

City of Goodyear – 157th Avenue Water Reclamation Facility
Aquifer Protection Permit No. 101324
Place ID No. 1378, LTF No. 72203
SIGNIFICANT AMENDMENT

I. Introduction:

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an amendment to 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:

The City of Goodyear 157th Avenue Water Reclamation Facility is located in Goodyear, Arizona, in Maricopa County.

III. Facility Description:

The permittee is authorized to operate the City of Goodyear - 157th Avenue Water Reclamation Facility (WRF) with a maximum average monthly flow of 6 million gallons per day (mgd) upon upgrades at the WRF. The WRF will have capacity to treat 6 mgd of flow upon upgrades at WRF. The treatment process consists of a new influent pump station with three pumps, headwork with two mechanical fine screens, a grit chamber, three (3) aeration basins with anoxic zones and with new diffusers, five (5) clarifiers, three (3) cloth media disc filters and two sand filters, a chlorine contact basin for chlorination with spray aeration system, a de-chlorination system, a new effluent pump station with three pumps and an emergency effluent storage basin. Sludge is digested in two (2) aerobic digesters, thickened using a gravity thickener, and dewatered using three (3) centrifuges. Dewatered and/or dried sludge is hauled off-site for management and disposal in accordance with state and federal regulations. The WRF is classified to produce Class A+ reclaimed water according to A.A.C. R18-11, Article 3. Effluent may be discharged to the Gila River under the AZPDES permit, delivered to the Buckeye Irrigation District (BID) canal, directed to the Palo Verde pipeline for delivery to Palo Verde Nuclear Generating Station, sent to Palm Valley WRF (APP No. P-100310) via pipeline, recharged at the City of Goodyear Soil Aquifer Treatment (SAT) Site (APP No. P-511420), or recharged at the City of Goodyear – Vadose Injection Project (VIP) (APP No. P-511440). City of Goodyear 157th Avenue WRF may accept reclaimed water from Palm Valley WRF for distribution to reclaimed water customers.

IV. Amendment Description:

The purpose of this amendment is to re-rate the existing treatment train to 6 mgd, to add a new influent pump station, effluent pump station and a centrifuge, to replace the diffusers in aeration basins and aerobic digesters.

V. Regulatory Status

There are not current enforcement actions.

VI. Best Available Demonstrated Control Technology (BADCT):

The treatment facility shall be 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).

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):

To ensure that site operations do not result in violation of Aquifer Water Quality Standards at the POC, representative samples of the effluent will be collected at effluent pump station. The permittee will monitor the effluent daily for flow rate and fecal coliform, monthly for total nitrogen, quarterly for metals, and semi-annually for volatile and semi-volatile organic compounds (VOCs and SVOCs) and indicator parameters (see Section 4.2, Table IA-II, in the permit).

To ensure that site operations do not violate the Reclaimed Water Quality Standards for the beneficial use of Class A+ reclaimed water, the permittee will monitor the reclaimed water at effluent pump station. The permittee will monitor the reclaimed water daily for flow rate, fecal coliform and turbidity, monthly for total nitrogen, and on a monthly/suspended basis for enteric virus (see Section 4.2, Table IB-II, in the permit).

To ensure that Aquifer Water Quality Standards will be met at the POC in the aquifer, representative samples of the groundwater will be collected at POC No. 2. The permittee will monitor the groundwater monthly for total coliform, fecal coliform, total nitrogen, nitrate-nitrite as N, nitrate as N, nitrite as N, and total Kjeldahl nitrogen (TKN), quarterly for metals, semi-annually for VOCs and SVOCs, and annually for indicator parameters (see Section 4.2, Table II, in the permit).