

ORIGINAL



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# Beaver Dam Water Inc.

P.O. Box 550 Beaver Dam, AZ 86432  
1-928-347-5000 Facsimile 1-928-347-5003

March 18, 2010

Docket Control Center  
Arizona Corporation Commission  
1200 West Washington  
Phoenix, AZ 85007

RE: DOCKET NO: SW-03067A-06-0397 Decision 70205 DATED  
03/20/2008

Enclosed fins APP Permit as required by Order Enclosed find <sup>1 req.</sup> 19 copies as follows:

1. Fact Sheet Permit #P-105348
2. Aquifer Protection Permit #P-105348

The enclosed items should complete Compliance Notice requirements. Please advice us if you need additional information.

Sincerely

Bob Frisby, President  
Beaver Dam Water Inc.,

Arizona Corporation Commission

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ARIZONA CORPORATION  
COMMISSION

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STATE OF ARIZONA  
AQUIFER PROTECTION PERMIT NO. P-105348  
PLACE ID 19408, LTF 43709

**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, Millennia Investment Corporation is hereby authorized to operate the Shadow Ridge Wastewater Treatment Plant (WWTP), located in Scenic, in Mohave County, Arizona, over groundwater of the Virgin River Basin in Township 39N, Range 16W, Section 17, SE¼, NE¼, Gila and Salt River Baseline and Meridian.

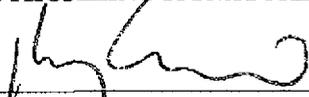
This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods) unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain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

<b>Facility Name:</b>	Shadow Ridge Wastewater Treatment Plant
<b>Facility Address:</b>	475 East Red Hawk Road, Scenic, Arizona 86432 Mohave County
<b>Permittee:</b>	Millennia Investment Corporation
<b>Permittee Address:</b>	6795 S 300 W Midvale, Utah 84047
<b>Facility Contact:</b>	Bob Frisby, Beaver Dam Water Co.
<b>Emergency Phone No.:</b>	(928) 347-5000
<b>Latitude/Longitude:</b>	36° 46' 54" N/ 114° 02' 36" W
<b>Legal Description:</b>	Township 39N, Range 16W, Section 17, SE¼, NE¼ of the Gila and Salt River Baseline and Meridian

**1.2 AUTHORIZING SIGNATURE**

  
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**Henry R. Darwin, Acting Director**  
Water Quality Division  
Arizona Department of Environmental Quality

Signed this 30, day of April, 2009.

**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)]**

Millennia Investment Corporation is authorized to operate the Shadow Ridge Wastewater Treatment Plant (WWTP) with capacity of 0.015 million gallons per day (mgd). The WWTP will be serving Shadow Ridge Subdivision with 71 lots. The wastewater from septic tanks located at each lot of Shadow Ridge Subdivision flows to a collection system and then this primary treated wastewater enters the WWTP. The septic tanks and sewer collection system are part of the WWTP component and do not require any additional permit to construct and operate. The WWTP treatment process consists of an AdvanTex Textile filter system manufactured by Orenco Systems, Inc. The WWTP includes an influent pump station, a 25,000 gallons recirculation tank, nine AdvanTex textile filter units (AX-100) for aeration and nitrification, an upflow filter for de-nitrification, an upflow filter recirculation tank, a textile filter unit for re-aeration, and a UV disinfection unit. The settled solids shall be hauled off-site for disposal in accordance with state and federal regulations. The effluent will be discharged through subsurface drip disposal system. The depth to groundwater is approximately 260 feet below ground surface and the direction of groundwater flow is to the northwest. The effluent may also be used for beneficial purposes under a valid reclaimed water permit. The WWTP is classified as producing Class B+ reclaimed water pursuant to A.A.C. R18-11, Article 3. The WWTP is designed and constructed according to plans approved by the ADEQ APP and Reuse Unit.

During the initial start-up period, up to 3,000 gallons per day (gpd), monthly average flow may be hauled off-site to an approved facility as per Section 4.1, TABLE 1.

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 site includes the following permitted discharging facilities:

Facility	Latitude	Longitude
Shadow Ridge Wastewater Treatment Plant (WWTP)	36° 46' 51.7" N	114° 02' 23.5" W
Subsurface Disposal Area	36° 46' 50.2" N	114° 02' 24" 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 the Arizona Department of Environmental Quality (ADEQ) each year. The design flow is 0.015 million gallons per day (mgd).

**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 estimated dollar amount demonstrated for financial capability is \$11,600. The financial capability was demonstrated through A.A.C. R18-9-A203(B)(1)and(3).

**2.2 Best Available Demonstrated Control Technology [A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]**

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

The septic tank shall be designed, constructed, operated, and maintained to meet the treatment performance criteria specified in A.A.C. R18-9-A314 and Table III of this permit.

The collection system shall be designed, operated, and maintained to meet the criteria specified in A.A.C. R18-9-E301 and Table III of this permit.

The permittee requested reduction in pathogen removal monitoring from once a day to once a week. As per A.A.C. R18-9-B204 (B)(4)(iii), ADEQ has approved the reduction in monitoring of fecal coliform from daily to weekly. The facility has been provided with an alarm system for the UV disinfection unit which will be activated when there is a lack of power. The discharge limit for fecal coliform will be 200 CFU/100 ml. If discharge limit (DL) for fecal coliform is exceeded, the permittee shall conduct verification sampling according to the contingency plan described in Section 2.6.2.2.2 of this permit. The permittee will be performing 6-month study to determine the UV transmittance, UV dose and fecal coliform levels as per Section 3.0. The purpose of this study is to determine the optimum UV transmittance and UV dosage to meet the discharge limit for fecal coliform.

The facility shall meet the requirements for pretreatment by conducting monitoring as per: R18-9-B204(B)(6)(b)(iii).

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.

#### **2.2.1 Engineering Design**

The WWTP was designed as per the design report prepared by Shephard Wesnitzer, Inc. dated March 23, 2007.

#### **2.2.2 Site-specific Characteristics**

Site specific characteristics were not used to determine BADCT.

