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ARIZONA AMERICAN WATER

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19820 N. 7th St.  
Suite 201  
Phoenix, AZ 85024  
www.amwater.com

P 623-445-2400  
F 623-445-2454

ORIGINAL

AZ CORP COMMISSION  
DOCKET CONTROL

June 11, 2009

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

**Subject: Docket No. WS-01303A-06-0242, Decision No. 69671  
Effective Date June 28, 2007  
Extension of CC&N – Sienna Hills, Buckeye, Arizona**

Dear Commission:

As a compliance item to Docket No. WS-01303A-06-0242 ("Docket"), Arizona American Water is required, within two years of the effective date, to file with Docket Control, (a) the Certificate of Assured Water Supply for the area under this CC&N extension, and (b) the Aquifer Protection Permit ("APP") issued by ADEQ for Verrado Water Reclamation Facility ("Verrado WRF") needed to serve the area under this CC&N extension.

Accordingly, enclosed please find a copy of:

1. Docket No. WS-01303A-06-0242
2. Certificate of Assured Water Supply, DWR File No. 27-500015.0000, dated August 7, 2007, for Sienna Hills
3. ADEQ Aquifer Protection Permit No. P-105202, dated May 29, 2007, for the Verrado WRF to collect and treat a maximum average monthly flow of 0.45 MGD. Arizona-American Water began expansion of the Verrado WRF to a capacity 0.83 MGD in 2006 to accommodate anticipated growth in the Verrado and Sienna Hills developments, as further described in Paragraph 12 of the Docket. Arizona American Water filed an APP modification with ADEQ on February 25, 2008. On November 3, 2008, ADEQ sent a response letter requesting additional information. Arizona American Water is currently working with ADEQ to provide the additional information requested and expects to receive a modified APP in the near future. MCESD issued its Approval of Construction for the expansion on May 30, 2008.

If you have any questions, please contact me at 623-445-2404 or [ian.crooks@amwater.com](mailto:ian.crooks@amwater.com).

Regards,

Ian C. Crooks, P.E.  
Engineering Manager, Developer Services

cc: J. Gross, T. Broderick, M. Stanek, AAW

Arizona Corporation Commission  
DOCKETED

JUN 25 2009

DOCKETED BY

1 **BEFORE THE ARIZONA CORPORATION CC**

2 **COMMISSIONERS**

3 MIKE GLEASON - Chairman  
4 WILLIAM A. MUNDELL  
5 JEFF HATCH-MILLER  
6 KRISTIN K. MAYES  
7 GARY PIERCE

Arizona Corporation Commission

**DOCKETED**

JUN 28 2007

DOCKETED BY

nr

7 IN THE MATTER OF THE APPLICATION OF  
8 ARIZONA-AMERICAN WATER COMPANY, AN  
9 ARIZONA CORPORATION, FOR AN  
10 EXTENSION OF THE SERVICE AREA UNDER  
11 ITS EXISTING CERTIFICATE OF  
CONVENIENCE AND NECESSITY TO PROVIDE  
WATER AND SEWER UTILITY SERVICES IN  
ITS AGUA FRIA WATER AND WASTEWATER  
DISTRICTS.

DOCKET NO. WS-01303A-06-0242

DECISION NO. 69671

**OPINION AND ORDER**

12 DATE OF HEARING: April 3, 2007

13 PLACE OF HEARING: Phoenix, Arizona

14 ADMINISTRATIVE LAW JUDGE: Marc E. Stern

15 APPEARANCES: Mr. Craig A. Marks, CRAIG A. MARKS PLC, on  
16 behalf of Arizona-American Water Company; and

17 Mr. Charles Hains, Staff Attorney, Legal Division,  
18 on behalf of the Utilities Division of the Arizona  
Corporation Commission.

19 **BY THE COMMISSION:**

20 On April 12, 2006, Arizona-American Water Company ("Applicant" or "Company") filed  
21 with the Arizona Corporation Commission ("Commission") an application for an extension of its  
22 existing Certificate of Convenience and Necessity ("Certificate") to provide public water and public  
23 wastewater utility service through its Agua Fria Water and Wastewater Districts in various parts of  
24 Maricopa County, Arizona.

25 On May 9, 2006, the Commission's Utilities Division ("Staff") issued a notice of  
26 insufficiency which indicated that the Company's application had not met the sufficiency  
27 requirements of A.A.C. R14-2-411(C), and A.A.C. R14-2-610(C).

28 On August 1, 2006, Staff issued a second notice of insufficiency.

1 On September 15, 2006, Staff issued a letter of administrative completeness to the Company.

2 On September 19, 2006, by Procedural Order, the proceeding was scheduled for a hearing on  
3 November 20, 2006.

4 On October 18, 2006, the Company filed certification that it had provided public notice of the  
5 proceeding pursuant to the Commission's Procedural Order.

6 On November 7, 2006, the Company filed a Motion for an Indefinite Continuance ("Motion")  
7 pending the outcome of another proceeding in Docket No. W-01303A-05-0718, a proceeding  
8 concerning issues which are somewhat related. The Company, in its Motion, requested the hearing  
9 scheduled on November 20, 2006, be held to take public comment only and the evidentiary portion of  
10 the proceeding continued. The Company further indicated that Staff was in agreement with its  
11 Motion and further agreed to the suspension of the time-clock rule.

12 On November 20, 2006, a full public hearing was convened before a duly authorized  
13 Administrative Law Judge of the Commission at its offices in Phoenix, Arizona. The Company and  
14 Staff appeared with counsel. Public comment was taken and the Company's Motion was granted  
15 with the time-clock suspended.

16 On January 23, 2007, the Company filed a request to reconvene the evidentiary portion of the  
17 proceeding.

18 On January 29, 2007, by Procedural Order, the hearing was scheduled to resume on April 3,  
19 2007.

20 On April 3, 2007, the hearing resumed with the Company and Staff present with counsel. At  
21 the conclusion of the hearing, the matter was taken under advisement pending submission of a  
22 Recommended Opinion and Order to the Commission.

