

Pinewood Sanitary District Wastewater Treatment Plant
Aquifer Protection Permit No. P-102887
Place ID 307, LTF No. 84044
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. Facility Location:

18075 Fairway Dr.
Munds Park, Arizona, 86017

III. Facility Description:

The Pinewood Sanitary District is authorized to operate the Pinewood Sanitary District Wastewater Treatment Plant (WWTP), with a maximum average monthly flow of 0.6 million gallons per day (mgd). The WWTP may receive flows from the Munds RV Park (APP-105248). The WWTP treatment process consists of two (2) screen augers, flow equalization basin, flow splitter box, two (2) anoxic tanks, four (4) parallel aeration basins (each with 3 compartments for biological reduction of nitrogen) with diffused air utilizing four (4) mechanical blowers, two (2) clarifier basins, two (2) traveling bridge filters, a chlorine gas injection and a chlorine contact basin for disinfection, sulfur dioxide injection for de-chlorination, and chargepac injection for phosphorous removal.

The effluent may be discharged under AZPDES Permit No. AZ0025879 or reused by irrigation as regulated under Reclaimed Water Type 2 General Permit No. R-102887 issued to the Pinewood Country Club. The reclaimed water classification for this WWTP, as per Arizona Administrative Code (A.A.C.) R18-11 Article 3, is Class A+. Sludge is de-watered utilizing an Alrick one (1) meter belt press. This sludge is hauled off-site and disposed in accordance with state and federal regulations at the landfill in Joseph City.

Effluent from the facility shall be disposed in the following manner:

1. During summer months (April 15 to November 15) the effluent is disposed under Reclaimed Water Permit Number R-102887. The effluent may be discharged between the dates April 15 and November 15, under emergency conditions, to Munds Creek, with prior written approval from the Groundwater Protection Value Stream as per APP Permit P-102887.
2. During winter months (November 16 to April 14) the facility may discharge to Munds Creek under AZPDES Permit No. AZ0025879.

IV. Amendment Description:

The purpose of this amendment is to update the following:

1. Correct typographical errors from previous permit:
 - a. Section 2.0 - Correct number of screen augers to two
 - b. Page 24- Correct coordinates to 34° 56' 04" N, 111° 38' 50" W
2. Remove CSI Items 3.1, 3.2 and 3.3 and Section 2.7.4.1- Ambient Groundwater Monitoring Report, ambient groundwater monitoring was completed.
3. Revise the permit to reflect the actual location of the turbidity meter in Table 9 – Reclaimed Water Monitoring:
 - a. The existing turbidity meter is located after the disinfection unit. The existing turbidity meter cannot be relocated due to the orientation and installation of the effluent pipe from the filtration basin. The plant operator monitors the solids concentration in the system and adjusts the chlorine dose in the contact basin accordingly. The plant operator closely monitors the turbidity data, and makes adjustment to plant if required.
4. In Table 10 of the permit, Groundwater Monitoring for POC #1, reduce frequency of the VOC testing to semi-annual and Chromium testing to quarterly. Samples collected for Total Chromium and VOCs were less than AWQS and discharge monitoring provides for early detection of these pollutants.

The permit category for this amendment was determined to be a Significant Amendment per A.A.C R18-9-A211(B)(4) which states, “The permittee requests and the Department agrees to less stringent monitoring that reduces the frequency in monitoring or reporting or reduces the number of pollutants monitored, and the permittee demonstrates that the changes will not affect the permittee’s ability to remain in compliance with Articles 1 and 2 of this Chapter.”

V. Regulatory Status:

The latest inspection dated June 11, 2019, indicates that the facility was found to be in compliance with the APP and Arizona rules and statutes.

VI. Best Available Demonstrated Control Technology (BADCT):

The WWTP meets the performance criteria for existing facilities as specified in Arizona Administrative Code R18-9-B205.

The WWTP uses tertiary treatment to achieve an effluent quality of BOD₅ of 30 mg/l, SS of 30 mg/l, and chlorine disinfection to achieve a fecal coliform limit of non-detect in 4 out of the last 7 daily samples taken and with no sample exceeding 23 CFU/100 ml. This level of treatment meets Class A+ Reclaimed Water requirements which is utilized by the Pinewood Country Club Golf Course. The effluent is consumptively reused by irrigation as regulated under Type 2 Reclaimed Water General Permit R102778 or discharged to Munds Creek under NPDES Permit No. AZ 0025879. The depth to groundwater at the site is less than 20 feet. Groundwater monitoring will be conducted at the POC Well #1 – the Munds Creek Monitoring Well.

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

To ensure that site operations do not result in violation of Aquifer Water Quality Standards at the point of compliance, representative samples of the effluent will be collected shall be collected effluent pump station. (see Section 4.2, Table 8, in the permit).

Groundwater monitoring is required under this permit per Section 4.2, Table 10 and Table 11 for Fecal Coliform, nitrogen species, metals and organic compounds.

Facility inspection and operational monitoring will be performed on a routine basis (see Section 4.2, Table 12, in the permit).