

STATE OF ARIZONA
AQUIFER PROTECTION PERMIT No. P-102478
PLACE ID No. 126397 LTF No. 43020 SITE CODE 070319-02
SIGNIFICANT AMENDMENT

1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A.A.C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, City of Surprise is hereby authorized to operate the City of Surprise Special Planning Area 1 (SPA-1) Water Reclamation Facility (WRF), located near 136th Avenue between Peoria and Cactus Roads at 11401 North 136th Ave, in the City of Surprise, Arizona, in Maricopa County, over groundwater of the Phoenix Active Management Area groundwater basin in Township 3 North, Range 1 West, Section 22 of the Gila and Salt River Base Line and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods), unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant and as determined at the applicable POC occurs as a result of the discharge from the facility.

1.1 PERMITTEE INFORMATION

Facility Name: City of Surprise SPA-1 Water Reclamation Facility
Facility Address: 11401 N. 136th Avenue
Surprise, AZ 85379
County: Maricopa
Permittee: City of Surprise
Permittee Address: 12425 W. Bell Rd., Suite D-100
Surprise, AZ 85374
Facility Contact: Daniel E. Blackson, Utilities Division Manager
Emergency Phone Number: (623) 222-7000
Latitude/Longitude: 33° 35' 13" N 112° 21' 12" W
Legal Description: Township 3 N, Range 1 W, Section 22, Gila and Salt River Base Line and Meridian.

1.2 AUTHORIZING SIGNATURE

Joan Card, Director
Water Quality Division
Arizona Department of Environmental Quality

Signed this ____ day of _____, 2009

THIS PERMIT SUPERCEDES ALL PREVIOUS PERMITS

2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]**2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]**

The City of Surprise is authorized to operate the Surprise SPA-1 Water Reclamation Facility (SPA-1 WRF) with a monthly average flow up to 16.3 MGD of domestic sewage from the City of Surprise. Effluent from Plants I, II, III, IV and V from any combination of one or all of the plants shall be blended or commingled prior to discharge to reuse or recharge under this permit. Effluent for reuse shall meet Class A+ reclaimed water quality.

The existing facility consists of Plant I (0.8 MGD), Plant II (2.7 MGD), and Plant III (4.8 MGD) treatment trains. Previous significant amendments to the permit prepared by the Arizona Department of Environmental Quality (ADEQ) authorized the treatment capacity expansion of this SPA-1 WRF from 7.2 MGD to 8.3 MGD by re-rating; adding Plant IV and V for 8.0 MGD increased flow capacity to the SPA-1 WRF increasing the capacity from 8.0 MGD to 16.3 MGD; and provide phased expansion to 16.3 MGD based on demonstration of recharge and reuse capacities under the compliance schedule. The treatment process in Plant I and Plant II consists of a common influent pump station and headworks with rotary drum screen and grit chamber, oxidation ditches, secondary clarifiers, filters, effluent pump station, and UV (used as backup) and chlorination disinfection systems. Plant III located in the north center of the facility site consists of influent pump station, headworks with rotary drum screen and grit chamber, oxidation ditches, secondary clarifiers, filters, effluent pump station and chlorination system. Effluent will meet Class A+ reclaimed water quality (A.A.C. R18-9-303) for use under a valid reclaimed water permit as per A.A.C. R18-9, Articles 6 and 7. However, the permittee is also authorized to use the UV system as necessary for Plants I and II to provide backup disinfection.

This permit is being significantly amended to accomplish the following:

1. Include vadose zone recharge of the reclaimed wastewater that will occur from the SPA-1 WRF to 16.3 MGD.

The expanded SPA-1 WRF will have the capability of recharging approximately 16.3 MGD of Class A+ reclaimed water via permitted reclaimed uses, existing recharge basins and vadose zone well recharge. This current phase discharge capabilities include reclaimed uses, existing recharge basins and five new vadose zone recharge wells for a recharge increase from a total yearly average of 2.8 MGD to 5.68 MGD. The SPA-1 WRF engineering review under this permit may at build-out include up to 9 basins totaling 65.6 acres, and 38 vadose zone recharge wells plus 8 contingency vadose zone recharge wells for a total of 46 wells.

This facility is located over groundwater within the West Salt River Valley Sub-basin of the Phoenix Active Management Area (AMA) within the Middle Gila watershed. The existing recharge project has been permitted by the Arizona Department of Water Resources (ADWR) Underground Storage Facility Permit No. 71-562521.0002 and Water Storage Permit No. 73-562521.0002. Both permits were issued on July 16, 2003. An application to amend the USF permit to add vadose zone recharge well technology is currently under review by ADWR. The depth to groundwater is over 300 feet below ground surface and the direction of groundwater flow is generally to the north-northwest, which represents a change from the groundwater flow direction in the previous permit.

The materials authorized to be disposed of through the wastewater treatment plant are typical household sewage 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.

The site includes the following permitted discharging facilities ("VZ indicates a vadose zone recharge well):