23 \* \* \* \* \*

24 Having considered the entire record herein and being fully advised in the premises, the  
25 Commission finds, concludes, and orders that:

26 **FINDINGS OF FACT**

27 1. Pursuant to authority granted by the Commission, the Company is an Arizona  
28 corporation which is engaged in the business of providing water and wastewater service in various

1 parts of Maricopa, Mohave and Santa Cruz Counties, Arizona.<sup>1</sup>

2       2.     On April 12, 2006, the Company, on behalf of its Agua Fria Districts,<sup>2</sup> filed an  
3 application for an extension of its Certificate in the Town of Buckeye in Maricopa County to provide  
4 water and wastewater service to an area which is marked Exhibit A attached hereto and incorporated  
5 herein by reference.

6       3.     Notice of the application was provided in accordance with the law.

7       4.     On October 20, 2006, Staff filed its Staff Report recommending conditional approval  
8 of the application following a hearing.

9       5.     Pulte Home Corporation ("Pulte") owns approximately 444 acres which are described  
10 in Exhibit A and has requested that the Company provide water and wastewater service to a new  
11 residential subdivision, Sienna Hills, which will contain approximately 1,070 residential units, one  
12 commercial parcel and several small landscaped areas. The extension area is six and a half miles  
13 west of Loop 303 and half a mile north of Interstate 10. Sienna Hills will be a master-planned  
14 community and is immediately adjacent to the Verrado community which is served by the Agua Fria  
15 Districts.

16       6.     To finance the new water distribution and wastewater collection facilities, a  
17 combination of advances in aid of construction, contributions and hook-up fees will be used. To deal  
18 with water facility advances, the Company has entered into a main extension agreement ("MXA")  
19 with Pulte for the proposed extension area. An executed extension agreement for water service  
20 between Pulte and the Company was filed with the application as an exhibit. The Company has also  
21 entered into a wastewater extension agreement with Pulte, but wastewater extension agreements do  
22 not require Commission approval.<sup>3</sup>

23       7.     No other municipal or public service corporations provide waster or wastewater  
24 service in the proposed service area described in Exhibit A.

25 \_\_\_\_\_  
26 <sup>1</sup>     The Company is a wholly owned subsidiary of American Water Works, Inc. and provides waster and wastewater  
utility service to approximately 94,000 water and 47,000 wastewater customers in Arizona.

27 <sup>2</sup>     The Agua Fria Districts provide water and wastewater service to approximately 30,000 and 9,000 customers,  
respectively, in the Verrado community and other communities to the west and north of Phoenix.

28 <sup>3</sup>     The water MXA provides for a refund of 10 percent of gross annual revenues for ten years and the wastewater  
MXA provides for a refund of 10 percent of gross annual revenues for eight years.

1           8.     The proposed extension area lies within the Town of Buckeye, and is contiguous to the  
2 Verrado community on its northern and eastern borders.

3           9.     Applicant filed a copy of its franchise from the Town of Buckeye with its application  
4 for the area sought to be certificated herein.

5           10.    According to the Staff Report, and the testimony of a Pulte vice president, Mike Brilz,  
6 Pulte is in the process of developing a well in conjunction with Meritage Homes ("Meritage") at  
7 Meritage's nearby Senita subdivision which Mr. Brilz expects will have at least 300 gallons per  
8 minute ("gpm") of surplus capacity which will be dedicated to the Company's Agua Fria Water  
9 District under the terms of the MXA. Pulte also has available to it other prospective well sites in the  
10 vicinity which can also be connected to the Company's transmission mains to transport surplus water  
11 to Sienna Hills to meet the minimum pump test requirement of 770 gpm needed for the subdivision.

12          11.    In the event the aforementioned are unsuccessful in generating sufficient water for the  
13 project, Pulte, through its Del Webb Corporation ("Del Webb") subsidiary, will assign to the  
14 Company access to Central Arizona Project ("CAP") water which is the primary source of water for  
15 the Anthem community. Del Webb is a party to a 100 year lease with the Ak-Chin Indian  
16 Community and has an option to purchase 6,000 to 10,000 acre feet of water per year and has  
17 committed 7,900 acre-feet to serve Anthem. Previously, in Decision No. 68854 (July 28, 2006), the  
18 Commission approved the extension of the Company's Certificate for its Anthem District to provide  
19 water to Arroyo Vista, a subdivision adjacent to Anthem, which requires a maximum amount of 238  
20 acre-feet of water per year. In that case, Pulte required Del Webb to assign to Applicant the rights to  
21 this water to serve Arroyo Vista, and the Sienna Hills MXA contains a similar provision to ensure  
22 water for the project.

23          12.    The Company's Agua Fria Wastewater District's wastewater plant aka Verrado Water  
24 Reclamation Facility ("WRF") has a design capacity of 450,000 gallons per day ("gpd") and from  
25 January to May 2006 treated approximately 100,000 gpd of wastewater generated by the 1,900  
26 customers connected to the Verrado WRF. It is projected that the facility will experience growth of  
27 approximately 590 new service connections per year for the next five years. As development  
28 continues in the area, the Company is planning to expand its Verrado treatment facilities to 3.72

1 million gallons per day and will need to secure an Aquifer Protection Permit ("APP") that will  
2 indicate approval of the 2007 proposed wastewater facilities.

3 13. Staff reviewed the water and wastewater facilities of the Company's Agua Fria  
4 District and believes that Applicant has adequate water and wastewater facilities and capacity to  
5 provide service to its existing service area and in the extension area described in Exhibit A. The  
6 estimated water line extension costs for the water MXA are projected to be \$3,456,399 and estimated  
7 costs for the wastewater MXA are projected to be \$3,196,952.

8 14. According to the Staff Report, Applicant is in full compliance with the rules of the  
9 Maricopa County Environmental Services Department ("MCESD") and is providing water which  
10 meets the requirements of the Safe Drinking Water Act. Additionally, the Company's Agua Fria  
11 Water District has completed its arsenic treatment facilities and its water is below the new maximum  
12 allowable level for arsenic of 10 parts per billion ("ppb").

