Green Valley Wastewater Reclamation Facility
Aquifer Protection Permit No. P-100629
Place ID 1014, LTF No. 83667
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 & Facility Location:

Pima County Regional Wastewater Reclamation Department (PCRWRD)

2201 N. Old Nogales Highway, in a rural area approximately 0.75 miles north of the unincorporated Green Valley metropolitan area.

III. Facility Description:

The Green Valley Wastewater Reclamation Facility (WRF) is authorized to treat a maximum monthly average flow of 4.1 million gallons per day (mgd) through two treatment systems. The Green Valley Wastewater Reclamation Facility consists of the following: a) common headworks, influent lift station and emergency influent storage pond; b) aerated lagoon facility, WWTF; c) biological nutrient removal oxidation ditch (BNROD) treatment system.

IV. Amendment Description:

The purpose of this amendment is to shift capacity to the BNROD from the WWTF (while keeping the total throughput the same). This will allow lagoon effluent, currently disposed of in percolation ponds, to be combined with excess BNROD effluent and used for groundwater recharge:

1. Increase the authorized Discharge Limits of the BNROD from a maximum average monthly flow from 2.0 mgd to 2.8 mgd.
2. Decrease the authorized Discharge Limits of the WWTF from a maximum average monthly flow from 2.1 mgd to 1.3 mgd.
3. Reclassify the effluent from Class A+ to Class B+.
    a. The facility has demonstrated that it can produce Class A+ reclaimed water. Producing a lower class of reclaimed water is therefore within the facilities capabilities. The Class B+ effluent may be used for any allowable Class B or C use under a valid reclaimed water permit.

b. The reduction in reclaimed water class is to provide the facility with more flexibility in handling filter backwash. At B+ the permittee can mix filter backwash with A+ water and discharge to the recharge ponds.

4. Revise groundwater monitoring requirements for total coliform with the new suspended total coliform monitoring.
5. Revise groundwater monitoring analysis for metals to dissolved rather than total to conform with standard sampling procedures.

This is a significant amendment as per A.A.C. R18-9-A211(B)(2)(b) – An increase in design flow of a sewage treatment facility as follows: For facilities with greater than 500,000 gallons per day but less than or equal to five million gallons per day, an increase in design flow of 6% constitutes a significant amendment.

V. Regulatory Status

There are no open enforcement or compliance cases for this permit.

VI. Best Available Demonstrated Control Technology (BADCT):

The WRF consists of:

- A gunite-lined emergency influent storage pond,
- Four aerated lagoons - The two primary aerated lagoons are soil-cement lined. The two secondary aerated lagoons are not lined,
- One effluent unlined holding pond,
- Five percolation ponds, and
- Five concrete lined sludge drying beds
- WWTF - Total nitrogen and microbes from the effluent are partially removed in the lagoons and the microbes are further removed as the effluent percolates through 150 feet of soil before reaching the groundwater. This treatment Plant technology is considered to meet BADCT requirements.
- BNROD - The BNROD is an activated sludge process that consists of one biological nutrient removal oxidation ditch. This shall achieve an effluent total nitrogen level of less than 10 mg/L through the nitrification/denitrification process. This treatment Plant technology is considered to meet BADCT requirements.

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

The facility is currently in compliance with the permit limits. The last recorded groundwater monitoring exceedance is from 2016 for total coliform.

This amendment will not change the existing Pollutant Management Area or the Discharge Impact Area.