| Facility | Latitude | Longitude |
|-------------------|------------------|-------------------|
| Plant I | 33° 35' 15" N | 112° 21' 05" W |
| Plant II | 33° 35' 18" N | 112° 21' 05" W |
| Plant III | 33° 35' 25" N | 112° 21' 20" W |
| Plant IV | 33° 35' 22" N | 112° 21' 14" W |
| Plant V | 33° 35' 20" N | 112° 21' 14" W |
| Storage Pond #1 | 33° 35' 10" N | 112° 21' 13" W |
| Storage Pond #2 | 33° 35' 12" N | 112° 21' 20" W |
| Recharge Basin #3 | 33° 35' 18" N | 112° 21' 25" W |
| Recharge Basin #4 | 33° 35' 24" N | 112° 21' 25" W |
| Small Lined Pond | 33° 35' 11" N | 112° 21' 07" W |
| Unlined Pond | 33° 35' 10" N | 112° 21' 04" W |
| VZ-1 | 33° 35' 33.77" N | 112° 21' 6.67" W |
| VZ-2 | 33° 35' 32.70" N | 112° 21' 6.59" W |
| VZ-3 | 33° 35' 31.69" N | 112° 21' 6.63" W |
| VZ-4 | 33° 35' 30.63" N | 112° 21' 6.62" W |
| VZ-5 | 33° 35' 29.67" N | 112° 21' 6.60" W |
| VZ-6 | 33° 35' 28.55" N | 112° 21' 6.58" W |
| VZ-7 | 33° 35' 27.65" N | 112° 21' 6.57" W |
| VZ-8 | 33° 35' 27.12" N | 112° 21' 5.74" W |
| VZ-9 | 33° 35' 27.14" N | 112° 21' 4.34" W |
| VZ-10 | 33° 35' 27.16" N | 112° 21' 2.94" W |
| VZ-11 | 33° 35' 27.59" N | 112° 21' 2.06" W |
| VZ-12 | 33° 35' 28.50" N | 112° 21' 2.07" W |
| VZ-13 | 33° 35' 29.35" N | 112° 21' 2.08" W |
| VZ-14 | 33° 35' 30.57" N | 112° 21' 2.10" W |
| VZ-15 | 33° 35' 31.47" N | 112° 21' 2.05" W |
| VZ-16 | 33° 35' 32.43" N | 112° 21' 2.13" W |
| VZ-17 | 33° 35' 33.50" N | 112° 21' 2.15" W |
| VZ-18 | 33° 35' 34.24" N | 112° 21' 2.16" W |
| VZ-19 | 33° 35' 35.36" N | 112° 21' 2.11" W |
| VZ-20 | 33° 35' 36.42" N | 112° 21' 2.13" W |
| VZ-21 | 33° 35' 37.38" N | 112° 21' 2.27" W |
| VZ-22 | 33° 35' 38.50" N | 112° 21' 2.23" W |
| VZ-23 | 33° 35' 39.07" N | 112° 21' 3.19" W |
| VZ-24 | 33° 35' 39.11" N | 112° 21' 4.40" W |
| VZ-25 | 33° 35' 39.09" N | 112° 21' 5.92" W |
| VZ-26 | 33° 35' 38.39" N | 112° 21' 6.74" W |
| VZ-27 | 33° 35' 37.28" N | 112° 21' 6.66" W |
| VZ-28 | 33° 35' 36.16" N | 112° 21' 6.64" W |
| VZ-29 | 33° 35' 35.10" N | 112° 21' 6.62" W |
| VZ-30 | 33° 35' 24.60" N | 112° 21' 17.27" W |
| VZ-31 | 33° 35' 25.83" N | 112° 21' 17.29" W |
| VZ-32 | 33° 35' 26.68" N | 112° 21' 17.62" W |
| VZ-33 | 33° 35' 26.66" N | 112° 21' 18.82" W |
| VZ-34 | 33° 35' 26.70" N | 112° 21' 20.03" W |
| VZ-35 | 33° 35' 26.69" N | 112° 21' 21.11" W |
| VZ-36 | 33° 35' 26.68" N | 112° 21' 22.38" W |
| VZ-37 | 33° 35' 26.66" N | 112° 21' 23.72" W |
| VZ-38 | 33° 35' 26.70" N | 112° 21' 25.12" W |
| VZ-39 | 33° 35' 26.69" N | 112° 21' 26.39" W |
| VZ-40 | 33° 35' 26.67" N | 112° 21' 27.72" W |

| Facility | Latitude | Longitude |
|----------|------------------|-------------------|
| VZ-41 | 33° 35' 23.17" N | 112° 21' 17.31" W |
| VZ-42 | 33° 35' 21.94" N | 112° 21' 17.29" W |
| VZ-43 | 33° 35' 20.88" N | 112° 21' 17.34" W |
| VZ-44 | 33° 35' 20.65" N | 112° 21' 18.54" W |
| VZ-45 | 33° 35' 20.69" N | 112° 21' 20.00" W |
| VZ-46 | 33° 35' 20.70" N | 112° 21' 21.60" W |

Annual Registration Fee [A.R.S. § 49-242]

The Annual Registration Fee for this permit is established by A.R.S. § 49-242(E) and is payable to ADEQ each year. The design flow is 16.3 million gallons per day.

Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203]

The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability throughout the life of the facility. The financial capability was demonstrated through R18-9-A203(B)(2). Closure and post-closure costs are estimated to be \$690,000.

2.2 Best Available Demonstrated Control Technology

[A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]

The SPA-1 WRF is 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 meets the requirements for pretreatment by conducting monitoring in Section 4.0, Table IA as per R18-9-B204(6)(b)(iii).

2.2.1 Engineering Design

The SPA-1 WRF was designed as per the design report prepared and stamped, dated, and signed (sealed) by Stanley Consultants in 1997 and expansions were performed by RT Engineers in 2001, and then re-rated in 2005. The most recent significant expansion was designed as per the design report prepared and stamped, dated, and signed (sealed) by Rajender Thakur, P.E., RT Engineers International dated December 19, 2005. The Final Design concept report, Surprise Recharge Wells, Phase I dated January 2007 and Construction Plans dated June 2008 were prepared by RT Engineers and provided for this vadose zone recharge amendment. City of Surprise SPA-1 Reclamation Facility Technical Information to support this Significant Amendment was prepared by HydroSystems, Inc. in cooperation with Lockwood, Andrews, and Newnam, Inc. and submitted to ADEQ in January 2008.

2.2.2 Site-specific Characteristics

Effluent discharged to the recharge basins shall rely on operational practices (50% wet/50% dry cycles), and depth to groundwater over 300 feet bls, to meet BADCT limits for pathogen removal and AWQS for total coliform concentrations at the POCs. Under normal operations, all effluent will be chlorinated.

2.2.3 Pre-Operational Requirements

Not applicable to this Significant Amendment.

2.2.4 Operational Requirements

1. The permittee shall maintain a copy of the new O & M Manual at the SPA-1 WRF site at all times and shall be available upon request during inspections by ADEQ personnel.
2. The pollution control structures shall be inspected for the items listed in Section 4.0, TABLE III FACILITY INSPECTION - Operational Monitoring.