13 15. The Arizona Department of Environmental Quality ("ADEQ") which regulates  
14 Applicant's wastewater system indicates that it is in compliance with its regulations.

15 16. The Company is current on the payment of its property taxes, and is in compliance  
16 with its filing requirements with the Commission.

17 17. Staff believes that there is a public need and necessity for water and wastewater  
18 service to the requested extension area and that the issuance of the Certificate is in the public interest  
19 for the area described in Exhibit A.

20 18. Staff recommends the Commission condition approval of the application as follows:

- 21
- 22 • that the Company charge its Agua Fria Water and Wastewater Districts' tariffed  
rates and charges in the extension area;
  - 23 • that the Company file, within two years of the effective date of this Decision, with  
24 Docket Control, as a compliance item in this docket, a copy of the developer's  
Certificate of Assured Water Supply for the requested area, where applicable or  
25 when required by statute; and
  - 26 • that the Company file, within two years of the effective date of this Decision, with  
27 Docket Control, as a compliance item in this docket, a copy of the Aquifer  
Protection Permit issued by ADEQ for the 2007 proposed wastewater facilities  
28 needed to serve the requested area.



1 described in Exhibit A is hereby approved provided that Arizona-American Water Company  
2 complies with the conditions as set forth in Findings of Fact Nos. 18 and 19.

3 IT IS FURTHER ORDERED that in the event that Arizona-American Water Company does  
4 not timely comply with Findings of Fact Nos. 18 and 19, then the extension of its Certificate of  
5 Convenience and Necessity shall be deemed to be null and void after due process.

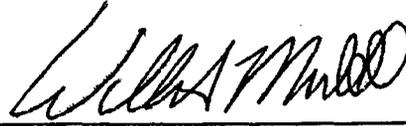
6 IT IS FURTHER ORDERED that Arizona-American Water Company shall charge water and  
7 wastewater customers in the area more fully described in Exhibit A its tariffed rates and charges  
8 authorized previously by the Commission.

9 IT IS FURTHER ORDERED that Arizona-American Water Company shall annually file, as  
10 part of its annual report, an affidavit with the Utilities Division attesting that the Company is current  
11 in paying its property taxes in Arizona.

12 IT IS FURTHER ORDERED that this Decision shall become effective immediately.

13 BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

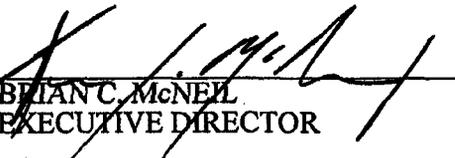
14

15    
 16 CHAIRMAN COMMISSIONER

17     
 18 COMMISSIONER COMMISSIONER COMMISSIONER

19

20 IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive  
21 Director of the Arizona Corporation Commission, have  
22 hereunto set my hand and caused the official seal of the  
23 Commission to be affixed at the Capitol, in the City of Phoenix,  
24 this 28<sup>th</sup> day of June, 2007.

25   
26 BRIAN C. McNEIL  
27 EXECUTIVE DIRECTOR

28 DISSENT \_\_\_\_\_

DISSENT \_\_\_\_\_

1 SERVICE LIST FOR: ARIZONA-AMERICAN WATER COMPANY

2 DOCKET NO.: WS-01303A-06-0242

3

4 Craig A. Marks  
4 CRAIG A. MARKS PLC  
3420 E. Shea Blvd., Suite 200  
5 Phoenix, AZ 85028  
Attorney for Arizona-American Water Company

6

7 Christopher Kempley, Chief Counsel  
Legal Division  
ARIZONA CORPORATION COMMISSION  
8 1200 West Washington Street  
Phoenix, AZ 85007

9

10 Ernest G. Johnson, Director  
Utilities Division  
ARIZONA CORPORATION COMMISSION  
11 1200 West Washington  
Phoenix, AZ 85007

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**LEGAL DESCRIPTION**

**Sienna Hills**

That portion of Section 36, Township 2 North, Range 3 West of the Gila and Salt River Meridian, Maricopa County, Arizona, described as follows:

**BEGINNING** at a found MCDOT aluminum cap accepted as the Northeast corner of Section 2, Township 1 North, Range 3 West, from which a found MCDOT aluminum cap accepted as the Southeast corner of Section 36, Township 2 North, Range 3 West thereof bears North 89 degrees, 20 minutes, 22 seconds East for a distance of 2464.87 feet;

Thence South 89 degrees 14 minutes 15 seconds West for a distance of 176.68 feet along the south line of said section 36 to the South quarter corner of Section 36, Township 2 North, Range 3 West;

Thence North 00 degrees 01 minutes 53 seconds West for a distance of 1473.81 feet along the north – south mid section line of said section 36;

Thence North 24 degrees 25 minutes 35 seconds East for a distance of 1324.49 feet;

Thence North 45 degrees 25 minutes 06 seconds East for a distance of 1000.00 feet;

Thence North 44 degrees 34 minutes 54 seconds West for a distance of 1300.00 feet;

Thence South 45 degrees 25 minutes 06 seconds West for a distance of 1877.87 feet;

Thence South 00 degrees 25 minutes 06 seconds West for a distance of 304.68 feet to a point on the east – west mid section line of said section 36;

Thence North 89 degrees 48 minutes 43 seconds West for a distance of 986.37 feet along said east – west mid section line;

Thence South 00 degrees 01 minutes 08 seconds East for a distance of 1322.20 feet;

Thence North 89 degrees 47 minutes 47 seconds West for a distance of 659.43 feet to a point on the west line of said section 36;

Thence North 00 degrees 00 minutes 52 seconds West for a distance of 1322.02 feet along said west line to the West quarter corner of said Section 36;

Thence continuing along said west line North 00 degrees 06 minutes 34 seconds West for a distance of 2633.15 feet to the Northwest corner of said Section 36;

Thence South 89 degrees 39 minutes 16 seconds East for a distance of 2640.96 feet along the north line of said section 36 to the North quarter corner of said Section 36;

Thence continuing along said north line South 89 degrees 49 minutes 47 seconds East for a distance of 2635.22 feet to the Northeast corner of said Section 36;

Thence South 00 degrees 06 minutes 00 seconds East for a distance of 2626.70 feet along the east line of said section 36 to the East quarter corner of said Section 36;

Thence continuing along said east line South 00 degrees 05 minutes 50 seconds East for a distance of 2642.13 feet to the Southeast corner of said Section 36;

Thence South 89 degrees 20 minutes 22 seconds West for a distance of 2464.87 feet along the south line of said section 36 to the **POINT OF BEGINNING**.