#### **2.2.3 Pre-operational Requirements**

The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department per the Compliance Schedule in Section 3.0. The Certificate shall be submitted to the Groundwater Section and a copy shall be sent to the Water Quality Compliance Section.

The permittee may vault and haul effluent as per Section 4.1, Table I.

#### **2.2.4 Operational Requirements**

1. The permittee shall maintain a copy of the new Operation and Maintenance (O & M) Manual at the WWTP 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 4.2, 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 (SMRF) submitted quarterly to the ADEQ Water Quality Compliance Section, Data Unit (see Section 2.7.5).

#### **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 reclaimed water meeting the Class B+ Reclaimed Water Quality Standards (A.A.C. R18-11, Article 3) and may be used for any allowable Class 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 WWTP with a maximum average monthly flow of 0.015 mgd.
2. The permittee shall notify all users that the materials authorized to be disposed of through the WWTP 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.
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 applicable BADCT pollutant control technologies including liner failure<sup>1</sup>, 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 4.2, Table IA.

**2.4 Point of Compliance [A.R.S. § 49-244]**

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

POC #	POC Locations	Latitude	Longitude
POC #1	Located approximately 580 ft west-northwest of the northwest corner of the PMA	36° 46' 56.8" N	114° 02' 20.4" W

Routine groundwater monitoring is not required under this permit.

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 Environmental Protection Agency (EPA) 40 Code of Federal Regulations (CFR) PART 136 for guidance in this regard. Copies of laboratory analyses and Chain-of-Custody forms shall be maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

**2.5.1 Pre-Operational Monitoring**

During the initial start-up period, the permittee shall monitor the flow rate according to Section 4.1, Table I. Flow rate shall be measured downstream of the UV disinfection unit. Monitoring under Section 4.1, Table I shall continue until permittee to cease vault and haul as per Section 3.0 and initiates routine discharge monitoring under Section 4.2, Table IA.

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

### 2.5.2 Discharge Monitoring

Upon cessation of the initial start-up period, the permittee shall monitor the wastewater according to Section 4.2, Table IA. A representative sample of the wastewater shall be collected from effluent discharge line downstream of UV disinfection unit.

### 2.5.3 Reclaimed Water Monitoring

The permittee shall monitor the reclaimed water parameters listed under Section 4.2, Table 1B in addition to the routine discharge monitoring parameters listed in Section 4.2, Table 1A if the permittee authorizes the use of reclaimed water under a valid reclaimed water permit. Representative samples of the reclaimed water shall be collected at the sample tap downstream of the UV disinfection unit.

### 2.5.4 Groundwater Monitoring and Sampling Protocols

The routine groundwater monitoring is not required under this permit. If discharge limit (DL) is violated, the Compliance Schedule 3.0 requires contingency groundwater monitoring according to Section 4.2, Table IIA and/or Table IIB. The permittee is required to conduct contingency groundwater monitoring at POC Well according to Section 4.2, Table IIA only if DL is violated for six consecutive sampling events for the Routine Discharge Monitoring. The permittee is required to conduct contingency groundwater monitoring at up gradient monitoring well according to Section 4.2, Table IIA only if aquifer quality limit (AQL) is violated for three consecutive sampling events for the POC groundwater monitoring. The permittee shall monitor the groundwater at following locations:

Groundwater Sampling Point	Groundwater Monitoring Well Location	Latitude	Longitude
POC #1	Located approximately 580 ft west-northwest of the northwest corner of the PMA.	36° 46' 56.8" N	114° 02' 20.4" W
Up gradient Well # MP	Located approximately 240 feet east-southeast from the northeast corner of the PMA.	36° 46' 49.6" N	114° 02' 20.4" W

Once the contingency groundwater monitoring is commenced according to Compliance Schedule 3.0, the permittee shall continue routine groundwater monitoring as per Section 4.2, Table IIA and ambient groundwater monitoring as per Section 4.2, Table IIB.

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, 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 percent (%) 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 SMRF.

#### 2.5.4.1 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 in the well(s) 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 alert levels (ALs) and aquifer quality

limits (AQLs) established for the previously designated POC well shall apply to the replacement well.

#### **2.5.5 Surface Water Monitoring and Sampling Protocols**

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

#### **2.5.6 Facility / Operational Monitoring**

Operational monitoring inspections shall be conducted according to Section 4.2, Table III.

1. 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 SMRF submitted quarterly to the ADEQ Water Quality Compliance Section, Data Unit. 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.
2. The permittee shall submit data required in Section 4.2, Table III regardless of the operating status of the facility unless otherwise approved by the Department or allowed in this permit.

#### **2.5.7 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 17<sup>th</sup> Avenue  
Phoenix, AZ 85007  
Phone: (602) 364-0720

#### **2.5.8 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 monitoring 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 Considerations**

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 AL exceedance or any violation of an 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 Set for Operational Conditions**

1. If an operational performance level (PL) set in Section 4.2, Table III has been exceeded the permittee shall:
  - a. Notify the ADEQ Water Quality Compliance Section (by phone or fax, see Section 2.7.5) within five days of becoming aware of the exceedance.
  - b. Submit a written report to the ADEQ Water Quality Compliance Section within 30 days after becoming aware of the exceedance. 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 spill, or to eliminate or prevent recurrence of the exceedance or spill;
    - (4) Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an AWQS; 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 (ALs) Set for Discharge Monitoring**

1. If an AL set in Section 4.2, Table IA has been exceeded, the permittee shall immediately investigate to determine the cause. 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 exceedance;

- b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences; and
  - c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the exceedance, the permittee shall sample individual waste streams composing the wastewater for the parameter(s) in question, if necessary to identify the cause of the exceedance.
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 the 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 days of an AL exceedance, the permittee shall submit the laboratory results to the ADEQ Water Quality Compliance Section along with a summary of the findings of the investigation, the cause of the 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 4.2, Table IA is exceeded, the permittee shall submit an application to ADEQ for an APP amendment to expand the WWTP or submit a report detailing the reasons an expansion is not necessary.
2. Acceptance of the report instead of an application for expansion requires ADEQ approval.

