

Kofa Firing Range Sewage Lagoons
Aquifer Protection Permit No. P-100794
PLACE ID 1105, LTF 66014
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:

IMYM-PWE
301 C. Street
Yuma, AZ 85365-9498

III. Facility Description:

The permittee is authorized to operate a Secondary Wastewater Treatment Facility (WWTF) with the capacity to treat an annual average of 29,250 gallons per day (gpd) of domestic sewage including an industrial component consisting of small amounts of water from air conditioners, evaporative coolers and treated vehicle wash down water.

Existing WWTF

The existing facility consists of two (2) lined facultative and two (2) evaporation sewage lagoons (the lagoon system) and treats an annual average of 19,500 gallons per day (gpd) of domestic sewage including small amounts of water from air conditioners, evaporative coolers and treated vehicle wash down water. The facultative / evaporation sewage lagoons are lined with a 60-mil high density polyethylene (HDPE) liner with approximately eighteen inches of compacted soil on top of the liner to protect the liner during sludge removal. The synthetic material attains a permeability of 1×10^{-7} cm/sec or slower.

Upgraded WWTF

The WWTF may increase the design flows to 29,250 gpd upon completing upgrades at the plant and submitting the Engineer's Certificate of Completion (ECOC) per Section 3.0, Compliance Schedule, Items 3.1 and 3.2. The treatment process consists of the existing two (2) lined facultative and two (2) evaporation sewage lagoons (the lagoon system) and one additional facultative lagoon and one evaporation sewage lagoon.

The new facultative and evaporation sewage lagoons shall be constructed with two (2) Linear Low Density PolyEthylene-Reinforced (LLDPE-R) liners with a leak detection and control systems installed beneath the new lagoons. Approximately eighteen inches of compacted soil will be placed on top of the liner to protect the liner during sludge removal.

Effluent shall be disposed of by evaporation. The depth to groundwater at the KFR lagoons is approximately 175 feet below ground surface (bgs). Groundwater flow is generally to the southwest toward the Colorado River.

IV. Amendment Description:

The purpose of this amendment is to:

- add one additional facultative lagoon and one additional evaporation lagoon with leak detection and control system to the existing sewage treatment facility;
- increase the treatment capability of the facility from 19,500 gpd to 29,250 gpd;
- update the closure cost estimates from \$100,000.00 to \$203,000.00.

V. Regulatory Status:

An application for this Significant Permit Amendment was received on August 19, 2019. The latest inspection report dated February 26, 2015, indicated that the facility was found to be in compliance with the APP and Arizona rules and statutes. At the time of permit issuance, there are no active Notices of Violation (NOVs).

The permit category for this amendment was determined to be a “Significant Amendment” in accordance with A.A.C. R18-9-A211(B)(2)(b), due to an increase in design flow greater than 10 percent for facilities with a permitted design flow of 500,000 mgd or less.

VI. Best Available Demonstrated Control Technology (BADCT):

The facility shall be designed, constructed, operated, and maintained to meet the treatment performance criteria for existing facilities as specified in Arizona Administrative Code R18-9-B205.

All industrial hookups and other non-residential hookups to the treatment system shall be authorized according to the applicable federal, state or local regulations.

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

To ensure that site operations do not result in violation of Aquifer Water Quality Standards representative samples of the effluent will be collected at the point of discharge to the sewage lagoons. The permittee will monitor the effluent every day for flow rate, annually for total nitrogen, metals, organic compounds and other parameters (see Section 4.2, Tables IA-1 and IA-2, in the permit).

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