



# Advanced Water Purification

## A local, reliable and drought-proof drinking water supply

The Padre Dam Advanced Water Purification Program is a potential new source of water that would be locally controlled, reliable, drought-proof and environmentally sound.

### Water

#### Too Valuable to Use Once

Padre Dam Municipal Water District imports 100 percent of its drinking water supply from hundreds of miles away, from the Sacramento Bay Delta and the Colorado River. Our economy, livelihood and well-being depend on having a reliable source of water.

Ever-increasing technology has brought progress and innovation in the areas of water conservation, seawater desalination and water recycling. Recent drought and imported water supply challenges have highlighted the need for Padre Dam to explore new possible water sources to ensure a safe, reliable water supply and to safeguard the vitality of East County's economy and quality of life.

### Innovation for the Future

#### Inspired by our Past

Padre Dam has long been a national leader in the area of water recycling. The water recycling process began in Santee in the late 1950's followed by the opening of Santee Lakes Recreation Preserve in 1961. The recycled water project and Santee Lakes received worldwide attention and continues to attract interest in the field of water reuse. In 1997, the Ray Stoyer Water Recycling Facility was expanded to 2 million gallons per day to provide water for Santee Lakes and for non-potable reuse in portions of the community.



Santee Lakes enhances the community with a 190-acre regional park and campground offering camping, boating, fishing, outdoor recreation and special events.

Please call (619) 258-4613 for more information and to sign up to receive updates about this project.

### A New Source of Water

Padre Dam has identified an exciting water recycling opportunity that would diversify our water supply and reduce dependency on imported water. If the program moves forward, it would provide up to 2,000 to 3,000 acre feet per year of drinking water to Padre Dam customers. This is enough water to serve approximately 5,500 households per year and meet 20 percent of Padre Dam's current drinking water demands.

The program is inspired by the natural water cycle, and would be a new source of water that is locally controlled, reliable, drought-proof and environmentally sound.

The Advanced Water Purification Demonstration Project is being funded by a Prop 50 grant and will not impact water rates.

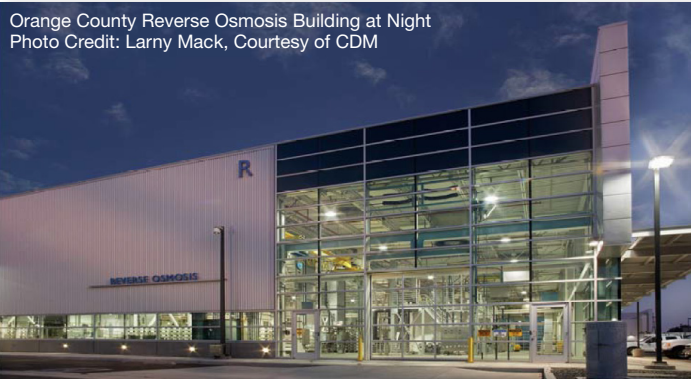


**PADRE DAM**  
Municipal Water District



## Advanced Water Purification

Orange County Reverse Osmosis Building at Night  
Photo Credit: Larry Mack, Courtesy of CDM



Advanced water treatment projects, similar to the one Padre Dam is exploring, are successfully used all over the world – the largest is as close as Orange County, which produces up to 70 million gallons of near-distilled quality drinking water each day. The project has been so successful it is currently expanding to 100 million gallons per day.

### Rigorous Purification Process

To evaluate the feasibility of the Advanced Water Purification Program, Padre Dam is conducting a demonstration project. The program's advanced water purification process begins with treating the water using state-of-the-art technologies. This process includes four treatment steps; free chlorine disinfection, membrane filtration, reverse osmosis and ultra violet/advanced oxidation. By the time the water reaches the fourth treatment step, only hydrogen, oxygen and water molecules are left behind - pharmaceuticals, bacteria and viruses are removed.

The demonstration program is expected to produce approximately 100,000 gallons of purified water per day.

If Padre Dam's demonstration project is deemed successful and the Advanced Water Purification Program moves forward with a full-scale project, the treatment process would continue with additional steps that would include injecting the water into a groundwater basin or blending it with water in the Lake Jennings reservoir, before being withdrawn and treated again prior to being distributed as drinking water.

During the demonstration project, the purified water will be tested daily to ensure it meets the public health objectives and earns approval from the State Water Resources Control Board's Division of Drinking Water. The ultimate goal is to develop a proven full-scale program that utilizes water produced within the District to serve Padre Dam customers.



The treated water will be tested daily to ensure it achieves the highest quality standards.

### Program Schedule and Funding

Work on the project began in fall of 2013, with construction of the facility breaking ground in October 2014 and going online in March 2015. The demonstration facility will be in operational testing mode for one year. Free tours of the demonstration facility are available to the public. Sign up for a tour by visiting [www.padredam.org/AWP](http://www.padredam.org/AWP).

Funding for the Advanced Water Purification Demonstration Project is being provided through a \$3 million grant secured through the California Department of Water Resources Proposition 50 through San Diego's Integrated Regional Water Management Group. The funding includes the planning, design, installation and operation of a demonstration facility using Advanced Water Purification technologies that meet or exceed the Division of Drinking Water's regulations.

### A Regional Water Solution

A feasibility study is being conducted to consider the potential for expanding the Advanced Water Purification Program to include more East County communities. This proposed expanded program would include the service areas of Padre Dam Municipal Water District, Helix Water District, the City of El Cajon and a portion of the County of San Diego. This study will evaluate expanding Padre Dam's Advanced Water Purification Program, and advanced treatment systems, in order to provide a new water supply for additional local users beyond Padre Dam's water customers.

Padre Dam's mission is to provide high quality water, recycled water, park and recreational facilities and wastewater management services for its customers. The public agency serves 100,000 residents in the San Diego suburbs of Santee, El Cajon, Lakeside, Fliin Springs, Harbison Canyon, Blossom Valley, Alpine, Dehesa and Crest.