#### **2.6.2.2.2. Contingency Sampling Plan for Fecal Coliform When Alarm is Sounded and When Discharge Limit for Fecal Coliform is Exceeded**

1. If UV disinfection alarm is sounded and/or DL for fecal coliform is violated, notify ADEQ within 5 days of the occurrence of either. The report shall include the UV transmittance level that triggered the alarm.
2. The permittee shall conduct daily verification sampling within 24 hours for fecal coliform until the sample results meet discharge limit of 200 CFU/100 ml fecal coliform for four consecutive days.
3. The permittee shall submit a report including the laboratory results to ADEQ documenting that the effluent has met standards for fecal coliform within 10 days after completing the above sampling requirements. Once contingency sampling is completed, the permittee shall commence routine discharge monitoring as per Table IA.

#### **2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring**

##### **2.6.2.3.1 Alert Levels for Indicator Parameters**

No ALs were established for indicator parameters.

### 2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards

1. In the case of an exceedance of an AL for a pollutant set in Section 4.2, Table IIA, the permittee may conduct verification sampling within five days of becoming aware of the exceedance. The permittee may 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 4.2, Table IIA as follows:

Specified Monitoring Frequency (Section 4.2, 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 has been exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Groundwater Section.
4. Within 30 days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Water Quality Compliance Section 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 may 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 4.2, Table IIA 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 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 Limit Violation**

1. If a DL set in Section 4.2, Tables IA or IB has been violated, the permittee shall immediately investigate to determine the cause. 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. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the violation, the permittee shall sample individual waste streams composing the wastewater for the parameters in violation, if necessary to identify the cause of the violation.

The permittee 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. 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.
3. If the DL for fecal coliform is violated, the permittee shall follow the requirements described in Section 2.6.2.2.2.

#### **2.6.4 Aquifer Quality Limit Violation**

If an AQL set in Section 4.2, Table IIA has been exceeded for six consecutive sampling events, the permittee shall install an up gradient monitoring well and commence groundwater monitoring at up gradient well for the constituents listed in Section 4.2, Table IIB. The permittee shall conduct eight sampling events and submit an ambient groundwater monitoring report. If higher AQLs are recommended by the permittee, an amendment application to ADEQ must be submitted.

**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(19)) or toxic pollutants (A.R.S. § 49-243(F)) 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 Northern Regional Office at (928) 779-0313 and the ADEQ Water Quality Compliance Section at (602) 771-4497 within 24 hours of 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 Northern Regional Office at (928) 779-0313 and the ADEQ Water Quality Compliance Section at (602) 771-4497, within 24 hours of 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 Northern Regional and the ADEQ Water Quality Compliance Section (see Section 2.7.5), within 30 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; and/or
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**

1. The permittee shall complete the SMRF provided by ADEQ. The completed SMRF shall be submitted 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 through a permit amendment if the data indicate that water quality standards are being achieved consistently.
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; and
6. Any other information required by this permit to be entered in the log book.

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 in writing within five (5) days (except as provided in Section 2.6.5) of becoming aware of a violation of any permit condition, AQL, or DL, or of an AL exceedance.
2. The permittee shall submit a written report to the Water Quality Compliance Section within 30 days of becoming aware of the violation of any permit condition, AQL, or DL. 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 AWQS;
- 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 SMRF provided by the Department to reflect facility inspection requirements designated in Section 4.2, Table III and submit to the ADEQ Water Quality Compliance Section, Data Unit quarterly along with other reports required by this permit. Facility inspection reports shall be submitted no less frequently than quarterly, regardless of operational status.

#### **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 West Washington Street  
Phoenix, Arizona 85007  
Phone (602) 771-4681

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

Arizona Department of Environmental Quality  
Water Quality Compliance Section  
Mail Code: 5415B-1  
1110 West Washington Street  
Phoenix, Arizona 85007  
Phone (602) 771-4497  
Fax (602) 771-4505

-AND-

Arizona Department of Environmental Quality  
Northern Regional Office  
1801 West Route 66, Suite 117  
Flagstaff, Arizona 86001  
Phone (928) 779-0313  
Fax (928) 773-2700

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: S415B-3  
 1110 West 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 Section and the Northern Regional Office 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; and
3. Notify ADEQ (Water Quality Compliance Section and Northern Regional Office) 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 and the Northern Regional Office of the operational status of the facility every three 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 and the Northern Regional Office 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 AWQS at the applicable POC;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigation measures are necessary to achieve compliance with Title 49, Ch. 2; and
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(30) 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 Groundwater Section. A copy of the cover letter must also be submitted to the ADEQ Water Quality Compliance Section.

Description	Due by
<b>WWTP Construction:</b>	
The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department for construction of collection system.	Within 30 days of the completion of the construction of collection system.
The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department for installation for septic tanks. The permittee is required to identify each of the septic tanks with the corresponding lot number.	Within 30 days of the installation of the each septic tank.
The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department that confirms that the WWTP is constructed according to the Department-approved design report or plans and specifications, as applicable.	Prior to discharging under this permit and within 90 days of completion of construction.
The permittee shall notify ADEQ of the cessation of vault and haul.	Within 7 days of the date of the cessation of the vault and haul activity or when flow reaches 3,000 gpd, whichever comes first.
<b>POC Well:</b>	
The permittee shall notify ADEQ of the violation of discharge Limit (DL) for six consecutive sampling events for Routine Discharge Monitoring.	Notify ADEQ within 30 days of 6 <sup>th</sup> sampling event.
The permittee shall install POC monitoring well.	Within three months of notification date in the above item.
The permittee shall commence groundwater monitoring at POC well according to Section 4.2, Table IIA.	Within 30 days of installing the POC monitoring well.
The permittee shall submit POC well installation report to ADEQ.	Within 30 days of installing the POC monitoring well.