3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and material(s) used shall be documented on the Self-Monitoring Report Form submitted quarterly to the ADEQ Water Quality Compliance.

2.2.5 Reclaimed Water Classification

[A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 through 307]

The treatment facility is rated as producing Class A+ Reclaimed Water Quality Standards (A.A.C. R18-11 Article 3) and may be used for any allowable Class A, B, or C use under a valid reclaimed water permit (A.A.C. R18-9 Article 7).

2.3 Discharge Limitations [A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

1. The permittee is authorized to operate the SPA-1 WRF with an average monthly flow of up to 16.3 MGD based on completion of compliance schedule requirements.
2. The permittee shall notify all users that the materials authorized to be disposed of through the SPA-1 WRF are typical household sewage 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.
3. The permittee shall operate and maintain all permitted facilities to prevent unauthorized discharges pursuant to A.R.S. § 49-201(12) resulting from failure or bypassing of BADCT pollutant control technologies including liner failure¹, uncontrollable leakage, overtopping (e.g., exceeding the maximum storage capacity, defined as a fluid level exceeding the crest elevation of a permitted impoundment), of basins, lagoons, impoundments or sludge drying beds, berm breaches, accidental spills, or other unauthorized discharges.
4. Specific discharge limitations are listed in Section 4.0, Table IA through IC (1 to 3).

2.4 Points of Compliance (P.O.C.) [A.R.S. § 49-244]

The Point of Compliance is established by the following monitoring location:

| POC | Descriptive Location | Latitude | Longitude |
|-------------------------------|--|------------------|------------------|
| POC#1 SRF-MW-1 (55-564527) | Southwest corner of Storage Basin #2. | 33° 35' 09" N | 112° 21' 24" W |
| POC#2 SRF-MW-2 (55-572867) | Located along the northeast boundary of the property | 33° 35' 33.24" N | 112° 21' 1.57" W |

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

2.5 Monitoring Requirements [A.R.S. § 49-243(K)(1), A.A.C. R18-9-A206(A)]

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and chain of custody procedures shall be followed, in accordance with currently accepted standards of professional practice. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and EPA 40 CFR PART 136 for guidance in this regard. Copies of laboratory analyses and chain of custody forms shall be

¹Liner failure in a single-lined impoundment is any condition that would result in leakage exceeding 550 gallons per day per acre.

maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

2.5.1 Discharge Monitoring

The permittee shall monitor the wastewater according to Section 4.0, Table IA through IC (1 to 3). A representative sample of the wastewater shall be collected at the point of discharge indicated in Section 4.0, Table IA.

2.5.1.1 Reclaimed Water Monitoring

The permittee shall monitor the parameters listed under Table IB in addition to the routine discharge monitoring parameters listed in Table IA and IC (1 to 3).

2.5.2 Facility / Operational Monitoring

Operational monitoring inspections shall be conducted according to Section 4.0, Table III.

a. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented on the Self-Monitoring Report Form (SMRF) submitted quarterly to the ADEQ Water Quality Compliance. If none of the conditions occur, the report shall say “no event” for a particular reporting period. If the facility is not in operation, the permittee shall indicate this on the SMRF.

b. The permittee shall submit data required in Section 4.0, Table III regardless of the operating status of the facility unless otherwise approved by the Department or allowed in this permit.

2.5.3 Groundwater Monitoring and Sampling Protocols

The permittee shall monitor groundwater according to Section 4.0, Table II.

Static water levels shall be measured and recorded prior to sampling. Wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, and conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80% of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as “dry” for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the Self-Monitoring Report Form (SMRF).

2.5.3.1 POC Well Replacement

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, insufficient water for more than two (2) sampling events, or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty feet or less from the original well, the ALs and AQLs established for the previously designated POC well shall apply to the replacement well.

2.5.4 Surface Water Monitoring and Sampling Protocols

Routine surface water monitoring is not required under the terms of this permit.

2.5.5 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters

specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona State certified laboratories can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
250 North 17th Ave.
Phoenix, AZ 85007
Phone: (602) 364-0720

2.5.6 Installation and Maintenance of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section for approval prior to installation and the permit shall be amended to include any new points.

2.6 Contingency Plan Requirements

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

2.6.1 General Contingency Plan

At least one copy of the approved contingency and emergency response plan(s) submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plans.

Any alert level (AL) exceedance or any violation of an aquifer quality limit (AQL), discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

2.6.2 Exceeding of Alert Levels/Performance Levels

2.6.2.1 Exceeding of Performance Levels (PL) Set for Operational Conditions

1. If the operational PL set in Section 4.0, Table III has been exceeded the permittee shall
 - a. Notify the ADEQ Water Quality Compliance Section within five (5) days of becoming aware of an exceedance of any permit condition in Table III.
 - b. Submit a written report within thirty (30) days after becoming aware of an exceedance of a permit condition. The report shall document all of

the following:

1. A description of the exceedance and its cause;
 2. The period of the exceedance, including exact date(s) and time(s), if known, and the anticipated time period during which the exceedance is expected to continue;
 3. Any action taken or planned to mitigate the effects of the exceedance, or the spill, or to eliminate or prevent recurrence of the violation;
 4. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard; and
 5. Any malfunction or failure of pollution control devices or other equipment or process.
2. The facility is no longer on alert status once the operational indicator no longer indicates that a PL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

2.6.2.2 Exceeding of Alert Levels Set for Discharge Monitoring

1. If an AL set in Section 4.0, Tables IA and IC (1 to 3) has been exceeded, the permittee shall immediately investigate to determine the cause of the exceedance. The investigation shall include the following:
 - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that shall have contributed to the exceedance.
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
 - c. Pretreatment source control for industrial pollutants (if applicable).
2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
3. Within thirty (30) days after an AL exceedance, the permittee shall submit the laboratory results to the ADEQ Water Quality Compliance Section, Enforcement Unit, along with a summary of the findings of the investigation, the cause of the AL exceedance, and actions taken to resolve the problem.
4. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

2.6.2.2.1. Exceeding Permit Flow Limit

1. If the AL for average monthly flow in Section 4.0, Table IC -3 is exceeded, the permittee shall submit an application for an APP amendment to expand the WRP or submit a report detailing the reasons that an expansion is not necessary.