The above-described parcel contains a computed area of 19,326,368 Sq. Ft. (443.67 acres) more or less.

Prepared by: CMX L.L.C.  
7740 N. 16<sup>th</sup> Street  
Suite 100  
Phoenix, Arizona 85020  
Project No. 6785  
June 27, 2006



**ARIZONA DEPARTMENT OF WATER RESOURCES**

**Office of Assured and Adequate Water Supply**

2<sup>nd</sup> Floor, 3550 N. Central Ave., Phoenix, AZ 85012

Telephone 602 771-8585

Fax 602 771-8689



August 7, 2007

Janet Napolitano  
Governor

Herbert R. Guenther  
Director

VIA CERTIFIED MAIL

Asha Pai

CMX LLC

7740 N 16th Street

#100

Phoenix AZ 85020

**Re: Certificate of Assured Water Supply  
Fireside at Sienna Hills, Parcels 1-6 South; Parcels 1-2,3A,3B 5,6,7B,8-10,11A-C, 12 North  
DWR File No. 27-500015.0000**

Dear Ms. Pai:

The Department of Water Resources has determined that the criteria for an Assured Water Supply pursuant to A.R.S. § 45-576 and A.A.C. R12-15-701 *et seq.* have been met, and therefore the Director has decided to issue Assured Water Supply Certificate No.27-500015.0000. Arizona American Water Co - Agua Fria will provide water supply to the lots. The source of supply will be groundwater. Based on current information, the Department has determined that the subdivision's total projected demand is 607.58 acre-feet per year for 1029 lots, and the groundwater allowance for the 100-year period is 2430.32 acre-feet. The Certificate is attached. The Department suggests you record your Certificate of Assured Water Supply in the appropriate county recorders office. This will provide you with a permanent public record of the Certificate.

This determination is applicable only to the person or entity specified on the Certificate and for the plat reviewed by the Department. Information used in evaluating this application is available for review in the Department's files. Please contact us if questions arise.

Pursuant to A.R.S. § 41-1092.03, the Department is notifying you that the Director's determination and decision to issue the Certificate is an appealable agency action. You are entitled to appeal this action. If you wish to appeal this action, you must file a written appeal within thirty (30) days from receipt of this letter. I am providing you with a summary of the appeal process and an appeal form, should you elect to pursue this option.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. Scott Miller".

*for*

J. Scott Miller, Manager  
Office of Assured and Adequate Water Supply

JSM/rbo

Enclosures

Page 2

Subdivision Name: Fireside at Sienna Hills, Parcels 1-6 South; Parcels 1-2,3A,3B 5,6,7B,8-10,11A-C, 12  
North

File Number: 27-500015.0000

Cliff Neal

CAGR

P.O. Box 43020

Phoenix, AZ 85080-3020

Drew Swieczkowski, Hydrology Division  
PHOENIX AMA Division

**STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
CERTIFICATE OF ASSURED WATER SUPPLY**

This is to certify that

**Pulte Home Corporation, a Michigan corporation,**

has met the requirements of A.R.S. §§ 45-576 and the applicable regulations, and

By powers vested in the Director of the Arizona Department of Water Resources by the State of Arizona, and subject to the conditions contained in the applicable regulations,

Is issued this Certificate of Assured Water Supply for

**Fireside at Sienna Hills, Parcels 1-6 South; Parcels 1-2,3A,3B 5,6,7B,8-10,11A-C, 12 North  
Township 2 North, Range 3 West, Section 36  
GSRB&M, Maricopa County, PHOENIX Active Management Area**

Sufficient water of adequate quality will be continuously available to satisfy the water demand of the referenced subdivision for at least one hundred years. The referenced subdivision consists of **1029 lots** as described in the preliminary plat on file with the Department, and has an estimated water demand of **607.58 acre-feet per year**. The subdivision will be served **groundwater** by **Arizona American Water Co - Agua Fria**.

This Certificate is invalid as to any entity not named above.  
This Certificate may be assigned pursuant to A.A.C. R12-15-705.

**Certificate Number: 27-500015.0000**



**ARIZONA DEPARTMENT OF WATER RESOURCES**

*Sandra Salerick-Whitney*  
Assistant Director

*26 AUG 2007*  
Date

TYPE A CERTIFICATE



Janet Napolitano  
Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street Phoenix, Arizona 85007  
(602) 771-2300 www.azdeq.gov



Stephen A. Owens  
Director

May 29, 2007

Arizona-American Water Company  
Attn: Jeffrey W. Stuck, Director - Environmental Management and Compliance  
19820 North 7<sup>th</sup> Street, Suite 201  
Phoenix, Arizona 85024

**Re: Arizona-American Water Company, Verrado Water Reclamation Facility  
Other Amendment to Aquifer Protection Permit No. P-105202 - Issued**

Dear Mr. Stuck:

Enclosed is your copy of the amended Aquifer Protection Permit and Fact Sheet for the Arizona-American Verrado Water Reclamation Facility. The permit conditions shall apply from May 29, 2007, which is the date of the Water Quality Division Director's signature, and shall be valid for the life of the facility.

Please feel free to contact me if you have any questions regarding this permit, or otherwise need assistance. I can be reached at (602) 771-4464.