<b>Up Gradient Well:</b>	
The permittee shall notify exceedance of aquifer quality limit (AQL) for three consecutive sampling events in the POC monitoring well.	Notify ADEQ within 30 days of 3 <sup>rd</sup> sampling event.
The permittee shall install an up gradient monitoring well.	Within three months of notification date in the above item.
The permittee shall commence groundwater monitoring at up gradient monitoring well for the constituents listed in Section 4.2, Table IIB and collect eight monthly samples.	Within 30 days of the installation of the up gradient monitoring well.
The permittee shall submit ambient groundwater monitoring report to ADEQ explaining the cause of the AQL exceedance at the POC well. If higher AQLs are recommended, a permit amendment application must also be submitted to ADEQ.	Within 30 days of completing the eighth sampling event at the up gradient monitoring well.
<b>6-month Study Report:</b>	
The permittee shall begin 6-month study to determine optimum UV transmittance and UV dose for achieving conformance with fecal coliform discharge limits.	Within 7 days of ceasing vault and haul.
The permittee shall submit 6-month study report which includes the details when the UV disinfection alarm sounded and also include the corresponding UV transmittance and UV dosage when the alarm sounded. The purpose of the report is to determine what were the UV dosage and UV transmittance when the alarm sounded (Fecal coliform standards were not met).	Within 30 days of completion of 6-month study.
The permittee shall submit 6-month study report showing weekly fecal coliform levels and the corresponding transmittance and UV dosage. The purpose of this study is to document the level of UV transmittance and UV dose that can be applied to meet the discharge limits for fecal coliform.	Within 30 days of completion of 6-month study.
<b>Permit Amendment:</b>	
The permittee shall submit a permit amendment to incorporate the alert level of UV transmittance for the optimum UV dosage.	Within 30 days of completion of 6-month study.

## 4.0 TABLES OF MONITORING REQUIREMENTS

## 4.1 PRE-OPERATIONAL MONITORING (OR CONSTRUCTION REQUIREMENTS)

TABLE I  
INITIAL START-UP PLAN<sup>2</sup>

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Upstream of UV disinfection unit			36° 46' 52" N	114° 02' 23.5" W
Parameter	AL <sup>3</sup>	DL <sup>4</sup>	Units	Sampling Frequency	Reporting Frequency
Total Flow: Daily <sup>5</sup>	Not Established <sup>6</sup>	0.003	mgd <sup>7</sup>	Daily	Quarterly

<sup>2</sup> Monitoring under this table shall continue until permittee ceases to vault and haul as required in Section 3.0 and initiates routine monitoring under Section 4.2, Table IA.

<sup>3</sup> AL = Alert Level

<sup>4</sup> DL = Discharge Limit

<sup>5</sup> Flow shall be measured using a continuous recording flow meter that totals the flows daily.

<sup>6</sup> Not Established means monitoring is required but no limits have been specified.

<sup>7</sup> mgd = million gallons per day

4.0 TABLES OF MONITORING REQUIREMENTS

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
ROUTINE DISCHARGE MONITORING<sup>8</sup>

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Upstream of UV Disinfection Unit <sup>9</sup>			36° 46' 52" N	114° 02' 23.5" W
Parameter	AL <sup>10</sup>	DL <sup>11</sup>	Units	Sampling Frequency	Reporting Frequency
Total Flow <sup>12</sup> ; Daily <sup>13</sup>	Not Established <sup>14</sup>	Not Established	mgd <sup>15</sup>	Daily	Quarterly
Total Flow: Monthly Average <sup>16</sup>	0.014	0.015	mgd	Monthly <sup>17</sup>	Quarterly
Total Flow - Subsurface Disposal - Daily	Not Established	Not Established	mgd	Monthly	Quarterly
Total Flow - Subsurface Disposal - Monthly Average	Not Established	Not Established	mgd	Monthly	Quarterly
Total Flow - Reuse Daily	Not Established	Not Established	mgd	Monthly	Quarterly
Total Flow - Reuse Monthly Average	Not Established	Not Established	mgd	Monthly	Quarterly

<sup>8</sup> The permittee shall initiate monitoring under this table (Table IA) upon ceasing vault and haul during the initial start-up period. (see Table I).

<sup>9</sup> Only flow is measured at sampling point # 1 (upstream of UV disinfection unit), all other parameters are sampled at Sampling point # 2

<sup>10</sup> AL = Alert Level

<sup>11</sup> DL = Discharge Limit

<sup>12</sup> Total flow = the sum of flows to the subsurface disposal and beneficial reuse. The flow measured in millions gallons per day (mgd).

<sup>13</sup> Flow shall be measured using a continuous recording flow meter which totals the flow daily.

<sup>14</sup> Not Established means monitoring is required but no limits have been specified, no limits have been established.

<sup>15</sup> mgd = million gallons per day

<sup>16</sup> Monthly average of daily flow values

<sup>17</sup> Monthly = Calculated value = Average of daily flows in a month.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
ROUTINE DISCHARGE MONITORING (Continued)

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
2	Downstream of UV Disinfection Unit			36° 46' 52" N	114° 02' 23.5" W
Parameter	AL <sup>18</sup>	DL <sup>19</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>20</sup> : Five-sample rolling geometric mean	8.0	10.0	mg/l	Monthly <sup>21</sup>	Quarterly
Fecal Coliform <sup>22</sup>	Not Established	200	CFU or MPN <sup>23</sup>	Weekly <sup>24</sup>	Quarterly
Fecal Coliform <sup>25</sup> : Four (4) of last seven (7) samples (Contingency only)	Not Established	200	CFU or MPN	Daily / Suspended	Quarterly
UV Transmittance	Reserved <sup>26</sup>	Reserved	% Transmittance	Continuous <sup>27</sup>	Quarterly
UV Dose	Reserved <sup>28</sup>	Reserved	mJ/cm <sup>2</sup>	Continuous	Quarterly

