



Fact Sheet

Aquifer Protection Permit 105469
 Place ID #21524, LTF # 49016
 SIGNIFICANT AMENDMENT
 Bowlin Travel Center-Picacho Peak
 Wastewater Reclamation Facility

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). 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.

I. FACILITY INFORMATION

Name and Location

Permittee's Name:	Bowlin Travel Centers, Inc.
Mailing Address:	P.O. Box 1407, Mesilla Park, New Mexico 88047
Facility Name and Location:	Picacho Peak WRF I-10 and Picacho Peak Road, Exit 219 Picacho Peak, Arizona.

Regulatory Status

An application for an individual Aquifer Protection Permit (APP) was received on May 23, 2004. The site currently treats flows not only from the Bowlin Travel Center, but also flows from Dairy Queen Restaurant and gas station, and the employee housing. The existing septic tanks and leach lines at the Dairy Queen and the mobile homes will remain in use to receive the discharge. The new chlorination /dechlorination system has removed the fecal coliform disinfection problems. The new plant is designed to remove the denitrification and flow issues.

A Significant APP Amendment has been submitted on November 21, 2008 to remove the reuse from this permit so that all discharging will be to the leach fields, reduce fecal coliform monitoring from daily to once per month and add daily chlorine residual daily monitoring for discharge flow.

Facility Description

The permittee is authorized to operate a 0.019 MGD (million gallons per day) wastewater reclamation facility (WRF). The treatment process consists of a primary 8500 gallon equalization tank with the overflow going to a second 4100 gallon equalization tank. The effluent is then treated in a sequencing batch reactor (SBR) where nitrification/denitrification takes place. The effluent from the SBR flows to a post equalization tank, which was an SBR tank in the original permit. The effluent is filtered and disinfected with chlorine prior to discharge to leach fields. The sludge is hauled off-site for disposal to a licensed and permitted disposal site according to state and federal regulations.

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

The site includes the following permitted discharging facilities:

Facility	Latitude	Longitude
Picacho Peak WRF	32° 38' 37" N	111° 23' 07" W

The Bowlin Travel Center WRF is located over groundwater within the Pinal Active Management Area (AMA). The facility is located on the southeast flank of a bedrock ridge that lies between Picacho Peak and the Picacho Mountain Range. A well bore drilled at the northwest end of the WRF encountered bedrock at a depth of approximately 160 feet below ground surface (bgs). Soils at the site are mostly unconsolidated sand, silt and gravel to a depth of approximately 15 feet, grading into moderate to strongly caliche cemented alluvium down to bedrock. Groundwater beneath the facility is approximately 205 feet bgs. The direction of groundwater flow is to the south-southeast. Due to the depth to groundwater and the quality of effluent, no groundwater monitoring is required at the time of permit issuance.

Amendment Description

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

1. Section 2.1, Facility Description –Removed Reuse from the Permit description.
2. Section 2.2.5 Reclaimed Water Classification- the treatment facility is not classified for reclaimed water at this time.
3. Section 4.2 Table IA- Added the chlorine residual monitoring and reduces fecal coliform monitoring to once per month.
4. Section 4.2 Table 1B- Removed Reclaimed Water Class B+ from the permit.

5. Other changes include change in permit language to conform to the latest format.

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

The effluent is nitrified and denitrified, using an SBR treatment technology. The denitrified effluent is filtered and disinfected by chlorination/ dechlorination prior to disposal to leach fields. The facility meets the 250 feet setback for no odor, noise or aesthetic controls. The WRF shall be designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in Arizona Administrative Code R18-9-B204.

The facility shall meet the requirements for pretreatment by conducting monitoring as per A.A.C. R18-9-B204(B)(6)(b)(iii) [the facility has no pretreatment program]. 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.

Wastewater is received from the gift shop and Dairy Queen Restaurants, both with fueling facilities, and from the mobile homes at the Picacho Peak Plaza. All industrial hookups and other non-residential hookups to the treatment system shall be authorized according to the applicable federal, state or local regulations.

The expansion of the Bowlin WRF will utilize a majority of the components of the existing plant, though some of the components will serve new purposes. The expanded WRF treatment process will consist of a pretreatment equalization (EQ) basin with overflow tank, a Fluidyne Model ISAM™ 40 (ISAM 40) modular prepackaged sequencing batch reactor (SBR) process system, an effluent equalization basin, a sand filtration process, and chlorination/dechlorination disinfection. Treated effluent from the WRF treatment process will meet the routine discharge monitoring requirements for fecal coliform, total nitrogen, metals, and volatile organic compounds as defined in the APP.

