and Lakeside Golf Course. Most recently, the LA Zoo and Taylor Yard Park began using recycled water for landscaping.

About the Recycled Water Master Plan

LADWP, in collaboration with the Department of Public Works Bureau of Sanitation, is developing a Recycled Water Master Plan to outline strategies to offset potable water demand by utilizing recycled water. The Recycled Water Master Plan will identify projects to increase the City's recycled water use to 50,000 AFY by 2019. This will include a significant expansion of the recycled water distribution system and implementation of a groundwater replenishment project with highly purified wastewater utilizing advanced treatment. The Master Plan will also evaluate potential projects to maximize recycled water use in the City beyond 50,000 AFY.

About Groundwater Replenishment

LADWP is currently investigating other safe methods to reuse water, including groundwater replenishment (GWR). One such target project is to use highly purified wastewater to recharge the San Fernando Groundwater Basin. The water would be supplied by the Donald C. Tillman Water Reclamation Plant in Van Nuys. The water will be highly purified by undergoing microfiltration, reverse osmosis and other purification processes, resulting in the safest and highest quality water available from any source. The highly purified water, mixed with existing groundwater and rainwater, will eventually be pumped to the surface and will mix with other supplies in the City's water distribution system. GWR is a proven alternative for expanding availability of safe, high-quality drinking water and has been successfully implemented in communities across the United States and worldwide. Los Angeles' GWR program is in the preliminary planning phases and is expected to be operational by 2019.

Customer Opportunities

LADWP representatives are available to discuss the feasibility of connecting to the City's purple pipe system with business and industrial customers. Potential benefits include:

- Discounted pricing
- Environmental value of saving precious water resources
- Help L.A.'s effort to create a drought-proof water supply
- Earning a "green" label
- Being exempt from mandatory water conservation restrictions

For more information about the Water Recycling Program, please contact an LADWP representative via e-mail at recycledwaterinfo@ladwp.com.

SECURING L.A.'S WATER SUPPLY

Water Recycling Program

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For general information, call 1-800-Dial DWP or visit www.ladwp.com

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Rev. 12/09

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SECURING L.A.'S WATER SUPPLY



Water Recycling Program Irrigation & Industrial Uses



Why We Need Recycled Water

The City of Los Angeles has long relied on imported water from sources located hundreds of miles away—the Eastern Sierra watershed, the Sacramento-San Joaquin Delta and the Colorado River. But environmental commitments and court rulings in these regions, sustained drought in the Sierra and Colorado River and the onset of climate change mean we can no longer exclusively count on these distant resources.

As the City's imported water supply situation becomes more critical, so does the need to further develop local, sustainable water resources. On May 15, 2008, Mayor Antonio Villaraigosa unveiled the *City of Los Angeles Water Supply Action Plan*, which calls for L.A. to meet all new water demand through water conservation and water recycling.

Expanding Purple Pipe

One key component of the Water Supply Plan is to expand the City's "purple pipe" system that delivers recycled water exclusively to customers for approved uses. Built strictly for conveying recycled water, these pipes are completely separate from the City's drinking water and sewer systems.

LADWP's long-term goal is to increase recycled water deliveries from 8,000 acre-feet per year (AFY) to 50,000 AFY by 2019. This will be enough to offset water demand for about 100,000 households.

A Proven Resource

Los Angeles has used recycled water since 1979 for irrigation. Recycled water keeps the landscape healthy in areas of Griffith Park, along with the Mount Sinai and Forest Lawn Memorial Parks. Since the early 1990s, the City has constructed numerous projects that replace potable water with recycled water. The Los Angeles Department of Public Works Bureau of Sanitation operates four water treatment plants: Terminal Island Water Reclamation Plant in the Harbor area, Hyperion Treatment Plant in the West Los Angeles area, Donald C. Tillman Water Reclamation Plant in the San Fernando Valley and L.A.-Glendale Water Reclamation Plant in the Central City area.

Benefits and Uses of Recycled Water

Water recycling offers a safe, reliable, economically feasible and environmentally sensitive way to augment the City's water supply. Recycled water is wastewater that is highly treated to a level that it can be used safely to irrigate landscaping, golf courses, freeway medians and other large landscapes; incooling towers and other industries; as a barrier against seawater intrusion and for other environmental benefits.

All Water is Recycled



Some examples of businesses and industries that may benefit from connecting to the purple pipe system include: parks, freeway medians, golf courses, schools and universities, private developments, cemeteries, oil refineries, hospitals, car washes and commercial laundromats.

What is Recycled Water?

Recycled water is wastewater that has been highly treated and is approved for beneficial reuse by the California Department of Public Health. All recycled water in Los Angeles undergoes tertiary treatment and disinfection, at a minimum. As shown in the diagram below, tertiary treatment includes processes to remove suspended solids, organics, fine particles and disinfection to kill bacteria and other microorganisms. In the Los Angeles Harbor area, recycled water is highly purified by receiving advanced treatment with microfiltration and reverse osmosis.

Health and Safety

Water recycling is a safe way to preserve our natural water resources. In addition, recycled water projects are designed and operated to protect public health. Careful monitoring by responsible local health authorities and water quality control agencies ensures a highly treated, filtered and disinfected product that meets the State Department of Health Services criteria. No health-related problems have been traced to any of the water recycling projects currently operating in California.

There are very stringent water quality laws that apply to recycled water. The State Department of Public Health standards for recycled water are incorporated in Title 22, Chapter 3, Division 4 of the California Code of Regulations, which stipulates required treatment and the various types of reuse applications. The Regional Water Quality Control Board is involved with respect to the use and application of recycled water and any associated runoff.

How Are We Allowed to Use Recycled Water?

Title 22 allows for many uses of recycled water. These include irrigation of food crops, parks, playgrounds, school yards, residential landscaping, cemeteries, freeway landscaping, golf courses, ornamental nurseries, animal pastures, orchards and vineyards. In addition, recycled water can be used for fishing or environmental benefits, fish hatcheries, cooling towers and decorative fountains. Other allowable uses include flushing toilets and urinals, industrial process water, commercial laundries, making artificial snow, soil compaction, mixing concrete and flushing sanitary sewers.

Success Stories

San Fernando Valley: The City uses recycled water from the Donald C. Tillman Reclamation Plant to: irrigate Woodley, Encino and Balboa golf courses and the Balboa Sports Complex; to provide recycled water for the cooling towers at the LADWP's Valley Generating Station power plant in Sun Valley; and to provide water for the Los Angeles River, the Japanese Garden, Lake Balboa and Wildlife Lake in the Sepulveda Basin.

The Treatment Process