<sup>18</sup> AL = Alert Level<sup>19</sup> DL = Discharge Limit<sup>20</sup> Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen.<sup>21</sup> A Five-Month Geometric Mean of the results of the five (5) most recent samples<sup>22</sup> Monitoring of Fecal Coliform is once a week. If discharge limit (DL) for Fecal Coliform is exceeded, the permittee is required to monitor according to contingency plan described in Section 2.6.2.2.2.<sup>23</sup> CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample.<sup>24</sup> Weekly = Sample shall be taken once in a week.<sup>25</sup> The monitoring is required only as a contingency action described under Section 2.6.2.2.2. If contingency is not triggered, indicate 'suspended' on SMRFs.<sup>26</sup> The alert level for UV transmittance will be set in permit amendment as per Compliance Schedule described in Section 3.0.<sup>27</sup> Continuous = Continuous monitoring shall be reported as the minimum reading during a 24 hour period.<sup>28</sup> The alert level for UV dose will be set in permit amendment as per Compliance Schedule described in Section 3.0.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IA**  
**ROUTINE DISCHARGE MONITORING (continued)**

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (total):</b>					
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

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
ROUTINE DISCHARGE MONITORING (Continued)

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
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	0.056	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
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	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) <sup>29</sup>	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

<sup>29</sup> Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
ROUTINE DISCHARGE MONITORING (Continued)

Parameter	AI	DL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>30</sup>	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

<sup>30</sup> Monitoring required, but no limits established.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IB**  
**RECLAIMED WATER MONITORING TABLE - CLASS B+<sup>31</sup>**

Sampling Point Number	Sampling Point Identification		Latitude	Longitude
2	Downstream of UV Disinfection Unit		36° 46' 52" N	114° 02' 23.5" W
Parameter	DL	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>32</sup> : Five-sample rolling geometric mean	10.0	mg/l	Monthly	Quarterly
Fecal Coliform: Single-sample maximum	800.0	CFU or MPN <sup>33</sup>	Daily <sup>34</sup>	Quarterly
Fecal Coliform: Four (4) of last seven (7) samples	200.0 <sup>35</sup>	CFU or MPN	Daily	Quarterly

<sup>31</sup> Reclaimed water monitoring under Table 1B shall be performed in addition to routine discharge monitoring required under Section 4.2 Table 1A, *only if the permittee disposed effluent under a reclaimed water permit.*

<sup>32</sup> Nitrate N, plus Nitrite N, plus Total Kjeldahl Nitrogen (TKN)

<sup>33</sup> CFU = Colony Forming Units per 100 ml; MPN = Most Probable Number per 100 ml.

<sup>34</sup> 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.

<sup>35</sup> If at least four (4) of the last seven (7) samples are equal to or less than 200 CFU or MPN per 100 ml, report "yes" in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of the last seven (7) samples are greater than 200 CFU or MPN per 100 ml of fecal coliform, report "no" in the appropriate space on the SMRF (indicating that the standard has **not** been met).

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**GROUNDWATER MONITORING<sup>36</sup>**  
**(CONTINGENCY WELL)**

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
3	POC Well			36° 46' 56.8" N	114° 02' 20.4" W
Parameter	AL <sup>37</sup>	AQL <sup>38</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>39</sup> :	8.0	10.0	mg/l	Monthly	Quarterly
Nitrate as N	8.0	10.0	mg/l	Monthly	Quarterly
Nitrite as N	0.8	1.0	Mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established	Not Established	mg/l	Monthly	Quarterly
Total Coliform	Absence	Absence <sup>40</sup>	CFU or MPN <sup>41</sup>	Monthly	Quarterly
Depth to Groundwater	Monitor	Monitor	ft	Monthly	Quarterly

<sup>36</sup> No monitoring is required unless the facility exceeds the DL for six consecutive sampling events for Routine Discharge Monitoring as described in Compliance Schedule 3.0.

<sup>37</sup> AL = Alert Level

<sup>38</sup> AQL = Aquifer Quality Limit

<sup>39</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

<sup>40</sup> 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.

<sup>41</sup> CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**GROUNDWATER MONITORING (continued)**  
**(CONGINGENCY WELL)**

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (total):</b>					
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

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIA  
GROUNDWATER MONITORING (continued)  
(CONTINGENCY WELL)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs)</b>					
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	0.056	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
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	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) <sup>42</sup>	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

<sup>42</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIA  
GROUNDWATER MONITORING (continued)  
(CONTINGENCY WELL)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>43</sup>	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/c	Quarterly	Quarterly

<sup>43</sup> Monitoring required, but no limits established.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE III**  
**AMBIENT GROUNDWATER MONITORING <sup>44</sup>**  
**(UPGRADIENT CONTINGENCY WELL)**

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
4	Up Gradient Well #MP			36° 46' 49.6" N	114° 02' 20.4" W
Parameter	AL <sup>45</sup>	AQL <sup>46</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>47</sup>	Not Established <sup>48</sup>	Not Established	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	Not Established	Not Established	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established	Not Established	mg/l	Monthly	Quarterly
Total Coliform	Not Established	Not Established	CFU or MPN <sup>49</sup>	Monthly	Quarterly
Depth to Groundwater	Monitor	Monitor	ft	Monthly	Quarterly

<sup>44</sup> No monitoring is required unless the facility exceeds the AQL for three consecutive sampling events at POC monitoring well as described in Compliance Schedule 3.0. The monitoring may be discontinued after collecting eight monthly samples.

<sup>45</sup> AL = Alert Level

<sup>46</sup> AQL = Aquifer Quality Limit

<sup>47</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

<sup>48</sup> Not Established means monitoring is required but no limits have been specified, no limits have been established.