2. Acceptance of the report instead of an application for expansion requires ADEQ approval.

2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring

2.6.2.3.1 Alert Levels for Indicator Parameters

Not required at time of permit issuance.

2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards

1. If an AL for a pollutant set in Section 4.0, Table II has been exceeded, the permittee shall conduct verification sampling within five (5) days of becoming aware of the exceedance. The permittee shall use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms the AL exceedance or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring for the pollutants set in Section 4.0, Table II as follows:

| Specified Monitoring Frequency (Section 4.0, Table II) | Monitoring Frequency for AL Exceedance |
|---|---|
| Daily | Daily |
| Weekly | Daily |
| Monthly | Weekly |
| Quarterly | Monthly |
| Semi-annually | Quarterly |
| Annually | Quarterly |

In addition, the permittee shall immediately initiate an investigation of the cause of the AL exceedance, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.

3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Groundwater Section, that although an AL is exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration shall propose a revised AL or monitoring frequency for approval in writing by the Groundwater Section.

4. Within thirty (30) days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Water Quality Compliance Section, Data Unit along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
5. Upon review of the submitted report, the Department shall amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.
6. The increased monitoring required as a result of an AL exceedance may be reduced to the monitoring frequency in Section 4.0, Table II if the results of four sequential sampling events demonstrate that no parameters exceed the AL.
7. If the increased monitoring required as a result of an AL exceedance continues for more than six sequential sampling events, the permittee shall submit a second report documenting an investigation of the continued AL exceedance within 30 days of the receipt of laboratory results of the sixth (6th) sampling event.

2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards
Not required at time of issuance.

2.6.3 Discharge Limitations (DL) Violations

1. If a DL set in Section 4.0, Tables IA through IC (1 to 3), has been violated, the permittee shall immediately investigate to determine the cause of the violation. The investigation shall include the following:
 - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
 - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
 - c. Sampling of individual waste streams composing the wastewater for parameters in violation (if applicable to the violation).

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. The permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

2. The permittee shall comply with the freeboard requirements as specified in Section 4.0, Table III (Facility Inspections) to prevent the overtopping of an impoundment or sludge drying bed. If an impoundment or sludge drying bed is overtopped, the permittee shall follow the requirements in Section 2.6.5.3 and the reporting requirements of Section 2.7.3.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

2.6.4 Aquifer Quality Limit (AQL) Violation

1. If an AQL set in Section 4.0, Table II has been exceeded, the permittee shall conduct verification sampling within 5 days of becoming aware of an AQL being exceeded. The permittee shall use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms that the AQL is violated for any parameter or if the permittee opts not to perform verification sampling, then, the permittee shall increase the frequency of monitoring as follows:

| Specified Monitoring Frequency (Section 4.2, Table II) | Monitoring Frequency for AQL Exceedance |
|---|--|
| Daily | Daily |
| Weekly | Daily |
| Monthly | Weekly |
| Quarterly | Monthly |
| Semi-annually | Quarterly |
| Annually | Quarterly |

In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 30 days that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. §49-201(12) and pursuant to A.R.S. § 49-241

2.6.5.1 Duty to Respond

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(18)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Compliance Section Manager at (602) 771-4497 within 24 hours upon discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL exceedance; or b) could pose an endangerment to public health or the environment.

2.6.5.3 Discharge of Non-hazardous Materials

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Water Quality Compliance Section Manager at (602) 771-4497, within 24 hours upon discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL exceedance; or b) could pose an endangerment to public health or the environment.

2.6.5.4 Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the ADEQ Water Quality Field Compliance Section Manager, Mail Code: 5415B-1, 1110 West Washington Street, Phoenix, AZ, 85007 within thirty days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in the notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

2.6.6 Corrective Actions

Specific contingency measures identified in Section 2.6 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Groundwater Section prior to implementing a corrective action to accomplish any of the following goals in response to exceedance of an AL or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer;
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ Water Quality Compliance Section, a written report describing the causes, impacts, and actions taken to resolve the problem.

2.7 Reporting and Recordkeeping Requirements

[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

2.7.1 Self Monitoring Report Form (SMRF)

1. The permittee shall complete the SMRF provided by ADEQ, and submit them to the Water Quality Compliance Section, Data Unit.
2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
3. The tables contained in Section 4.0 list the parameters to be monitored and the frequency for reporting results for compliance monitoring. Monitoring and analytical methods shall be recorded on the SMRF. The permittee reserves the right to request a relaxation of the monitoring frequency for metals and volatile organic compounds if the data indicate that water quality standards are being achieved.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for exceeding an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

2.7.2 Operation Inspection / Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector;
2. Date and shift inspection was conducted;
3. Condition of applicable facility components;
4. Any damage or malfunction, and the date and time any repairs were performed;
5. Documentation of sampling date and time;
6. Any other information required by this permit to be entered in the log book, and

Monitoring records for each measurement shall comply with R18-9 A206(B)(2).

2.7.3 Permit Violation and Alert Level Status Reporting

1. The permittee shall notify the Water Quality Compliance Section, Enforcement Unit in writing within five (5) days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, discharge limitation or of an Alert Level exceedance.
2. The permittee shall submit a written report to the Water Quality Compliance Section, Enforcement Unit within 30 days of becoming aware of the violation of any permit condition or discharge limitation. The report shall document all of the following:
 - a. Identification and description of the permit condition for which there has been a violation and a description of the cause;
 - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
 - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;
 - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard;
 - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and

- f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

2.7.4 Operational, Other or Miscellaneous Reporting

The permittee shall complete the Self-Monitoring Report Form provided by the Department to reflect facility inspection requirements designated in Section 4.0, Table III and submit to the ADEQ, Water Quality Compliance Section quarterly along with other reports required by this permit. Facility inspection reports shall be submitted no less frequently than quarterly, regardless of operational status.

