



Irvine Ranch Water District Wells 21 and 22 Project



IRWD. WELL GROUNDED IN WATER RELIABILITY.

Project Purpose:

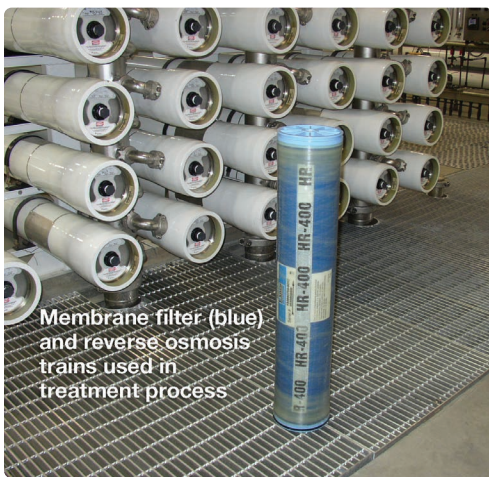
The Wells 21 and 22 Rehabilitation, Pipelines and Water Treatment Plant project recovers and treats local impaired groundwater for use in the potable water system. Adding this new source of drinking water helps to satisfy increasing demand for water and provides a sustainable infrastructure with long-term benefits. The Wells 21 and 22 project will produce approximately 6,300 acre-feet per year of drinking water for the IRWD service area.

Project Background:

Southern California relies on imported water due to limited local water supplies. Imported water continues to be less reliable due to decreased snow pack levels and regulatory issues, and is more costly than local water. Finding new sources for local water is important to ensure water reliability for IRWD customers. In 1992, IRWD drilled Wells 21 and 22 along Mitchell Avenue in Tustin, California. These wells were found to have elevated levels of total dissolved solids, nitrates, and hardness that prevented them from being used for drinking water. At that time, treating the water was not a cost-effective solution.

Project Funding:

In 2010, IRWD received about \$10 million from American Recovery and Reinvestment Act through the United States Bureau of Reclamation to partially fund the \$40-million project. The support from the U.S. Bureau of Reclamation ensured a cost-effective and sustainable project. The ARRA funding made it possible to connect the wells to the IRWD drinking water system, and built a water treatment plant to ensure that the water would be suitable for potable use.



Membrane filter (blue) and reverse osmosis trains used in treatment process

Project Description:

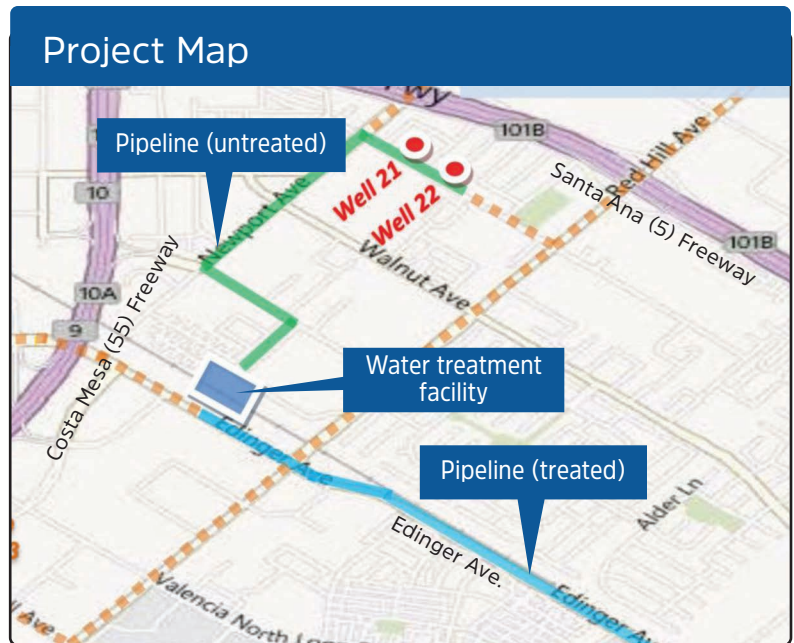
A reverse osmosis treatment process is used to remove TDS, nitrates and hardness from the groundwater. After treatment, the water is disinfected, then pumped to the IRWD water distribution system. The project consists of the following components:

- Rehabilitation of Wells 21 and 22
- Construction of a 6.3 million gallon-per-day water treatment plant
- Construction of 6,800 feet of 24-inch untreated water pipeline
- Construction of 13,000 feet of 24-inch water pipeline
- Construction of 1,600 feet of 10-inch waste pipeline
- Construction of 1,300 feet of 12-inch well pump to waste pipeline

Project Description (continued):

Construction for the project began in 2011 and was completed in early 2013. The pipeline construction began in June 2011 and was completed in fall 2012. The treatment plant construction began summer 2010 and was completed in early 2013.

The Wells 21 and 22 project will produce approximately 6,300 acre-feet per year of drinking water for IRWD customers by recovering and treating impaired groundwater to comply with drinking water standards. The project provides a new source of local water to meet increasing water demands and ensure that IRWD has a diversified, safe and reliable water supply.



Project Collaboration:

U.S. Bureau of Reclamation

City of Tustin

County of Orange

Orange County Sanitation District

Local Citizens and Business Owners

Metropolitan Water District of Southern California

Municipal Water District of Orange County

Santa Ana Watershed Project Authority



Post-treatment used to disinfect drinking water.



Diesel-powered emergency generator.



Filters to prevent sand or silt from entering reverse osmosis trains.



For more Information, please visit: www.irwd.com, or call us at (949) 453-5500