



Fact Sheet

Aquifer Protection Permit 103892
 Place ID #9303, LTF #48984
SIGNIFICANT AMENDMENT
Sacramento Road WRF

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an amendment to the 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 Arizona Administrative Code (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., 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.

I. FACILITY INFORMATION

Name and Location

Name of Permittee:	Management & Training Corporation
Mailing Address:	500 N. Marketplace Drive Centerville, Utah 84104
Facility Name and Location:	Sacramento Road Water Reclamation Facility (WRF) 4994 West Sonoita Drive Golden Valley, Arizona 86413

Regulatory Status

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)	P-103892	6/15/2000
APP "Other" Amendment (to decrease the treatment capacity from 0.292 mgd to 0.182 mgd and to classify the facility for Class C reclaimed water)	P-103892	2/24/2004
APP "Other" Amendment (to reclassify the facility for Class B reclaimed water)	P-103892	11/07/2003

An application for a significant APP amendment was submitted to ADEQ on November 18, 2008.

The latest inspection report dated August 29, 2008 indicates that the facility was found to be in compliance with the APP and Arizona rules and statutes.

Facility Description

The original Aquifer Protection Permit (APP) for the Sacramento Road WWTP was issued on June 15, 2000 for treating 0.292 million gallons per day (mgd) of wastewater flow from the Kingman State Prison (then referred to as the Black Mountain Correctional Facility). The WWTP consisted of two lined earthen aeration basins, a lined earthen polishing pond, and two lined effluent storage ponds. A third unlined aeration basin, just south of aeration basins 1 and 2, was constructed but was never used. The stored effluent was used to irrigate fiber, seed, and forage crops.

An “other” amendment to the APP was issued on February 24, 2004 to decrease the capacity from 0.292 mgd to 0.182 mgd and to classify the WWTP for Class C reclaimed water. An “other” amendment was issued on November 6, 2008 to re-classify the reclaimed water to Class B. Effluent was used to irrigate fiber, seed, and forage crops and as construction water for the new prison facility.

Amendment Description

This significant permit amendment is to change the treatment process from aerated lagoons to SBR (sequencing batch reactor) treatment, and to expand the treatment capacity from 0.182 mgd to 0.350 mgd. The new SBR Water Reclamation Facility (WRF) consists of existing headworks (grinder with an auger assembly), new headworks (with grinder and fine screen with auger assembly), influent pump station, two sequencing batch reactors, post equalization basin, chlorination, and de-chlorination. The existing pump station will be used to deliver effluent for reuse. The WRF is classified as producing Class B+ reclaimed water.

The permittee decommissioned and clean-closed aeration basins 1 and 2 from the aerated lagoon system (as discussed in the following section) and will be using them for recharge basins. As part of the facility expansion, the formerly unused aeration basin will be used as a third recharge basin. The polishing pond and two effluent storage ponds will remain at the facility for future effluent storage. The conversion of the polishing pond to an effluent storage pond will require closure of the polishing pond in accordance with the permit Compliance Schedule (see Section 3.0). Because the two effluent storage ponds will store improved effluent quality, closure of the two ponds will be deferred to final facility closure.

Clean Closure Approval for Aeration Basins 1 and 2

The ADEQ Groundwater Section-Technical Support Unit has reviewed the *Sacramento Road WWTP Aeration Basins 1 and 2, Clean Closure Application*, dated April 28, 2009, prepared by Valentine Environmental Engineers, LLC, and issued clean-closure approval for these basins on September 24, 2009.

The permittee shall notify all users that materials authorized to be disposed of through the WRF are domestic strength wastewater and pre-treated commercial wastewater and shall not include motor oil, gasoline, paints, varnishes, hazardous wastes, solvents, pesticides, fertilizers or other materials not generally associated with toilet flushing, food preparation, laundry facilities and personal hygiene.

In addition to the APP conditions pertaining to treatment and disposal of sewage sludge, the permittee must also comply with the requirements for any sewage sludge disposal in 40 Code of Federal Regulations (CFR) Part 503 and 18 A.A.C. Ch. 9, Art. 10.

Amendment Description

The permittee requested to amend the APP due to the construction of a new treatment facility with a treatment capacity of 0.35 mgd (within the existing footprint of the original facility), to classify the facility for Class B+ reclaimed water, to add recharge as a disposal method, and to apply for clean-closure of the aeration basins from the previous WWTP.

Listed below are the changes to the permit as a result of this amendment:

1. Section 2.1, Facility/Site Description: Added permitting history, description of the new WRF, information on the clean-closure of the aeration basins, and included classification of the reclaimed water to Class B+.
2. Section 2.2., Best Available Demonstrated Control Technology (BADCT): Updated to include information on the new WRF.
3. Section 2.2.4, Point of Compliance: Replaced previous POCs (which were conceptual) with POC-3 (monitor well).
4. Section 2.5, Monitoring Requirements: Added groundwater monitoring and sampling protocols.
5. Section 2.7, Reporting and Recordkeeping Requirements: Added requirements for submitting an annual groundwater report.
6. Section 3.0, Compliance Schedule: Added requirement to submit an Engineer's Certificate of Completion, ambient groundwater monitoring results, and a closure plan for the polishing pond.
7. Section 4.0, Tables of Monitoring Requirements: Updated the discharge monitoring table to include all parameters required to be monitored in order to demonstrate compliance with new facility BADCT and major cations and anions; revised the reclaimed water monitoring table to include the Class B+ reclaimed water quality standards; added a groundwater monitoring table to monitor for Aquifer Water Quality Standards and major

cations and anions. Updated Table III (Facility Inspection) to reflect monitoring of new WRF components.

