

PALM VALLEY WATER RECLAMATION FACILITY (PVWRF)

Fact Sheet

Project Background

- Built in 2002
- Expansion added in 2017
- Service area 20.5 square miles
- 356 miles of pipe
- 1.426 billion gallons of wastewater influent flow annually
- 6.55 million gallons/day rate capacity

Project Implementation

- PVWRF utilizes a natural, biological process to treat the wastewater - no chemical treatment process.
- Wastewater is treated with a combination of mixing, aeration, and naturally occurring bacteria that consume the waste.
- Sequential Batch Reactor (SBR)
 - Treatment achieved via nitrification/denitrification.

Monitoring

- PVWRF maintains two permits, Aquifer Protection Permit and Arizona Pollution Discharge Elimination System.
- Samples for the influent and effluent are collected and sent to a state certified laboratory for testing as specified per permit and reported to the state regulatory agency.



Pretreatment → Sequential Batch Reactors → Filtration → Disinfection → Reuse

Odor Control

- Odor control is achieved by two systems being employed:
 - Main odor control is achieved with the use of 3 chemical wet scrubbers that utilize a bleach and base shower system to remove H₂S and organic odors. The air is then polished using 2 Granular Activated Carbon vessels then discharged to the atmosphere.

Additional odor control is achieved by utilizing ionization for the headworks and solids handling buildings. Atmospheric air is blown across a bank of ionization tubes which in turn ionizes the air which is then blown into the buildings to neutralize any odor causing molecules. The air is then polished with discharge ionization and released to atmosphere.



Effluent Reuse

- High quality effluent is reused for
 - Golf Courses
 - Agriculture
 - Irrigation for Parks
 - Construction
 - Groundwater Recharge

Operator's Park is a public park that utilizes effluent for irrigation. The park is a beautiful area with a stream, ponds, and waterfalls. It is a great place for a walk or a picnic.



Liberty Utilities' Operator's Park

Operator's Park

- Streams, ponds, and water falls all utilizing effluent from PVWRF
- The West Valley Fine Arts Council's 2007 Gallery 37 Project, *Recyclamation!*, is a statement about recycling, the environment, and the effects human actions have - or can have - on our world
- Open to public from 8a.m. - 8p.m.



Recyclamation!, West Valley Fine Arts Council's 2007 Gallery 37 Project

Location

- 14222 W McDowell Road, Goodyear, AZ