If the treatment facility is classified for reclaimed water under this permit, the permittee shall submit the reclaimed water monitoring results as required in Table IB and flow volumes to any of the following in accordance with A.A.C. R18-9-703(C)(2)(c):

- 1. Any reclaimed water agent who has contracted for delivery of reclaimed water from the permittee;
- 2. Any end user who has not waived interest in receiving this information.

2.7.5 Reporting Location

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality
Water Quality Compliance Section, Data Unit
Mail Code: 5415B-1
1110 W. Washington Street
Phoenix, AZ 85007
Phone (602) 771-4513

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to:

Arizona Department of Environmental Quality
Water Quality Compliance Section
Mail Code: 5415B-1
1110 W. Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4497

All documents required by this permit to be submitted to the Groundwater Section shall be directed to:

Arizona Department of Environmental Quality
Groundwater Section
Mail Code: 5415B-3
1110 W. Washington Street
Phoenix, Arizona 85007
Phone (602) 771-4428

2.7.6 Reporting Deadline

The following table lists the quarterly report due dates:

| Monitoring conducted during quarter: | Quarterly Report due by: |
|--------------------------------------|--------------------------|
| January-March | April 30 |

| | |
|------------------|------------|
| April-June | July 30 |
| July-September | October 30 |
| October-December | January 30 |

The following table lists the semi-annual and annual report due dates:

| Monitoring conducted: | Report due by: |
|----------------------------|----------------|
| Semi-annual: January-June | July 30 |
| Semi-annual: July-December | January 30 |
| Annual: January-December | January 30 |

2.7.7 Changes to Facility Information in Section 1.0

The Groundwater Section and Water Quality Compliance Section shall be notified within 10 days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person, or Emergency Telephone Number.

2.8 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The permittee shall give written notice to the Water Quality Compliance before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

1. If applicable, direct the wastewater flows from the facility to another state-approved wastewater treatment facility.
2. Correct the problem that caused the temporary cessation of the facility.
3. Notify ADEQ with a monthly facility status report describing the activities conducted on the treatment facility to correct the problem.

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Water Quality Compliance Section of the operational status of the facility every three (3) years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

2.9 Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]

For a facility addressed under this permit, the permittee shall give written notice of closure to the Water Quality Compliance Section of the intent to cease operation without resuming activity for which the facility was designed or operated.

2.9.1 Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Section, a Closure Plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(3).

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

2.9.2 Closure Completion

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Section indicating that the approved Closure Plan has been implemented fully and providing supporting documentation to demonstrate that clean closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of Post Closure stated in this permit:

1. Clean closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with the Aquifer Water Quality Standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

2.10 Post-Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Section a Post-Closure Plan that addresses post-closure maintenance and monitoring actions at the facility. The Post-Closure Plan shall meet all requirements of A.R.S. §§ 49- 201(29) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the Post-Closure Plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the Post-Closure Plan.

2.10.1 Post-Closure Plan

A specific post closure plan may be required upon the review of the closure plan.

2.10.2 Post-Closure Completion

Not required at the time of permit issuance.

3.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Water Permits Section. A copy of the cover letter must also be submitted to the Water Quality Compliance Section, Data Unit.

| No. | Completion/Submittal Date | Comments |
|-----------------------------------|--|---|
| Groundwater Assessment | | |
| 1 | One year from date of permit issuance and every five years thereafter. | Submit a hydrogeologic report that includes an evaluation of groundwater flow conditions, recharge and groundwater monitoring and an evaluation of the adequacy of POC locations, identify data gaps, if any, and propose additional monitoring wells, as needed, to document compliance with permit conditions. This evaluation will be performed in order to update characterization of local groundwater conditions and evaluate the effectiveness of POC locations. |
| No. | Completion/Submittal Date | Comments |
| Vadose Zone Recharge Wells | | |
| 2 | Prior to recharge of reclaimed water via vadose zone wells and within 90 days of completion of construction. | The permittee shall submit a signed, dated, and sealed Arizona P.E. Certificate of Completion in a format approved by the Department that confirms that the vadose zone wells are constructed according to the Department – approved design report or plans and specifications, as applicable. |
| 3 | Within 15 days of vadose zone well installation. | Notify ADEQ within 15 days of the installation and testing of the initial vadose zone or direct injection wells. Submit results of testing necessary to determine the available recharge rates and map showing location of the wells installed, including the latitudes and longitudes, within 30 days of the completion of testing. |
| 4 | Within 30 days of reaching 75% of effluent recharge capacity | The permittee shall submit a plan to ADEQ that includes a proposal to add additional recharge capacity. The plan shall indicate proposed recharge locations and volumes for each vadose zone recharge well and shall include signed, dated, and diagrams of proposed well construction sealed by an Arizona P.E. or R.G. The plan shall also include a schedule for well construction and testing, and commencement of recharge at each well. |

4.0 TABLES OF MONITORING REQUIREMENTS

**TABLE IA
ROUTINE DISCHARGE MONITORING**

| Sampling Point Number | Sampling Point Identification | | | Latitude | Longitude |
|--|---|-------------------------|-------------------------|--------------------|------------------------|
| 4 | Discharge from the Disinfection Contact Basins (Combined Discharge from Plant I, II, III, IV and V) ² | | | 33° 35' 13" N | 112° 21' 10" W |
| Parameter | AL ³ | DL ⁴ | Units | Sampling Frequency | Reporting Frequency |
| Fecal Coliform Single sample maximum | Not established | 23 | CFU or MPN ⁵ | Monthly | Quarterly |
| Fecal Coliform: four (4) of seven (7) samples in a week ⁶ | Not established | Non-detect ⁷ | CFU or MPN | Daily | Quarterly |
| Total Nitrogen ⁸ : 5-sample rolling geometric mean | 8.0 | 10.0 | mg/l | Monthly | Quarterly ⁹ |

² Discharge is either from Plants I and II, Plant III, IV and V, or all five plants.