8. Other changes include change in permit language to conform to the most current permit format.

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

The WRF is designed and constructed, operated, and maintained to achieve the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204.

III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Monitoring and Reporting Requirements

To ensure that site operations do not violate Aquifer Water Quality Standards at the point of compliance, representative samples of the effluent shall be collected after dechlorination prior to the recharge basins. The permittee shall monitor the effluent daily for fecal coliform, monthly for total nitrogen, quarterly for metals, and annually for VOCs (see Section 4.2, Table IA in the permit).

To ensure that site operations do not violate the Reclaimed Water Quality Standards for the beneficial use of Class B+ 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 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)

Two POCs, designated as POC-1 and POC-2 were located in the original permit, southeast of the WWTP and southeast of the reclaimed water storage pond. POC-1 and POC-2 were conceptual locations and were not required to be monitored as part of the permit. Based on new groundwater information, particularly the installation of a water supply well one-quarter of a mile away (Prison well), and the influence of pumping on the groundwater gradient, it was determined that POC-1 and POC-2 were no longer appropriate POC locations. Therefore, the conceptual monitoring locations were removed from the permit. A new POC (POC-3) located northeast of the facility, was deemed necessary based on the influence of the gradient to the northeast by the local pumping wells, and to protect the off-site water supply well (aka the prison well). POC-3 will be installed as a groundwater well and monitored to determine compliance with AWQS at the facility. The permit will contain an annual

requirement to evaluate local pumping, as it relates to the groundwater flow direction and the evaluation of whether additional POCs are warranted.

The new Point of Compliance (POC) is located in the upper aquifer down-gradient of the facility. The POC is located as follows:

POC#	POC Locations	Latitude	Longitude
3	Northwest corner of the property.	35° 01' 30" N	114° 11' 15" W

Ambient and routine groundwater monitoring are required at POC-3. The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

IV. HYDROGEOLOGIC SETTING

The Sacramento Valley Basin is a long narrow valley from seven to twelve miles wide, trending slightly east of south, extending from Grasshopper Junction on the north to the south end of the Black Mountains near Yucca. The Sacramento Valley is bounded on the east by the Cerbat and Hualapai Mountains and on the west by the Black Mountains. Alluvial deposits occur in the valley basins, and are in the range of several thousand feet thick. Other parts of the valley are composed of fractured igneous and volcanic rocks.

Depth to groundwater at the site is approximately 525 to 650 feet bgs. The regional groundwater flow direction is to the southeast. Groundwater pumping occurs within the immediate area. The prison well is used to supply the State of Arizona Kingman Prison approximately one-quarter of a mile away. Griffith Energy has a pumping well field located approximately one mile north consisting of six wells. The regional groundwater gradient is influenced by the near-by pumping wells and draws the groundwater gradient to the northeast. The groundwater quality at the Prison well was tested on May 12, 2009 and contained 2.8 milligrams per liter (mg/L) nitrate, as compared to the AWQS which is set at 10 mg/L.

The nearest downgradient well, assuming the water supply wells were not pumping, is approximately one mile south of the WRF. The well is registered as a domestic well for one dwelling. The nearest downgradient well, when the gradient is influenced by groundwater pumping, is the Prison well which is a domestic water supply well.

V. SURFACE WATER CONSIDERATIONS

A number of unnamed drainages bisect the property trending northeast to southwest. The nearest surface water body is the Sacramento Wash located one and half miles to the west.

The nearest 100-year flood plain is located 1,200 feet to the southwest within an unnamed drainage. The WRF site is located outside of the 100-year flood plain.

VI. COMPLIANCE SCHEDULE

The installation of the POC well shall be completed within 90 days of issuance of the permit. Ambient groundwater monitoring is required to begin with 2 months after the installation of the well. The Alert Levels (ALs) and Aquifer Quality Limits (AQLs) are to be submitted within 90 days of the completion of the ambient groundwater monitoring period. Also included in the compliance schedule are provisions to submit a closure plan for the Polishing Pond, and an Engineer's Certificate of Completion upon completing construction of the new WRF.

VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

The Management & Training Corporation 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 Management & Training Corporation 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 permittee is expected to maintain financial capability throughout the life of the facility.

Zoning Requirements

The Sacramento Road 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(A)(2)(c).

VIII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-108(A))

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 proposed permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division - APP and Reuse Unit
Attn: Marcy Mullins
1110 W. Washington Street, Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771-4464