<sup>49</sup> CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIB**  
**AMBIENT GROUNDWATER MONITORING (continued)**  
**(UPGRADIENT CONTINGENCY WELL)**

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (total):</b>					
Antimony	Not Established	Not Established	mg/l	Monthly	Quarterly
Arsenic	Not Established	Not Established	mg/l	Monthly	Quarterly
Barium	Not Established	Not Established	mg/l	Monthly	Quarterly
Beryllium	Not Established	Not Established	mg/l	Monthly	Quarterly
Cadmium	Not Established	Not Established	mg/l	Monthly	Quarterly
Chromium	Not Established	Not Established	mg/l	Monthly	Quarterly
Cyanide (as free cyanide)	Not Established	Not Established	mg/l	Monthly	Quarterly
Fluoride	Not Established	Not Established	mg/l	Monthly	Quarterly
Lead	Not Established	Not Established	mg/l	Monthly	Quarterly
Mercury	Not Established	Not Established	mg/l	Monthly	Quarterly
Nickel	Not Established	Not Established	mg/l	Monthly	Quarterly
Selenium	Not Established	Not Established	mg/l	Monthly	Quarterly
Thallium	Not Established	Not Established	mg/l	Monthly	Quarterly

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IIB  
 AMBIENT GROUNDWATER MONITORING (continued)  
 (UPGRADIENT CONTINGENCY WELL)

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs)</b>					
Benzene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Carbon tetrachloride	Not Established	Not Established	mg/l	Monthly	Semi-Annually
o-Dichlorobenzene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
para-Dichlorobenzene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
1,2-Dichloroethane	Not Established	Not Established	mg/l	Monthly	Semi-Annually
1,1-Dichloroethylene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
cis-1,2-Dichloroethylene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
trans-1,2-Dichloroethylene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Dichloromethane	Not Established	Not Established	mg/l	Monthly	Semi-Annually
1,2-Dichloropropane	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Ethylbenzene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Hexachlorobenzene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Hexa-chlorocyclopentadiene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Monochlorobenzene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Styrene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Tetrachloroethylene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Toluene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Trihalomethanes (total) <sup>50</sup>	Not Established	Not Established	mg/l	Monthly	Semi-Annually
1,1,1-Trichloroethane	Not Established	Not Established	mg/l	Monthly	Semi-Annually
1,2,4 - Trichlorobenzene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
1,1,2 - Trichloroethane	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Trichloroethylene	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Vinyl Chloride	Not Established	Not Established	mg/l	Monthly	Semi-Annually
Xylenes (Total)	Not Established	Not Established	mg/l	Monthly	Semi-Annually

<sup>50</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE II B**  
**AMBIENT GROUNDWATER MONITORING (continued)**  
**(UPGRADIENT CONTINGENCY WELL)**

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Not Established <sup>51</sup>	Not Established	S.U.	Monthly	Quarterly
Iron	Not Established	Not Established	mg/l	Monthly	Quarterly
Manganese	Not Established	Not Established	mg/l	Monthly	Quarterly
Total Organic Carbon	Not Established	Not Established	mg/l	Monthly	Quarterly
Total Dissolved Solids	Not Established	Not Established	mg/l	Monthly	Quarterly
Sodium	Not Established	Not Established	mg/l	Monthly	Quarterly
Potassium	Not Established	Not Established	mg/l	Monthly	Quarterly
Calcium	Not Established	Not Established	mg/l	Monthly	Quarterly
Magnesium	Not Established	Not Established	mg/l	Monthly	Quarterly
Chloride	Not Established	Not Established	mg/l	Monthly	Quarterly
Sulfate	Not Established	Not Established	mg/l	Monthly	Quarterly
Alkalinity	Not Established	Not Established	mg/l	Monthly	Quarterly
Specific Conductivity (field)	Not Established	Not Established	µmhos/cm	Monthly	Quarterly

<sup>51</sup> Not Established means monitoring is required but no limits have been specified, no limits have been established.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE III  
FACILITY INSPECTION (Operational Monitoring)

Pollution Control Structures/Parameter	Performance Levels	Inspection	Frequency
Pump Integrity	Good working condition	Weekly	Quarterly
Treatment Plant Components	Good working condition	Weekly	Quarterly
Sewer Lines	No Leaks	Monthly	Quarterly
Septic Tanks	Good working condition	Quarterly	Quarterly
Alarm System for UV disinfection unit	Good working condition	Daily	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: March 23, 2007
2. Contingency Plan, dated: March 23, 2007
3. Final Hydrologist Report dated: November 3, 2008
4. Final Engineering Report dated: December 3, 2008
5. Public Notice dated: February 23, 2009
6. Public Hearing, dated: N/A
7. Responsiveness Summary, dated: N/A

**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 gpd 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 AWQS at the applicable POC for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an AWQS 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; or
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).



## Fact Sheet

Aquifer Protection Permit #P-105348  
 Place ID 19408, LTF 43709  
 Shadow Ridge Wastewater Treatment Plant

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an 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 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., local subsurface geology) to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer, or to keep pollutants from reaching the aquifer.

### I. FACILITY INFORMATION

#### Name and Location

Name of Permittee:	Millennia Investment Corporation
Mailing Address:	6795 S 300 West Midvale, Utah 84047
Facility Name and Location:	Shadow Ridge Wastewater Treatment Plant 475 East Red Hawk Road, Scenic, Arizona 86432 (Mohave County)

#### Regulatory Status

An application for an Aquifer Protection Permit (APP) for this facility was received on March 23, 2007. This is a new facility and there are no outstanding compliance issues or violations at the time of permit issuance.

#### Facility Description

Millennia Investment Corporation is authorized to operate the Shadow Ridge Wastewater Treatment Plant (WWTP) with capacity of 0.015 million gallons per day (mgd). The WWTP will be serving Shadow Ridge Subdivision with 71 lots. The wastewater from septic tanks located at each lot of Shadow Ridge Subdivision flows to a collection system and then this primary treated wastewater enters the WWTP. The septic tanks and sewer collection system are part of the WWTP component and do not require any additional permit to construct and operate. The WWTP treatment process consists of an AdvanTex Textile filter system manufactured by Orenco Systems, Inc. The WWTP includes an influent pump station, a 25,000 gallons recirculation tank, nine AdvanTex textile filter units (AX-100) for aeration and nitrification, an upflow filter for denitrification, an upflow filter recirculation tank, a textile filter unit for re-aeration, and a UV

disinfection unit. The settled solids shall be hauled off-site for disposal in accordance with state and federal regulations. The effluent will be discharged through subsurface drip disposal system. The depth to groundwater is approximately 260 feet below ground surface and the direction of groundwater flow is to the northwest. The effluent may also be used for beneficial purposes under a valid reclaimed water permit. The WWTP is classified as producing Class B+ reclaimed water pursuant to A.A.C. R18-11, Article 3. The WWTP is designed and constructed according to plans approved by the ADEQ APP and Reuse Unit.