The expanded WRF will utilize the existing 8,500 overflow tank and 4000 gallon equalization basin for pretreatment to the lower initial wastewater influent strengths, though the role of the tanks will be reversed. The 8,500 gallon capacity overflow tank will serve as the primary pretreatment equalization basin for the expanded WRF. The 4,000 gallon capacity tank will be used as the overflow tank with equalization and mixing capability, providing additional pretreatment capacity when required. The pretreatment process will provide a buffer to the ISAM 40 SBR process system. Mixed liquor suspended solids (MLSS) will be transferred from the pretreatment basin to the ISAM 40 SBR process system utilizing two existing reciprocal pumps.

III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Monitoring and Reporting Requirements

The effluent will continue to be monitored at the effluent pump station prior to discharge to the leach field. Monitoring will be done on a daily basis for flow to the leach lines, monthly for total flow, fecal coliform, and total nitrogen, quarterly for metals, and semi-annually for volatile organic compounds. Reporting requirements are quarterly for all parameters except VOCs which are reported semi-annually. The list of discharge monitoring parameters, frequency of sample collection and reporting frequency are listed in Section 4.2, Table I in the permit. Reclaimed water has been removed from this permit.

Exceeding the flow limit in Section 4/2, Table I requires the submittal of an APP amendment to expand the WRF [Section 2.6.2.3.1].

Compliance with Aquifer Water Quality Standards (AWQS)

The WRF is designed, constructed and operated to ensure that the facility will not cause or contribute to the exceedance of an AWQS at the points of compliance. The discharge water is expected to have a lower coliform and nitrate content than the regional aquifer due to nitrification /denitrification, and the chlorination/ dechlorination disinfection treatment processes employed at the plant. Therefore, it is believed that the facility will not adversely impact groundwater quality beneath and downgradient from the site.

Point(s) of Compliance (P.O.C)

There are two designated points of compliance for the facility as shown below:

P.O.C. No.	P.O.C. Locations	Latitude	Longitude
1	Effluent pump station (immediately east of the WRF)	32° 38' 37" N	111° 23' 07" W
2	Southeast corner of the leach field.	32° 38' 36" N	111° 23' 07" W

No groundwater monitoring is currently required at the POCs, as the flows from the WRF are only 0.019 million gallons per day (MGD), and the facility will monitor the discharge for constituents that have limit set at the AWQS.

IV. STORM WATER AND SURFACE WATER CONSIDERATIONS

The closest surface water is the ephemeral McClellan Wash located several hundred yards east of the plant. The WRF is outside the 100 year flood plain as shown on the FIRM Flood Plain Map and the Special Study Report for McClellan Wash by the US

Army Corps of Engineers. The raised railroad bed located just southwest of McClellan Wash, creates a dike to protect the WRF from any flooding that may occur in the wash. The high water level for the 100-year flood event is 1782.72 feet above mean sea level (amsl). The natural ground elevation of the WRF is 1795.20 feet amsl. Further, the top of the WRF is raised one foot above the natural ground level to prevent local surface water from flooding the plant

V. COMPLIANCE SCHEDULE

No compliance items are scheduled at this time.

VI. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

Bowlin Travel Centers, Inc. 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 WRF expansion/modification was designed as per the design report prepared and stamped, dated, and signed (sealed) Jeff Bryan, P.E. (Professional Engineer), CRA & Associates, Inc., dated June 29, 2006, and subsequent sealed submittals that served as additions to the design report.

ADEQ 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

Bowling Travel Centers, Inc. 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.

The permittee submitted a closure cost estimate of \$28,000.00. The permittee provided a statement, a copy of the 10 K Form, and a report according to rule R18-9-A203(B)(2) to demonstrate financial capability.

Zoning Requirements

The Picacho Peak WRF has been properly zoned for the permitted use and the permittee has complied with all Pinal County zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(A)(2)(c).

VII. 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 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. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

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

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. 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.

VIII. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division – APP & Reuse Unit
Attn: Don Bell
1110 W. Washington St., Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771- 4613