Sincerely,

Marcy Mullins, APP Project Manager  
APP and Reuse Unit

Enclosures: APP #P-105202 and Fact Sheet

cc: Asif Majeed, Manager, APP and Reuse Unit, ADEQ  
Lynne Dekarske, Environmental Program Specialist, Groundwater Section, ADEQ  
Robert Casey, Manager - Water Quality Compliance Section, Enforcement Unit, ADEQ  
Matthew Hodge, Manager - Water Quality Compliance Section, Data Unit, ADEQ  
John Gibbons, Manager - Water Quality Compliance Section, Field Services Unit, ADEQ  
Daniel Czecholinski, Biosolids Coordinator - Water Quality Compliance Assurance Unit  
Maricopa County Environmental Services Department  
Maricopa Association of Governments (MAG)

WWR07:333

Northern Regional Office  
1801 W. Route 66, Suite 117 Flagstaff, AZ 86001  
(928) 779-0313

Southern Regional Office  
400 West Congress Street, Suite 433 Tucson, AZ 85701  
(520) 628-6733

**STATE OF ARIZONA**  
**AQUIFER PROTECTION PERMIT NO. P-105202**  
**PLACE ID 16908, LTF 36947**  
**OTHER AMENDMENT**

**1.0 AUTHORIZATION**

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2 and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A.A.C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, Arizona-American Water Company is hereby authorized to operate the Verrado Water Reclamation Facility (WRF) located at 1871 N. Lancaster Street, Buckeye, Arizona, Maricopa County, over groundwater of the West Salt River Valley Sub-basin in the Phoenix Active Management Area, in Township 2N, Range 2W, and Section 31, NE¼, SE¼, SE¼ of the 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**

**Facility Name:** Verrado Water Reclamation Facility  
**Facility Address:** 1871 N. Lancaster Street  
Buckeye, Arizona 85326

**Permittee:** Arizona-American Water Company  
**Permittee Address:** 19820 North 7<sup>th</sup> Street, Suite 201  
Phoenix, Arizona 85024

**Facility Contact:** Jeffrey W. Stuck, Director, Environmental Management and Compliance  
**Emergency Phone No.:** (623) 445-2491

**Latitude/Longitude:** 33° 28' 06" N / 112° 29' 52" W  
**Legal Description:** Township 2N, Range 2W, Section 31, NE¼, SE¼, SE¼ of the Gila and Salt River Baseline and Meridian

**1.2 AUTHORIZING SIGNATURE**

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

Signed this 29<sup>th</sup> day of May, 2007

**THIS PERMIT SUPERCEDES ALL PREVIOUS PERMITS**

**2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]**

**2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]**

Arizona-American Water Company is authorized to operate the Verrado Water Reclamation Facility (WRF), which has the capacity to collect and treat a maximum average monthly flow of 0.45 million gallons per day (mgd) using two parallel trains of sequencing batch reactors (SBRs). The treatment process consists of screening, grit removal, influent equalization tank, nitrification and denitrification, clarification, post equalization tank, filtration, and chlorine disinfection. Stand-by chemical feed (a portable polymer pump) is available if needed. Effluent is delivered directly from the chlorine contact chamber to either the reuse site(s) under a valid reclaimed water permit or to two (2) vadose zone wells at the aquifer recharge facility (ARF) located approximately one mile north-northwest of the facility. The sludge from the SBR tanks is pumped to an aerated holding tank, from where it is pumped to a belt press for dewatering. The dewatered sludge is disposed off-site at an approved landfill. The WRF is designed and constructed according to plans approved by the ADEQ Wastewater, Recharge, & Reuse Unit.

The depth to groundwater is approximately 230 feet below ground surface (bgs) at the WRF and 330 feet bgs at the ARF. Historically, the groundwater flow direction was assumed to be south-southeastward, similar to the topography at both the WRF and ARF sites. However, excessive groundwater pumping in the center of the alluvial basin has altered the groundwater flow direction. Groundwater at the WRF appears to flow south-southeastward, and at the ARF is appears to flow north-northeastward toward a hydraulic sink.

The site includes the following permitted discharging facilities:

Arizona-American Water Company Verrado Water Reclamation Facility	33° 28' 04" N	112° 29' 53" W
Vadose Zone Well #1	33° 28' 45" N	112° 30' 28" W
Vadose Zone Well #2	33° 28' 46" N	112° 30' 28" W

**Annual Registration Fee [A.R.S. § 49-242(D)]**

The Annual Registration Fee for this permit is established by A.R.S. § 49-242(D) and is payable to ADEQ each year. The design flow is 0.45 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 for closure costs is \$56,500.00. The financial capability was demonstrated through a surety bond.

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

The Water Reclamation Facility shall be designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in Arizona Administrative Code R18-9-B204.

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

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

**2.2.1 Engineering Design**

The WRF is designed to denitrify the effluent, provide tertiary treatment, and disinfection so that it can be either reused or recharged. The facility has included adequate redundancies by providing a second SBR train, an influent equalization tank and a post equalization tank. The WRF was

designed based on a design report submitted by Malcolm Pirnie dated February 2003, and plans dated stamped and signed May 7, 2003.

The recharge test project was designed as per the design report prepared by HydroSystems, Inc. dated October 31, 2003.

#### 2.2.2 Site-specific Characteristics

Site characteristics were not used to determine BADCT at the WRF.

The ARF was located over an area of alluvium that it is believed will allow recharge of effluent via vadose recharge wells without causing an exceedance of AWQS at nearby wells. The recharge wells were designed to allow infiltration of effluent into coarser grained alluvium located approximately 150 feet above the existing water table.

#### 2.2.3 Pre-Operational Requirements

Not applicable - facility is in operation at time of permit issuance.

#### 2.2.4 Operational Requirements

1. The permittee shall maintain a copy of the up-to-date O & M manual for the WRF and ARF sites at the WRF site at all times and it 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.
3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and material(s) used shall be documented on the Self-Monitoring Report Form submitted quarterly to the ADEQ Water Quality Compliance.