³ AL = Alert Level

⁴ DL = Discharge Limit

⁵ CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample.

⁶ **Week** means a seven-day period starting on Sunday and ending on the following Saturday.

⁷ If at least four (4) of seven (7) samples in a week are non-detect, report "yes" in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of seven (7) samples in a week have detections of fecal coliform, report "no" in the appropriate space on the SMRF (indicating that the standard has **not** been met).

⁸ Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen

⁹ A 5-Month Geometric Mean of the results of the 5 most recent samples

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

TABLE IA
ROUTINE DISCHARGE MONITORING (Continued)

| Parameter | AL | DL | Units | Sampling Frequency | Reporting Frequency |
|---------------------------|--------|-------|-------|--------------------|---------------------|
| Metals (Total): | | | | | |
| Antimony | 0.0048 | 0.006 | mg/l | Quarterly | Quarterly |
| Arsenic | 0.04 | 0.05 | mg/l | Quarterly | Quarterly |
| Barium | 1.60 | 2.00 | mg/l | Quarterly | Quarterly |
| Beryllium | 0.0032 | 0.004 | mg/l | Quarterly | Quarterly |
| Cadmium | 0.004 | 0.005 | mg/l | Quarterly | Quarterly |
| Chromium | 0.08 | 0.1 | mg/l | Quarterly | Quarterly |
| Cyanide (as free cyanide) | 0.16 | 0.2 | mg/l | Quarterly | Quarterly |
| Fluoride | 3.2 | 4.0 | mg/l | Quarterly | Quarterly |
| Lead | 0.04 | 0.05 | mg/l | Quarterly | Quarterly |
| Mercury | 0.0016 | 0.002 | mg/l | Quarterly | Quarterly |
| Nickel | 0.08 | 0.1 | mg/l | Quarterly | Quarterly |
| Selenium | 0.04 | 0.05 | mg/l | Quarterly | Quarterly |
| Thallium | 0.0016 | 0.002 | mg/l | Quarterly | Quarterly |

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

TABLE IA - ROUTINE DISCHARGE MONITORING (Continued)

| Parameter | AL | DL | Units | Sampling Frequency | Reporting Frequency |
|---|--------|-------|-------|--------------------|---------------------|
| Volatile Organic Compounds (VOCs): | | | | | |
| Benzene | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Carbon tetrachloride | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| o-Dichlorobenzene | 0.48 | 0.6 | mg/l | Semi-Annually | Semi-Annually |
| para-Dichlorobenzene | 0.06 | 0.075 | mg/l | Semi-Annually | Semi-Annually |
| 1,2-Dichloroethane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| 1,1-Dichloroethylene | 0.0056 | 0.007 | mg/l | Semi-Annually | Semi-Annually |
| cis-1,2-Dichloroethylene | 0.05 | 0.07 | mg/l | Semi-Annually | Semi-Annually |
| trans-1,2-Dichloroethylene | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| Dichloromethane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| 1,2-Dichloropropane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Ethylbenzene | 0.56 | 0.7 | mg/l | Semi-Annually | Semi-Annually |
| Monochlorobenzene | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| Styrene | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| Tetrachloroethylene | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Toluene | 0.8 | 1.0 | mg/l | Semi-Annually | Semi-Annually |
| Trihalomethanes (total) ¹⁰ | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| 1,1,1-Trichloroethane | 0.16 | 0.2 | mg/l | Semi-Annually | Semi-Annually |
| 1,2,4 - Trichlorobenzene | 0.056 | 0.07 | mg/l | Semi-Annually | Semi-Annually |
| 1,1,2 - Trichloroethane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Trichloroethylene | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Vinyl Chloride | 0.0016 | 0.002 | mg/l | Semi-Annually | Semi-Annually |
| Xylenes (Total) | 8.0 | 10.0 | mg/l | Semi-Annually | Semi-Annually |

¹⁰ Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

TABLE IB
RECLAIMED WATER MONITORING TABLE - CLASS A+¹¹

| Sampling Point Number | Sampling Point Identification | Latitude | Longitude | |
|---|--|--------------------------|------------------------|---------------------|
| 1 | Discharge to small lined pond, Turbidity Sampling Point | 33° 35' 13" N | 112° 21' 07" W | |
| 2 | Discharge to reuse at small lined pond from Plants I and II, Fecal Sampling Point | 33° 35' 10" N | 112° 21' 09" W | |
| 3 | Discharge to Disinfection Contact Basins, Turbidity Sampling Point | 33° 35' 15" N | 112° 21' 17" W | |
| 4 | Discharge from the Disinfection Contact Basins (Combined discharge from Plant I, II, III, IV, and V for reuse) ¹² | 33° 35' 13" N | 112° 21' 10" W | |
| Parameter | DL | Units | Sampling Frequency | Reporting Frequency |
| Fecal Coliform: Single-sample maximum | 23 | CFU or MPN ¹³ | Daily ¹⁴ | Quarterly |
| Fecal Coliform: Four (4) of last seven (7) samples | Non-detect ¹⁵ | CFU or MPN | Daily | Quarterly |
| Turbidity ¹⁶ : Single reading | 5 | NTU ¹⁷ | Everyday ¹⁸ | Quarterly |
| Turbidity: 24-hour average | 2 | NTU | Everyday | Quarterly |
| Total Nitrogen ¹⁹ : Five-sample rolling geometric mean | 10 | mg/l | Monthly | Quarterly |

¹¹ Reclaimed water monitoring is in addition to routine discharge monitoring.

¹² Discharge is either from Plants I and II, Plant III, IV, and V, or all five plants combined.

¹³ CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample. For CFU, a value of <1 shall be considered to be non-detect. For MPN, a value of <2.2 shall be considered to be non-detect.

¹⁴ For fecal coliform, “daily” sampling means every day in which a sample can practicably be obtained and delivered in sufficient time for proper analysis, provided that no less than four (4) samples in each calendar week are obtained and analyzed.