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, use, and transportation in 40 Code of Federal Regulations (CFR) Part 503 and 18 A.A.C. 9, Article 10.

During the initial start-up period, up to 3,000 gallons per day (gpd), monthly average flow may be hauled off-site to an approved facility as per Section 4.1, TABLE I.

The site includes the following permitted discharging facilities:

Facility	Latitude	Longitude
Shadow Ridge WWTP	36° 46' 51.7" N	114° 02' 23.5" W
Subsurface Disposal Area	36° 46' 50.2" N	114° 02' 24" W

## II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

The WWTP is designed to meet the treatment performance criteria for new facilities with a design flow of less than 250,000 gpd as specified in R18-9-B204.

The septic tanks are designed, constructed, operated, and maintained to meet the treatment performance criteria specified in A.A.C. R18-9-A314 and Table III of this permit. The collection system is designed, operated, and maintained to meet the criteria specified in A.A.C. R18-9-E301 and Table III of this permit.

The WWTP will be provided with full noise and odor control. The WWTP meets the required setback distance of 25 feet. All of the WWTP units will be constructed of fiberglass or reinforced concrete.

The facility has provided 20,800 SF of disposal area for effluent disposal. The disposal area will be divided into four fields. A drip system will be provided to distribute the effluent evenly throughout the disposal system.

The permittee requested reduction in pathogen removal monitoring from once a day to once a week. As per A.A.C. R18-9-B204 (B)(4)(iii), ADEQ has approved the reduction in monitoring of fecal coliform from daily to weekly. The facility has been provided with an alarm system for the UV disinfection unit which will be activated when there is a lack of power. The discharge limit for fecal coliform will be 200 CFU/100 ml. If discharge limit (DL) for fecal coliform is exceeded, the permittee shall conduct verification sampling according to the contingency plan described in

Section 2.6.2.2.2 of this permit. The permittee will be performing 6-month study to determine the UV transmittance, UV dose and fecal coliform levels as per Section 3.0. The purpose of this study is to determine the optimum UV transmittance and UV dosage to meet the discharge limit for fecal coliform.

### III. HYDROGEOLOGIC SETTING

The Shadow Ridge WWTP is located within the Basin and Range physiographic province, which is defined by uplifted mountain ranges with intervening alluvial basins created by extensional faulting. The basins and mountains are typically elongated and trend northwest-southeast and typically parallel one another. The WWTP is located in the Mesquite sub-basin in the lower Virgin River valley. The WWTP is located on broad, gently sloping alluvial plain transitioning to arroyos and river terraces near the Virgin River. The basin is filled with Quaternary and Tertiary alluvium which is gradually overlain towards the east by alluvial fan deposits from the nearby Virgin Mountains. The Virgin Mountains are the southern and eastern bedrock boundary to the basin.

The geologic formations observed near the WWTP include Proterozoic granite and gneiss at the Virgin Mountains, Paleozoic sandstone and limestone, and Tertiary lacustrine, fluvial, and pediment deposits including gravel, sand, silt, and clay, overlain locally by basalt and Quaternary alluvium.

The Muddy Creek Formation comprises the upper part of the basin-fill deposits in the Virgin River basin. The Muddy Creek Formation consists from units that are fine-grained, horizontally bedded claystone, siltstone and sandstone to units that are unconsolidated to semi-consolidated clay, silt, sand, gravel, and boulders. The Muddy Creek Formation contains numerous locally distinct aquifers. Groundwater beneath the Shadow Ridge WWTP is contained within the "Virgin River" aquifer, which is divided into two distinct sub-units. The Virgin River Alluvial aquifer is located predominantly north of the Virgin River, and is comprised of floodplain and river terrace alluvium. The Virgin River Basin aquifer is located predominately south of the river, at the Shadow Ridge WWTP, and is comprised mainly of alluvial fan deposits.

The estimated depth to groundwater at the Shadow Ridge WWTP is approximately 260 feet below ground surface (ft bgs). The groundwater flow direction in the aquifer in the vicinity of the Shadow Ridge WWTP is from the southeast to the northwest, towards the Virgin River. There are numerous domestic wells located to the east, cross-gradient, of the Shadow Ridge WWTP. The WWTP should not impact these wells.

### IV. STORM WATER/SURFACE WATER CONSIDERATIONS

The WWTP is located approximately 1.5 miles from the Virgin River, which drains into Lake Mead. The Virgin River is the only perennial surface water in the vicinity, and there are no other named waterways within 5 miles of the WWTP. There are smaller ephemeral washes located closer to the WWTP.

The Flood Insurance Rate Map (FIRM) for this area prepared by the Federal Emergency Management Agency (FEMA) indicated the WWTP and related subsurface drip lines are not within a 100-year flood plain and should not be affected by flooding.

## V. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Depth-to-groundwater in the vicinity of this facility is approximately 260 feet below ground surface and the effluent is expected to meet Aquifer Water Quality Standards (AWQS) at the point of discharge. The effluent will be discharged to subsurface through drip irrigation system. Groundwater monitoring is not currently required in this permit.

### 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 from the point of discharge from the downstream of UV disinfection unit. The permittee shall monitor the effluent daily for flow rate, weekly for fecal coliform, monthly for total nitrogen, continuous monitoring for UV transmittance and UV dosage, quarterly for metals and for major cations and anions and semi-annually for volatile organic compounds (see Section 4.2, Table IA in the permit).

The facility is classified for Class B+ reclaimed water. Reclaimed water monitoring (under Table IB) shall be initiated upon commencement of the use of Class B+ reclaimed water for beneficial purposes under A.A.C. R 18-9, article 7, and shall be performed in addition to routine discharge monitoring required under section 4.2, Table IA. 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 monthly for total nitrogen and daily for fecal coliform.