#### 2.2.5 Reclaimed Water Classification [A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 through 307]

The treatment facility is rated as producing reclaimed water meeting the Class A+ Reclaimed Water Quality Standards (A.A.C. R11, Article 3) and may be used for any allowable Class A+ 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 WRF with a maximum monthly average daily flow of 0.45 MGD.
2. The permittee shall notify all users that the materials authorized to be disposed of through the WRF are typical household sewage and shall not include motor oil, gasoline, paints, varnishes, hazardous wastes, solvents, pesticides, fertilizers or other materials not generally associated with toilet flushing, food preparation, laundry facilities and personal hygiene.
3. The permittee shall operate and maintain all permitted facilities to prevent unauthorized discharges pursuant to A.R.S. § 49-201(12) resulting from failure or bypassing of BADCT pollutant control technologies including liner 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 and IB.

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<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.

**2.4 Points of Compliance (POCs) [A.R.S. § 49-244]**

There are two points of compliance for this facility. POC #1 is located just southeast of the WRF. A monitor well is not required at this location. POC #2 is located at Monitor Well #1, which is located 200 to 300 feet east of the vadose zone recharge wells. The POC locations are indicated below:

POC #	Location	Bearing	Distance
1	Southeast corner of the WRF	33° 28' 02" N	112° 29' 50" W
2	MW #1, 200 to 300 feet east of the vadose zone recharge wells	33° 28' 46" N	112° 30' 28" W

Groundwater monitoring is required at POC #2 (see Section 4.2, Table II).

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

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

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

**2.5.1 Discharge Monitoring**

The permittee shall monitor the wastewater according to Section 4.2, Table IA. Representative samples of the wastewater shall be collected at the point of discharge from the chlorination tank.

**2.5.1.1 Reclaimed Water Monitoring**

The permittee shall monitor the parameters listed under Section 4.2, Table 1B when effluent is discharged for reuse, in addition to the routine discharge monitoring parameters listed in Section 4.2, Table 1A.

**2.5.2 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 Self-Monitoring Report Form (SMRF) submitted quarterly to the ADEQ Water Quality Compliance. If none of the conditions occur, the report shall say "no event" for a particular reporting period. If the facility is not in operation, the permittee shall indicate this on the SMRF.
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.

**2.5.3 Groundwater Monitoring and Sampling Protocols**

The permittee shall monitor the groundwater according to Section 4.2, Table II.

Whenever there is discharge to the ARF, the facility shall conduct groundwater monitoring in that month, and for two additional quarters as per Section 4.2, Table II. Report "No flow" on the SMRF when there is no discharge to the ARF or after two consecutive quarters of monitoring following a discharge to the ARF.

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% of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as "dry" for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the Self-Monitoring Report Form (SMRF).

In low flow conditions, the permittee may conduct the sampling using the low-flow purging methods as described in the Arizona Water Resources Research Center, March 1995 *Field Manual for Water Quality Sampling*. The well must be purged until the indicator parameters stabilize. Indicator parameters shall include dissolved oxygen, turbidity, pH, temperature, and conductivity.

#### 2.5.4 Surface Water Monitoring and Sampling Protocols

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

#### 2.5.5 Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state certified laboratories can be obtained at the address below:

Arizona Department of Health Services  
Office of Laboratory Licensure and Certification  
250 North 17<sup>th</sup> Avenue  
Phoenix, Arizona 85007  
Phone: (602) 364-0720

#### 2.5.6 Installation and Maintenance of Monitoring Equipment

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

### 2.6 Contingency Plan Requirements

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

#### 2.6.1 General Contingency Plan 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 alert level (AL) that is exceeded or any violation of an aquifer quality limit (AQL), discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL. The permittee is subject to enforcement action for the failure to comply with any

contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

## **2.6.2 Exceeding of Alert Levels/Performance Levels**

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

1. If the operational PL set in Section 4.2, Table III has been exceeded (permit condition violated) the permittee shall:
  - a. Notify the ADEQ Water Quality Compliance Section within five (5) days of becoming aware of an exceedance of any permit condition in Section 4.2, Table III.
  - b. Submit a written report within thirty (30) days after becoming aware of an exceedance of a permit condition. The report shall document all of the following:
    - (1) a description of the exceedance and its cause;
    - (2) the period of the exceedance, including exact date(s) and time(s), if known, and the anticipated time period during which the exceedance is expected to continue;
    - (3) any action taken or planned to mitigate the effects of the exceedance or the spill, or to eliminate or prevent recurrence of the violation;
    - (4) any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard; and
    - (5) any malfunction or failure of pollution control devices or other equipment or process.
2. The facility is no longer on alert status once the operational indicator no longer indicates that a PL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

### **2.6.2.2 Exceeding of Alert Levels Set for Discharge Monitoring**

1. If an AL set in Section 4.2, Table IA has been exceeded, the permittee shall immediately investigate to determine the cause of the exceedance. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the exceedance.
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
  - c. Pretreatment source control for industrial pollutants.
2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
3. Within thirty (30) days after an AL exceedance, the permittee shall submit the laboratory results to the ADEQ Water Quality Compliance Section, Enforcement Unit, along with a summary of the findings of the investigation, the cause of the 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.

**2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring****2.6.2.3.1 Alert Levels for Indicator Parameters**

Not required at time of permit issuance.

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

1. If an AL for a pollutant set in Section 4.2, Table II has been exceeded, the permittee may conduct verification sampling within five (5) 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 to 'Daily', 'Weekly', and 'Monthly' for constituents that have a permit monitoring frequency of 'Weekly', 'Monthly', and 'Quarterly', 'Semi-Annual' or 'Annual' respectively. 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 Part 5.0 and specific contingency measures identified in Part 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 thirty (30) days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Water Quality Compliance Section, Data Unit along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
5. Upon review of the submitted report, the Department 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 Section 4.2, Table II frequencies, if the results of four sequential sampling events demonstrate that no parameters exceed the AL.

**2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards**

Not required at time of issuance.