¹⁵ If at least four (4) of seven (7) samples in a week are non-detect, report “yes” in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of seven (7) samples in a week have detections of fecal coliform, report “no” in the appropriate space on the SMRF (indicating that the standard has **not** been met).

¹⁶ Turbidimeter shall have a signal averaging time not exceeding 120 seconds. Occasional spikes due to back-flushing or instrument malfunction shall not be considered an exceedance. All exceedances must be explained and submitted to the Department with the corresponding quarterly SMRF.

¹⁷ Nephelometric Turbidity Units

¹⁸ For the single turbidity reading, “everyday” means the maximum reading during the 24-hour period.

¹⁹ Nitrate N, plus Nitrite N, plus Total Kjeldahl Nitrogen (TKN)

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

**TABLE IC-1
FLOW MONITORING**

| Flow Meter (FM) No. | FM Identification | | | Latitude | Longitude |
|---|--|-----------------|-------|--------------------|---------------------|
| 2 | Flow to recharge from Plant I, II, III, IV and V | | | 33° 35' 15.4" N | 112° 21' 17.1" W |
| 4 | Flume to Small Pond from Plant I and II | | | 33° 35' 12.8" N | 112° 21' 7.5" W |
| 5 | Flow to Disinfection Contact Tank from Plant I, II, III, IV, and V | | | 33° 35' 14.4" N | 112° 21' 15.5" W |
| Parameter | AL | DL | Units | Sampling Frequency | Reporting Frequency |
| Flow to Reuse | Not Established | Not Established | MGD | Daily | Quarterly |
| Flow to Reuse | Not Established | 12.3 | MGD | Monthly Average | Quarterly |
| Flow to Recharge | Not Established | Not Established | MGD | Daily | Quarterly |
| Flow to Recharge | Not Established | 5.68 | MGD | Yearly Average | Quarterly |
| Total Flow | Not Established | Not Established | MGD | Daily | Quarterly |
| Monthly Total Flow Phase II ²⁰ | 11.8 | 12.4 | MGD | Monthly Average | Quarterly |

²⁰ Total capacity of WRF after Phase II will be 12.3 MGD. Discontinue monitoring for Phase II flows in Table IC-2 once Phase III has been approved by ADEQ. Proceed to monitoring for Phase III in Table IC-3.

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

**TABLE IC-2
FLOW MONITORING**

| Flow Meter (FM) No. | FM Identification | | | Latitude | Longitude |
|--|--|-----------------|-------|--------------------|---------------------|
| 2 | Flow to recharge from Plant I, II, III, IV and V | | | 33° 35' 15.4" N | 112° 21' 17.1" W |
| 4 | Flume to Small Pond from Plant I and II | | | 33° 35' 12.8" N | 112° 21' 7.5" W |
| 5 | Flow to Disinfection Contact Tank from Plant I, II, III, IV, and V | | | 33° 35' 14.4" N | 112° 21' 15.5" W |
| Parameter | AL | DL | Units | Sampling Frequency | Reporting Frequency |
| Flow to Reuse | Not Established | Not Established | MGD | Daily | Quarterly |
| Flow to Reuse | Not Established | 16.3 | MGD | Monthly Average | Quarterly |
| Flow to Recharge | Not Established | Not Established | MGD | Daily | Quarterly |
| Flow to Recharge | Not Established | Not Established | MGD | Yearly Average | Quarterly |
| Total Flow | Not Established | Not Established | MGD | Daily | Quarterly |
| Monthly Total Flow Phase III ²¹ | 15.5 | 16.3 | MGD | Monthly Average | Quarterly |

²¹ Final Phase.

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

**TABLE II
GROUNDWATER MONITORING**

| Sampling Point Number | Sampling Point Identification | | Latitude | | Longitude |
|---------------------------------|--|-----------------------|--------------------------|--------------------|---------------------|
| POC #1 SRF-MW #1 (55-564527) | Southwest corner of Storage Basin #2 | | 33° 35' 09" N | | 112° 21' 24" W |
| POC#2 SRF-MW #2 (55-572867) | Located along the northeast boundary of the property | | 33° 35' 33.24" N | | 112° 21' 1.57" W |
| Parameter | AL | AQL | Units | Sampling Frequency | Reporting Frequency |
| Total Nitrogen ²² | 8.0 ²⁵ | 10.0 ²⁵ | mg/l | Monthly | Quarterly |
| Nitrate | 8.0 ²⁵ | 10.0 ²⁵ | mg/l | Monthly | Quarterly |
| Nitrite | 8.0 ²⁵ | 10.0 ²⁵ | mg/l | Monthly | Quarterly |
| Total Coliform | Absence | Absence ²³ | CFU or MPN ²⁴ | Monthly | Quarterly |
| Fecal Coliform | Absence | Absence | CFU or MPN | Monthly | Quarterly |
| Metals (Total): | | | | | |
| Antimony | 0.0048 | 0.006 | mg/l | Quarterly | Quarterly |
| Arsenic | 0.04 | 0.05 | mg/l | Quarterly | Quarterly |
| Barium | 1.60 | 2.00 | mg/l | Quarterly | Quarterly |
| Beryllium | 0.0032 | 0.004 | mg/l | Quarterly | Quarterly |
| Cadmium | 0.004 | 0.005 | mg/l | Quarterly | Quarterly |
| Chromium | 0.08 | 0.1 | mg/l | Quarterly | Quarterly |
| Cyanide (as free cyanide) | 0.16 | 0.2 | mg/l | Quarterly | Quarterly |
| Fluoride | 3.2 | 4.0 | mg/l | Quarterly | Quarterly |
| Lead | 0.04 | 0.05 | mg/l | Quarterly | Quarterly |
| Mercury | 0.0016 | 0.002 | mg/l | Quarterly | Quarterly |
| Nickel | 0.08 | 0.1 | mg/l | Quarterly | Quarterly |
| Selenium | 0.04 | 0.05 | mg/l | Quarterly | Quarterly |
| Thallium | 0.0016 | 0.002 | mg/l | Quarterly | Quarterly |

²² Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

²³ Nitrogen levels have been revised in this permit modification due to recent sample results below the AWQS. However, ambient levels of POC #1 are documented at 27.4 mg/L which were set in previous permits.

