

Palo Verde Utilities Company Campus 1 Area Recharge Facility  
Aquifer Protection Permit No. P-105922  
PLACE ID 128761, LTF 76958  
Significant Amendment

**I. Introduction:**

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an Aquifer Protection Permit (APP) for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards (AWQS) at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). BADCT's purpose is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology), to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer or to prevent pollutants from reaching the aquifer.

**II. Permittee and Facility Location:**

Global Water – Palo Verde Utilities Company, LLC  
Several facilities located in the City of Maricopa  
Pinal, Arizona

**III. Facility Description:**

Palo Verde Utilities Company (PVUC) Campus 1 Area Recharge Facility is authorized to discharge tertiary treated denitrified effluent from PVUC Campus 1 Wastewater Reclamation Facility (WRF) to the subsurface at a maximum average monthly flow of 9,543 acre-feet per year, equivalent to an average flow of 8.52 million gallons per day (mgd). PVUC Campus 1 WRF is regulated under Aquifer Protection Permit (APP) No. P-105228, Type 3 Agent Reclaimed Water General Permit No. R106345, and Arizona Pollution Discharge Elimination System (AZPDES) permit No. AZ0025071. The tertiary treated effluent shall be discharged to a recharge basin or Aquifer Storage and Recovery (ASR) wells within a 24 square mile area called the "Campus 1 Area," consisting of five (5) recharge sites located within three (3) Discharge Impact Areas (DIA).

The Campus 1 Area extends throughout the City of Maricopa, and includes the following five (5) recharge sites: Campus 1 WRF (located within the setback area of APP No. P-105228), Groves Well Site (GWS, Rancho El Dorado Water Distribution Center (WDC), Villages Recharge Site (VRS), and Groves Recycled Water Management Facility (GRWMF). The Campus 1 Area extends approximately 2 miles to the west, south and east of the five recharge sites; it is bounded to the southwest by the Ak-Chin Indian Community and to the north by the Gila River Indian Community.

Effluent from PVUC Campus 1 WRF flows through a 24 inch diameter pipeline to a network of up to 16 ASR wells and one recharge basin located at the five (5) recharge sites and the recharge basin located at the GRWMF. Water quality is monitored at PVUC Campus 1 WRF under APP No. P-105228. Operation of the effluent pipeline is exempt from APP as per A.R.S. §49-250(B)

(22). There are five (5) inflow points where the pipeline enters the various ASR well sites and a recharge basin. Discharge water quality samples may be obtained at the inflow points if necessary, or as part of a contingency action. Volume of water discharged will be measured at the inflow points. Proper operation and maintenance of the pipeline should prevent the water quality from changing during transmission to the ASR wells or recharge basin.

Four (4) of the ASR well sites are designated as “contingency” recharge sites and one (1) recharge basin with contingency ASR wells is designated as the “preferred” recharge site. The four (4) contingency ASR well sites are Campus 1 WRF, Rancho El Dorado WDC, Villages Recharge Site, and Groves Well Site. The GRWMF designated as the “preferred” recharge site includes a recharge basin with four (4) percolation holes and eight (8) contingency percolation holes, and three (3) contingency ASR wells.

The GRWMF recharge basin area will encompass approximately 1.44 acres with a designed depth of nine (9) feet. The recharge basin walls will be lined to ensure berm integrity and prevent reclaimed water from migrating into the adjacent Wash. The recharge basin will have the capacity to recharge 2.35 mgd of reclaimed water. The recharge basin will have four (4) percolation holes and eight (8) contingency percolation holes. The four (4) percolation holes are paired, each pair with its own shutoff valve and flowmeter in precast manholes. The expected capacity of each of the percolation holes is 200 gpm. The percolation holes will be drilled 50 feet deep, lined with geofabric and filled with gravel. A four (4) foot diameter precast liner will be installed in the top ten (10) feet the holes, with eight (8) inch diameter vertical conductor piping that is perforated from the bottom four (4) feet, terminating one (1) foot from the bottom of the hole.

#### **IV. Amendment Description:**

The purpose of this amendment:

- Addition of a recharge basin with percolation holes to recharge the reclaimed water at Groves Recycled Water Management Facility;
- Reduction of ASR wells from five (5) to three (3) as a recharge option at Groves Recycled Water Management Facility;
- Changed the name of the Maricopa Groves Well Site to Groves Well Site
- Changed the name of the Village Lift Station Recharge Site to Villages Recharge Site; and
- Changed the name of the Maricopa Grove Recharge Site to Groves Recycled Water Management Facility.

#### **V. Regulatory Status:**

An application for this Significant Permit Amendment was received on January 27, 2020.

The permit category for this amendment was determined to be an “Significant Amendment” in accordance with A.A.C. R18-9-A211(B)(6) and (9), the facility has not been constructed and change in additional permitted facility.

#### **VI. Best Available Demonstrated Control Technology (BADCT):**

Not applicable as per A.A.C. R18-9-A201(C).

**VII. Compliance with Aquifer Water Quality Standards (AWQS):**

The permittee shall monitor the groundwater quality upon commencement of discharging to the each of the five (5) recharge sites according to Section 4.2., Table IIB. The permittee shall monitor the depth to the top of the recharge mound according to Section 4.2., Table IIC. Facility inspection and operational monitoring will be performed on a routine basis (see Section 4.2, Table III, in the permit).

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