### 2.6.3 Discharge Limitations (DL) Violations

1. If a DL set in Section 4.2, Table IA or IB has been violated, the permittee shall immediately investigate to determine the cause of the violation. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
  - c. Sampling of individual waste streams composing the wastewater for the parameters in violation.

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

2. The permittee shall comply with the freeboard requirements as specified in Section 4.2, Table III (Facility Inspections) to prevent the overtopping of an impoundment. If an impoundment is overtopped, the permittee shall follow the requirements in Section 2.6.5.3 and the reporting requirements of Section 2.7.3.
3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

### 2.6.4 Aquifer Quality Limit (AQL) Violation

1. If an AQL set in Section 4.2, Table II has been exceeded, the permittee may conduct verification sampling within five (5) 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 that the AQL has been violated for any parameter or if the permittee opts not to perform verification sampling, then, the permittee shall increase the frequency of monitoring to 'Daily', 'Weekly', and 'Monthly' for constituents that have a permit monitoring frequency of 'Weekly', 'Monthly', and 'Quarterly', 'Semi-Annual' or 'Annual' respectively. In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

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

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

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

**2.6.5.1 Duty to Respond**

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

**2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(18)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Field Service Unit at (602) 771-4841 within 24 hours upon discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL exceedance; or b) could pose an endangerment to public health or the environment.

**2.6.5.3 Discharge of Non-hazardous Materials**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Water Quality Field Services Unit at (602) 771-4841, within 24 hours upon discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL exceedance; or b) could pose an endangerment to public health or the environment.

**2.6.5.4 Reporting Requirements**

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the ADEQ Water Quality Field Services Unit (Mail Code 5415B-1, 1110 West Washington Street, Phoenix, Arizona, 85007), within thirty days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in that 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 Part 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 exceeding an AL or violation of an AQL, DL, or other permit condition:

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

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

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

**2.7.1 Self Monitoring Report Forms (SMRF)**

1. The permittee shall complete the SMRFs provided by ADEQ, and submit them to the Water Quality Compliance Section, Data Unit.
2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
3. The tables contained in Section 4.0 list the parameters to be monitored and the frequency for reporting results for compliance monitoring. Monitoring and analytical methods shall be recorded on the SMRFs.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) and Section 6.7 shall be included for exceedance of an AL or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

**2.7.2 Operation Inspection / Log Book Recordkeeping**

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

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

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

**2.7.3 Permit Violation and Alert Level Status Reporting**

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

- e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring;
- f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

**2.7.4 Operational, Other, or Miscellaneous Reporting**

The permittee shall complete the Self-Monitoring Report Form provided by the Department to reflect facility inspection requirements designated in Section 4.2, Table III and submit to the ADEQ, Water Quality Compliance quarterly along with other reports required by this permit. Facility inspection reports shall be submitted no less frequently than quarterly, regardless of operational status.

If the treatment facility is classified for reclaimed water under this permit, the permittee shall submit the reclaimed water monitoring results as required in Section 4.2, Table IB and flow volumes to any of the following in accordance with A.A.C. R18-9-703(C)(2)(c):

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

**2.7.5 Reporting Location**

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality  
 Water Quality Compliance Section, Data Unit  
 Mail Code: 5415B-1  
 1110 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 the following address:

Arizona Department of Environmental Quality  
 Water Quality Compliance Section, Enforcement Unit  
 Mail Code: 5415B-1  
 1110 West Washington Street  
 Phoenix, Arizona 85007  
 Phone (602) 771-4614

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

Arizona Department of Environmental Quality  
 Groundwater Section  
 Mail Code: 5415B-3  
 1110 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 date
January-March	April 30
April-June	July 30
July-September	October 30
October-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 ten (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 before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

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

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

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

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

#### 2.9.1 Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Section, a Closure Plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(1)(a).

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 aquifer water quality standards at the applicable point of compliance;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigative measures are necessary to achieve compliance with Title 49, Ch. 2;
5. Further action is necessary to meet property use restrictions.

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

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

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

**2.10.1 Post-Closure Plan**

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

**2.10.2 Post-Closure Completion**

Not required at the time of permit issuance.

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

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

If the monitor well (MW-1) pumps dry for two consecutive sampling events, even if the low flow purging and sampling method is used, the applicant shall submit a report that proposes modifying the monitor well or installing additional monitor wells.	Within 30 days of a second consecutive sampling event when the well pumps dry and a sample cannot be obtained.
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4.0 TABLES OF MONITORING REQUIREMENTS

4.1 PRE-OPERATIONAL MONITORING (or CONSTRUCTION REQUIREMENTS)

Not applicable - facility operational at permit issuance.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
ROUTINE DISCHARGE MONITORING

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
1	Point of discharge from the chlorination unit			33° 28' 04" N	112° 29' 53" W
Parameter	Alert Level	Discharge Limit	Unit	Sampling Frequency	Reporting Frequency
Total Flow: Daily <sup>4</sup>	Not Established <sup>5</sup>	Not Established	MGD <sup>6</sup>	Daily <sup>7</sup>	Quarterly
Total Flow: Average Monthly	0.43	0.45	MGD	Monthly <sup>8</sup>	Quarterly
Flow: Recharge	Not established	Not established	MGD	Daily	Quarterly
Flow: Reuse	Not established	Not established	MGD	Daily	Quarterly
Fecal Coliform: Single sample maximum	Not established	23	CFU or MPN <sup>9</sup>	Daily <sup>10</sup>	Quarterly
Fecal Coliform: Seven-sample median	Not established	2.2	CFU or MPN	Daily	Quarterly
Total Nitrogen <sup>11</sup> : Five-sample rolling geometric mean	8.0	10.0	mg/l	Monthly <sup>12</sup>	Quarterly

<sup>2</sup>AL = Alert Level

<sup>3</sup>DL = Discharge Limit

<sup>4</sup>Total flow is measured in million gallons per day (MGD) and is the sum of flow to the recharge and reuse sites.

<sup>5</sup>Not established = Monitoring required but no limits have been specified at time of permit issuance.