²⁴ A positive result for total coliform may be verified with an analysis for fecal coliform. A positive result for fecal coliform shall be considered an exceedance of the AQL for total coliform.

²⁵ CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

TABLE II
GROUNDWATER MONITORING (Continued)

| Parameter | AL | AQL | Units | Sampling Frequency | Reporting Frequency |
|---|--------|-------|-------|--------------------|---------------------|
| Volatile Organic Compounds (VOCs): | | | | | |
| Benzene | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Carbon tetrachloride | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| o-Dichlorobenzene | 0.48 | 0.6 | mg/l | Semi-Annually | Semi-Annually |
| para-Dichlorobenzene | 0.06 | 0.075 | mg/l | Semi-Annually | Semi-Annually |
| 1,2-Dichloroethane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| 1,1-Dichloroethylene | 0.0056 | 0.007 | mg/l | Semi-Annually | Semi-Annually |
| cis-1,2-Dichloroethylene | 0.05 | 0.07 | mg/l | Semi-Annually | Semi-Annually |
| trans-1,2-Dichloroethylene | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| Dichloromethane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| 1,2-Dichloropropane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Ethylbenzene | 0.56 | 0.7 | mg/l | Semi-Annually | Semi-Annually |
| Monochlorobenzene | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| Styrene | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| Tetrachloroethylene | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Toluene | 0.8 | 1.0 | mg/l | Semi-Annually | Semi-Annually |
| Trihalomethanes (total) ²⁶ | 0.08 | 0.1 | mg/l | Semi-Annually | Semi-Annually |
| 1,1,1-Trichloroethane | 0.16 | 0.2 | mg/l | Semi-Annually | Semi-Annually |
| 1,2,4 - Trichlorobenzene | 0.056 | 0.07 | mg/l | Semi-Annually | Semi-Annually |
| 1,1,2 - Trichloroethane | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Trichloroethylene | 0.004 | 0.005 | mg/l | Semi-Annually | Semi-Annually |
| Vinyl Chloride | 0.0016 | 0.002 | mg/l | Semi-Annually | Semi-Annually |
| Xylenes (Total) | 8.0 | 10.0 | mg/l | Semi-Annually | Semi-Annually |

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

TABLE II
GROUNDWATER MONITORING (Continued)

| Parameter | AL | AQL | Units | Sampling Frequency | Reporting Frequency |
|---|---------|---------|----------|--------------------|---------------------|
| Indicator Parameters / Major Cations and Anions: | | | | | |
| pH (field) | Monitor | Monitor | S.U. | Quarterly | Quarterly |
| Iron | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Manganese | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Total Organic Carbon | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Total Dissolved Solids | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Sodium | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Potassium | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Calcium | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Magnesium | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Chloride | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Sulfate | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Alkalinity | Monitor | Monitor | mg/l | Quarterly | Quarterly |
| Specific Conductivity (field) | Monitor | Monitor | µmhos/cm | Quarterly | Quarterly |

4.0 TABLES OF MONITORING REQUIREMENTS (Continued)

**TABLE III
FACILITY INSPECTION (Operational Monitoring)**

| Pollution Control Structures/Parameter | Performance Levels | Inspection Frequency | Reporting Frequency |
|--|--|----------------------|---------------------|
| Pump integrity | Good working condition | Weekly | Quarterly |
| Treatment plant components | Good working condition | Weekly | Quarterly |
| Storage ponds berm integrity | No visible structural damage, breach, or erosion of embankments | Weekly | Quarterly |
| Recharge Basins | Good working condition and adequately scarified | Monthly | Quarterly |
| Freeboard in Recharge Basins | Minimum 1 foot | Weekly | Quarterly |
| Freeboard in Storage Basins | Minimum 2 foot | Weekly | Quarterly |
| Vadose zone recharge wells | Good working condition Minimal biofouling Minimal clogging No daylighting | Monthly | Quarterly |

5.0

REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. APP Application dated: April 17, 1994 (APP)
October 11, 1995 (Minor Amendment)
November 7, 1997 (Significant Amendment)
January 3, 2005 (Significant Amendment)
May 1, 2007 (Significant Amendment)
May 23, 2007 (Minor Amendment)
August 29, 2007 (Significant Amendment)
January 14, 2008 (Significant Amendment)
2. Contingency Plan dated: April 17, 1994 (APP)
January 17, 2007 (Significant Amendment)
3. Final Hydrologist Report dated: May 14, 2007 (Significant Amendment)
4. Final Engineering Report dated: June 1, 2007 (Significant Amendment)
5. Public Notice dated: June 22, 2007 (Significant Amendment)
April , 2009
6. Public Hearing dated: None
7. Responsiveness Summary dated: **TBD**

6.0 NOTIFICATION PROVISIONS

6.1 Annual Registration Fees

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gallons per day as established by A.R.S. § 49-242(D).

6.2 Duty to Comply [A.R.S. §§ 49-221 through 263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

6.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

6.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]

The permittee shall not cause or contribute to a violation of an Aquifer Water Quality Standard at the applicable point of compliance for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an Aquifer Water Quality Standard for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

6.5 Technical and Financial Capability

[A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit

6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five days after the occurrence of any one of the following:

1. The filing of bankruptcy by the permittee.
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

6.7 Monitoring and Records [A.R.S. §§ 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. § 49-221 and 49-223 and § 49-241 through 49-252.

6.8 Inspection and Entry [A.R.S. §§ 49-1009, 49-203(B), and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as

may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices authorized by this permit.

6.10 Permit Action: Amendment, Transfer, Suspension, and Revocation

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

This permit may be amended, transferred, suspended, or revoked for cause, under the rules of the Department. The permittee shall notify the Groundwater Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

7.0 ADDITIONAL PERMIT CONDITIONS

7.1 Other Information [A.R.S. § 49-243(K)(8)]

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

**7.2 Severability
[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

7.3 Permit Transfer

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).