

City of Avondale Charles M. Wolf Water Reclamation Facility
Aquifer Protection Permit No. P-100573
Place ID 970, LTF No. 78565
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:

4800 S. Dysart Road
Avondale, AZ 85323
Maricopa County

III. Facility Description:

The permittee is authorized to operate a 9.0 million gallons per day (mgd) Wastewater Reclamation Facility (WRF). The WRF treatment process consists of an influent lift station, headworks with fine screen and grit removal, two (2) primary clarifiers, one (1) equalization basin, four (4) aeration basins, four (4) secondary clarifiers, and two (2) chlorine contact basins. The WRF is classified as producing Class B+ reclaimed water pursuant to A.A.C. R18-11, Article 3. The sludge is digested anaerobically in two (2) digesters, thickened and dewatered prior to hauling off-site for disposal in accordance with State and Federal regulations.

Effluent may be disposed for beneficial purposes under a valid reclaimed water permit or may be discharged to the City of Avondale McDowell Recharge Basins permitted under APP #105889 or to the Agua Fria River under AZPDES permit no. AZ0023281 located approximately 0.5 miles west of the WRF in the Agua Fria River.

IV. Amendment Description:

The purpose of this amendment is to amend the Aquifer Quality Limits (AQLs) for the Nitrogen species except for Nitrite as N, change the Alert Level (AL) for Total Nitrogen and to change the AQL for Total Nitrogen to not established. AQLs were established for Nitrate as N and Nitrate-Nitrite as N based on twelve (12) sampling quarters of data. The background average for Nitrate as N and Nitrate-Nitrite as N for POC #2 was 6.37 mg/l so the AQL is being set at 13.97 mg/L. Considering there is not an Aquifer Water Quality Standard for Total Nitrogen the AL is being set instead of the AQL, this value is based on twelve (12) sampling quarters of data. The average for Total Nitrogen was 6.37 mg/l for POC #2 so the AL is being set at 13.97 mg/L. In addition the

pathogen monitoring in the Groundwater Monitoring Table is being changed from Total Coliform to E.coli.

V. Regulatory Status

An application for this Significant Permit Amendment was received on February 11, 2020. The permittee is authorized to operate the WRF with a maximum average annual flow of 9.0 mgd.

The last inspection dated June 14, 2018 indicated that the facility was found to be in compliance with the APP and Arizona rules and statutes.

The permit category for this amendment was determined to be an “Significant Amendment” in accordance with A.A.C. R18-9-A211(B)(4).

VI. Best Available Demonstrated Control Technology (BADCT):

The treatment facility was designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204. The facility shall meet the performance requirement for industrial pre-treatment as per A.A.C. R18-9-B204(B)(6)(b)(i).

The treatment facility shall not exceed a maximum seepage rate of 550 gallons per day per acre for all containment structures within the treatment works.

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

Groundwater monitoring is required at the Point of Compliance (POC) Well #2 (see section 4.2, Table 10 of this permit). Monitoring under conceptual POC well #3 is required if the flows to the AZPDES discharge exceeds 8.5 mgd for three (3) consecutive months, or flows exceed 8.5 mgd for a combined total of six (6) months in any 12 month period as per Section 3.0, compliance schedule items #2 and #3. POC Well #1 is conceptual; groundwater monitoring is not required at the POCs at permit issuance.

Facility inspection and operational monitoring will be performed on a routine basis (see Section 4.2, Table 11, in the permit).