San Tan Water Reclamation Plant
Aquifer Protection Permit No. P-105325
Place ID 18584, LTF No. 99101
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:

San Tan Water Reclamation Plant (WRP) is located at 2601 West Hunt Highway Queen Creek, Arizona 85142 in Pinal County.

Permittee:	EPCOR Water Arizona, Inc.
Permittee Address:	2355 W Pinnacle Peak Road, Suite 300 Phoenix, AZ 85027

III. Facility Description:

EPCOR Water Arizona, Inc. is authorized to operate the San Tan Water Reclamation Plant (WRP) with a maximum average monthly flow of 2.0 million gallons per day (mgd). The Department has graded this facility as a Grade 4 wastewater treatment plant. The facility shall have an operator in direct responsible charge who is certified for the grade of the facility and inspects the facility daily. The treatment train consists of an influent lift station, headworks with two bar screens, two trains of biological reactors for extended aeration with nitrification-de-nitrification and two clarifiers, a filter splitter box, five sand filters, chlorine contact basin for disinfection, de-chlorination and effluent pump station. Sludge is treated through aerobic digesters and dewatered through a belt filter press. Sludge will be hauled off-site for management or disposal in accordance with state and federal regulations.

The facility is rated as producing Class A+ reclaimed water. Chemical feed facilities shall be available to add coagulants or polymers as needed to ensure that the reclaimed water will meet the turbidity requirements for Class A+ reclaimed water.

Effluent may be delivered for beneficial reuse under a valid reclaimed water permit, or recharged via an on-site recharge basin, via the 12 vadose zone recharge wells, or via direct injection recharge wells and recharge holes. Six vadose zone recharge wells are located within the recharge basin, four wells are located along the southeast side of the treatment buildings and two wells are located at the northern corner of the site. The facility may discharge up to 0.4 mgd of effluent to the recharge basins located at Section 11 WRP (regulated under APP No. P-103081).

Direct Aquifer Injection Recharge Wells and Recharge Holes

The facility has installed one direct aquifer injection well and seventeen (17) recharge holes. The facility may install up to two (2) additional direct aquifer injection wells and seventeen (17) replacement recharge holes at the ADEQ approved locations, as needed for additional effluent disposal (see Section 3.0, CSI Nos. 3 through 4). Direct aquifer injection recharge wells and recharge holes shall be installed at the ADEQ approved locations only. All wells and recharge holes approved by this permit shall be installed in accordance with any applicable requirements of the Arizona Department of Water Resources.

Depth to groundwater at the WRP site is approximately 400 feet below ground surface (bgs), and the direction of groundwater flow is toward the north-northeast.

IV. Amendment Description:

This application for a Significant Amendment was received on February 9, 2024. The purpose of this amendment is to:

- Install seventeen (17) recharge holes (or drain holes) at the northern end of the property to provide additional recharge capacity onsite.
- Include predetermined locations for 17 contingent replacement recharge holes.
- Update Discharging Facilities in Table 1 with the additional recharge holes.
- Remove the compliance schedule in Table 7 for the Emergency Operation/Contingency Plan.
- Remove the compliance schedule item Table 7 for the Engineer's Certificate of Completion
- Revise Sampling Point Identifications in Table 8. Table 8 was revised to "Total Effluent Flow Meter" for Sampling Point Number 1, "Recharge Flow Meter" (Sampling Point Number 2), and removal of Sampling Point 3.
- Table 11 – Revise facility inspection and operational requirements as follows:
    - Recharge Basin Vegetation Removal – EPCOR shall maintain a procedure to control excessive vegetation that may impact the integrity of the impoundment(s), Monthly
    - Remove row for "effects of land subsidence and earth fissures on treatment plant components.

The permit category for this amendment was determined to be a "Significant Amendment" as per A.A.C. R18-9-A211(B)(9) as it is a substantial addition in discharging facilities to the permit.

V. Regulatory Status

The Compliance Status Report dated December 13, 2024, shows that the facility is compliant with the APP and Arizona rules and statutes. The latest inspection report (No. # 439755) dated February 7, 2024, also demonstrated operational compliance with the APP and Arizona rules and statutes.

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 a violation of Aquifer Water Quality Standards at the conceptual point of compliance, representative samples of the effluent shall be collected at the point of discharge from the effluent pump station and shall be analyzed daily for *E. coli*, monthly for total nitrogen, quarterly for metals, and semi-annually for organic compounds. (see Section 4.2, Table 8 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 daily for *E. coli* and turbidity, and monthly for total nitrogen. (see Section 4.2, Table 9 in the permit).

To ensure that Aquifer Water Quality Standards will be met at the POC in the aquifer, representative samples of the groundwater are collected from POC #1, and are sampled monthly for *E. coli*, total nitrogen, nitrate-nitrite as N, nitrate as N, nitrite as N, and total Kjeldahl nitrogen (TKN), quarterly for metals, semi-annually for volatile and semi-volatile organic compounds. (see Section 4.2, Table 10 in the permit).

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