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

Groundwater monitoring is not required at permit issuance. The contingency groundwater monitoring shall be performed at POC monitoring well and up gradient monitoring well according to Compliance Schedule described in Section 3.0.

### Point of Compliance (POC)

The location of the POC was determined by an analysis of the pollutant management area (PMA), the discharge impact area (DIA), and groundwater flow direction. The POC location was selected to protect off-site uses of groundwater, verify BADCT performance, and to allow early detection of potential impacts from WWTP discharges. There is one Point of Compliance (POC) designated for the WWTP. POC is located approximately 580 feet west-northwest of the northwest corner of the PMA.

The hazardous/non-hazardous point of compliance has been designated for this facility as identified below:

POC #	POC Location	Latitude	Longitude
POC#1	Located approximately 580 feet west-northwest of the northwest corner of the PMA	36°46'56.8" N	114°02'20.4" W

The contingency groundwater monitoring will be conducted at the Point of Compliance, only if the DL is violated for six consecutive sampling events for Routine Discharge Monitoring.

Additionally, a contingency up gradient groundwater monitoring well is proposed that would be installed if an aquifer quality limit (AQL) is exceeded for three consecutive sampling events at the POC monitoring well. The contingency well conceptual location is designed to monitor up-gradient groundwater conditions and is identified below:

Well	Monitoring Well Location	Latitude	Longitude
Up Gradient Well # MP	Located approximately 240 feet east-southeast from the northeast corner of the PMA	36°46'49.6" N	114°02'20.4" W

## VI. COMPLIANCE SCHEDULE

The following compliance schedule items shall be included in the permit.

Description	Due by:
<b>WWTP Construction:</b>	
The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department for construction of collection system.	Within 30 days of the completion of the construction of collection system.
The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department for installation for septic tanks. The permittee is required to identify each of the septic tanks with the corresponding lot number.	Within 30 days of the installation of the each septic tank.

<p>The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department that confirms that the WWTP is constructed according to the Department-approved design report or plans and specifications, as applicable.</p>	<p>Prior to discharging under this permit and within 90 days of completion of construction.</p>
<p>The permittee shall notify ADEQ of the cessation of vault and haul.</p>	<p>Within 7 days of the date of the cessation of the vault and haul activity or when flow reaches 3,000 gpd, whichever comes first.</p>
<p><b>POC Well:</b></p>	
<p>The permittee shall notify ADEQ of the violation of discharge Limit (DL) for six consecutive sampling events for Routine Discharge Monitoring.</p>	<p>Notify ADEQ within 30 days of 6<sup>th</sup> sampling event.</p>
<p>The permittee shall install POC monitoring well.</p>	<p>Within three months of notification date in the above item.</p>
<p>The permittee shall commence groundwater monitoring at POC well according to Section 4.2, Table IIA.</p>	<p>Within 30 days of installing the POC monitoring well.</p>
<p>The permittee shall submit POC well installation report to ADEQ.</p>	<p>Within 30 days of installing the POC monitoring well.</p>
<p><b>Up Gradient Well:</b></p>	
<p>The permittee shall notify exceedance of aquifer quality limit (AQL) for three consecutive sampling events in the POC monitoring well.</p>	<p>Notify ADEQ within 30 days of 3<sup>rd</sup> sampling event.</p>
<p>The permittee shall install an up gradient monitoring well.</p>	<p>Within three months of notification date in the above item.</p>
<p>The permittee shall commence groundwater monitoring at up gradient monitoring well for the constituents listed in Section 4.2, Table IIB.</p>	<p>Within 30 days of the installation of the up gradient monitoring well.</p>
<p>The permittee shall submit ambient groundwater monitoring report to ADEQ explaining the cause of the AQL exceedance at the POC well. If higher AQLs are recommended, a permit amendment application must also be submitted to ADEQ.</p>	<p>Within 30 days of completing the eighth sampling event at the up gradient monitoring well.</p>

<b>6-month Study Report:</b>	
The permittee shall begin 6-month study to determine optimum UV transmittance and UV dose for achieving conformance with fecal coliform discharge limits.	Within 7 days of ceasing vault and haul.
The permittee shall submit 6-month study report which includes the details when the UV disinfection alarm sounded and also include the corresponding UV transmittance and UV dosage when the alarm sounded. The purpose of the report is to determine what were the UV dosage and UV transmittance when the alarm sounded (Fecal coliform standards were not met).	Within 30 days of completion of 6-month study.
The permittee shall submit 6-month study report showing weekly fecal coliform levels and the corresponding transmittance and UV dosage. The purpose of this study is to document the level of UV transmittance and UV dose that can be applied to meet the discharge limits for fecal coliform.	Within 30 days of completion of 6-month study.
<b>Permit Amendment:</b>	
The permittee shall submit a permit amendment to incorporate the alert level of UV transmittance for the optimum UV dosage.	Within 30 days of completion of 6-month study.

## VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

### Technical Capability

Millennia Investment 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 WWTP was designed as per the design report prepared, stamped, dated, and signed (sealed) by David Monihan Jr., P.E. (Professional Engineer), Shephard & Wesnitzer, Inc., dated March 23, 2007 and subsequent sealed submittals that served as additions to the design report. A certified operator will be retained for the operation and maintenance of the WWTP.

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**

Millennia Investment Corporation has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The estimated dollar amount demonstrated for financial capability is \$15,200 operating costs and \$11,600 closing costs. The permittee shall maintain financial capability throughout the life of the facility.

### **Zoning Requirements**

The Shadow Ridge WWTP has been properly zoned for the permitted use and the permittee has complied with all 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.

The public notice for this permit was published in the Kingman Daily Miner on February 23, 2009 under public notice no. 24-09.

### **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 permit may be obtained from:

Arizona Department of Environmental Quality  
Water Quality Division - Groundwater Section - APP and Reuse Unit  
Attn: Shivani Shah  
1110 W Washington Street, Mail Code 5415B-3  
Phoenix, Arizona 85007  
Phone: (602) 771-4465