

City of Chandler Airport Water Reclamation Facility

Aquifer Protection Permit 103170

Place ID #6267, LTF #71763

SIGNIFICANT AMENDMENT

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an Aquifer Protection Permit for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to A.A.C. R18-9-A213. This document gives pertinent information concerning the issuance of the permit. 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 at the Point of Compliance; and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., local subsurface geology) to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer, or to keep pollutants from reaching the aquifer.

I. FACILITY INFORMATION

Name and Location

Name of Permittee:	City of Chandler
Mailing Address:	975 E. Armstrong Way, Bldg L Chandler, Arizona 85286
Facility Name and Location:	City of Chandler Airport Water Reclamation 905 East Queen Creek Road Maricopa County

Regulatory Status

This significant amendment application was received on July 18, 2018. Listed in the table below are various wastewater licenses issued by ADEQ to the permittee pertaining to the facility:

Type of License	License Identifier	Effective Date
Aquifer Protection Permit (APP) (original)	103170	11/26/1997
APP Modification	103170	9/18/1998
APP Significant Amendment	103170	11/21/2001
APP Significant Amendment	103170	8/7/2003
APP Significant Amendment	103170	7/6/2007
APP Significant Amendment	103170	8/2/2007
APP Significant Amendment	103170	1/23/2007
APP Other Amendment	103170	10/16/2009
APP Significant Amendment	103170	3/1/2013
APP Other Amendment	103170	3/24/2016

The latest inspection report (No. #270880) dated November 4, 2016 indicates that the facility was found to be in compliance with the APP and Arizona rules and statutes.

Facility Description

The City of Chandler is authorized to operate the Airport Water Reclamation Facility (AWRF) rated for a capacity of 27.0 million gallons per day (mgd). The AWRF consists of an influent pump station with seven pumps, headworks with five fine screens, a grit removal system with two grit concentrators, two pre-stage basins, nine aeration basins, eight secondary clarifiers, three rapid mix basins, eight flocculation basins, sixteen anthracite filters, RAS/WAS pump stations with nine pumps, two wash-water equalization basins, three chlorine contact basins, two floating cover reclaimed water reservoirs and two concrete reclaimed water reservoirs, three emergency storage reservoirs, a reclaimed water pump station with eight pumps, two back-wash storage tanks, three sludge holding tanks, four gravity belt thickeners, two thickened sludge storage tanks, and six units of belt filter presses. The two concrete reclaimed water reservoirs (Reclaimed Water Concrete Reservoir #3 and #4) meet the criteria for exempt facilities pursuant to A.R.S. § 49-250(22); therefore, not listed as discharging facilities.

The effluent may be recharged at the Chandler Regional Park Recharge Site (also known as Tumbleweed Recharge Facility) as regulated under APP No. P-103145, the Chandler Heights Recharge Facility as regulated under APP No. P-105482, and the Ocotillo Recharge Facility as regulated under APP No. P-105338. Effluent may also be used for beneficial purposes as regulated under a valid reclaimed water permit. The AWRF is classified as producing Class A+ reclaimed water pursuant to A.A.C. R18-11, Article 3. Sludge is dewatered, hauled off-site, and disposed in accordance with state and federal regulations.

The site includes the following permitted discharging facilities:

Facility	Latitude	Longitude
Airport Water Reclamation Facility	33° 15' 37.5" N	111° 49' 36.4" W
Reclaimed Water Floating Cover Reservoir #1	33° 15' 27.1" N	111° 49' 45.8" W
Reclaimed Water Floating Cover Reservoir #2	33° 15' 29.3" N	111° 49' 45.8" W
West Emergency Reservoir	33° 15' 22.4" N	111° 49' 45.8" W
South Emergency Reservoir	33° 15' 20.3" N	111° 49' 38.9" W
East Emergency Reservoir	33° 15' 24.3" N	111° 49' 31.2" W

Amendment Description

ADEQ reviewed and approved the re-rating of the existing treatment plant from 22 million gallons per day (mgd) to 27 mgd.

Other changes include updating the permit language to conform to the most current permit format.

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

The AWRF has been designed, constructed, operates, and is 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.

III. HYDROGEOLOGIC SETTING

The AWRF is located in the east Salt River sub-basin of the Phoenix Active Management (AMA). The sub-basin includes three major units; the upper alluvial unit (UAU), the middle alluvial unit (MAU) and the lower alluvial unit (LAU). Directly beneath the AWRF is the UAU and the MAU which extend several hundred feet below the ground surface. Based on drill logs collected near the vicinity of the site, the top of the MAU beneath the AWRF ranges from 210 to 320 feet below ground surface (bgs). The subsurface lithology consists of the following, in descending order: volcanics, basalt, exposed Kaibab limestone (exposed and eroded to a thin layer in many areas), Coconino sandstone (exposed in some areas, only slightly eroded), Supai formation. Depth to groundwater has been measured on-site at 885 feet below ground surface, and the direction of groundwater flow is to the south.

IV. STORM WATER/SURFACE WATER CONSIDERATIONS

The AWRF is not located within a 100-year floodplain.

V. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Monitoring and Reporting Requirements

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 shall be collected upstream of the chlorine contact basin. The permittee shall monitor the effluent daily for fecal coliform, monthly for total nitrogen, quarterly for metals, and semi-annually for organic compounds (see Section 4.2, Table IA in the permit).

To ensure that site operations do not result in violation of Reclaimed Water Quality Standards for the beneficial use of Class A+ reclaimed water, the permittee shall monitor the reclaimed water at the same effluent sampling point as indicated above. The permittee shall monitor the reclaimed water continuously for turbidity, daily for fecal coliform, and monthly for total nitrogen (see Section 4.2, Table IB in the permit).

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

Point of Compliance (POC)

The non-hazardous Points of Compliance (POC) have been established at the following locations:

POC #	POC Location	Latitude	Longitude
1 (Conceptual)	Northwest corner of the facility property boundary and downgradient of the AWRF	33° 15' 42.7" N	111° 49' 45" W

The POC is conceptual; groundwater monitoring is not required at the POC at permit issuance. The Director may designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

VI. COMPLIANCE SCHEDULE

The compliance schedule is included in Section 3.0 of the permit. The compliance schedule includes requirements for the submittal of the Engineer's Certificate of Completion for the Grit Removal System (item 3.1).

VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

The City of Chandler has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202 (B).

The permit requires that appropriate documents be sealed by an Arizona-registered geologist or professional engineer. This requirement is a part of an on-going demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

Financial Capability

The City of Chandler has demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The estimated dollar amount demonstrated for financial capability is \$6,330,000.00. The permittee is expected to maintain financial capability throughout the life of the facility.

Zoning Requirements

The City of Chandler – Airport WRF has been properly zoned for the permitted use and the permittee has complied with applicable zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(B)(3).

VIII. ADMINISTRATIVE INFORMATION

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. The basic

intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

Public Comment Period (A.A.C. R18-9-109(A))

The Department shall accept written comments from the public before a significant permit amendment is made. The written public comment period begins on the publication date of the public notice and extends for 30 calendar days. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C R18-9-109(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

IX. ADDITIONAL INFORMATION

Additional information relating to this permit may be obtained from:

Arizona Department of Environmental Quality

Water Quality Division – Groundwater Protection Value Stream – APP and Reuse Unit 1

Attn: Monica Phillips

1110 West Washington Street, Mail Code 5600D-3

Phoenix, Arizona 85007

Phone: (602) 771-2253