<sup>6</sup>MGD = Million Gallons per Day

<sup>7</sup>Flow shall be measured using a continuous recording flow meter which totals the flow daily.

<sup>8</sup>Monthly = Calculated value = Average of daily flows in a month.

<sup>9</sup>CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample.

For CFU, a value of <1 shall be considered to be non-detect. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>10</sup>Daily means at least four (4) samples per week must be analyzed.

<sup>11</sup>Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen (TKN).

<sup>12</sup>A Five-Month Geometric Mean of the results of the five (5) most recent samples

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE IA  
DISCHARGE MONITORING (continued)

Parameter	A1	D1	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters:</b>					
Total Dissolved Solids	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Calcium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Carbonate	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Bicarbonate	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Chloride	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Magnesium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Potassium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Sodium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Sulfate	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
<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 1A  
DISCHARGE MONITORING (continued)

Parameter	AI	DI	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	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
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>13</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>13</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.3 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE 1B  
RECLAIMED WATER MONITORING TABLE - CLASS A+<sup>14</sup>

Sampling Point Number	Sampling Point Identification	Latitude	Longitude	
1	Point of discharge from the chlorination unit	33° 28' 04" N	112° 29' 53" W	
Parameter	D	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>15</sup> : Five-sample rolling geometric mean	10.0	mg/l	Monthly	Quarterly
Fecal Coliform: Single-sample maximum	23	CFU or MPN <sup>16</sup>	Daily <sup>17</sup>	Quarterly
Fecal Coliform: Four (4) of last seven (7) samples	Non-detect <sup>18</sup>	CFU or MPN	Daily	Quarterly
Turbidity <sup>19</sup> : Single reading	5.0	NTU <sup>20</sup>	Everyday <sup>21</sup>	Quarterly
Turbidity: 24-hour average	2.0	NTU	Everyday	Quarterly

<sup>14</sup> Reclaimed water monitoring under Table 1B shall be performed anytime effluent is discharged to the reuse site and is in addition to routine discharge monitoring required under Table 1A.

<sup>15</sup> Nitrate N, plus Nitrite N, plus Total Kjeldahl Nitrogen (TKN)

<sup>16</sup> CFU = Colony Forming Units per 100 ml: MPN = Most Probable Number per 100 ml. For CFU, a value of <1 shall be considered to be non-detect. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>17</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>18</sup> If at least four (4) of the last seven (7) samples are non-detect, report "yes" in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of the last seven (7) samples have detections of fecal coliform, report "no" in the appropriate space on the SMRF (indicating that the standard has not been met).

<sup>19</sup> Turbidimeter shall have a signal averaging time not exceeding 120 seconds. Occasional spikes due to back-flushing or instrument malfunction shall not be considered an exceedance. All exceedances must be explained and submitted to the Department with the corresponding quarterly SMRF.

<sup>20</sup> Nephelometric Turbidity Units

<sup>21</sup> For the single turbidity reading, "everyday" means the maximum reading during the 24-hour period.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE II  
GROUNDWATER MONITORING<sup>24</sup>

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
2	MW #1			33° 28' 46" N	112° 30' 28" W
Parameter	AL <sup>25</sup>	AQL <sup>26</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>27</sup> :	8.0	10.0	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	8.0	10.0	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Reserved	Reserved	mg/l	Monthly	Quarterly
Fecal Coliform	Absence	Absence <sup>28</sup>	CFU or MPN <sup>29</sup>	Monthly	Quarterly
Total Coliform	Absence	Absence	CFU or MPN	Monthly	Quarterly
<b>Indicator Parameters:</b>					
Total Dissolved Solids	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Calcium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Carbonate	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Bicarbonate	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Chloride	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Magnesium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Potassium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Sodium	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually
Sulfate	Reserved	Reserved	mg/l	Semi-Annually	Semi-Annually

<sup>24</sup>Whenever there is discharge to the ARF, the facility shall conduct groundwater monitoring in that month, and for two additional quarters as per the above Table. Report "No flow" on SMRFs when there is no discharge to the ARF or after two consecutive quarters of monitoring following a discharge to the ARF.

<sup>25</sup>AL = Alert Level

<sup>26</sup>AQL = Aquifer Quality Limit

<sup>27</sup>Total Nitrogen is equal to nitrate as N plus nitrite as N plus total Kjeldahl nitrogen (TKN).

<sup>28</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>29</sup>CFU = Colony Forming Units per 100 ml; MPN = Most Probable Number per 100 ml.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE II  
GROUNDWATER MONITORING (continued)

Parameter	AL	AOL	Unit	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 II  
GROUNDWATER MONITORING (continued)

Parameter	AP	AQ	Unit	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	0.05	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
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>30</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>30</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

4.2 COMPLIANCE (or OPERATIONAL) MONITORING

TABLE III  
FACILITY INSPECTION (Operational Monitoring)

Pollution Control Structures/Parameters	Performance Criteria	Inspection Frequency
Pump Integrity	Good working condition	Weekly
Treatment Plant Components	Good working condition	Weekly
Vadose-zone Wells	Good working condition No biofouling No clogging No daylighting	Monthly

**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: June 27, 2002 (original APP, signed on 8/11/04)  
June 29, 2005 (Other Amendment)
2. Contingency Plan dated: February 2002 (original APP application, exhibit B-7)
3. Final Hydrologist Report dated: April 5, 2004 (original APP)
4. Final Engineering Report dated: April 1, 2004 (original APP)
5. Public Notice dated: May 6, 2004 (original APP)
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 gallons per day as established by A.R.S. § 49-242(D).

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

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

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

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

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

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

### 6.5 Technical and Financial Capability

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

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

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

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

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

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

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

### 6.8 Inspection and Entry [A.R.S. §§ 49-203(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, suspension, 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 105202  
 Place ID #16908, LTF #36947  
 OTHER AMENDMENT  
 Verrado Water Reclamation Facility

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an amendment to the aquifer protection permit for the subject facility that covers the life of the facility, including operational, closure, and post closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards at the Point of Compliance; and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology), to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer or to prevent pollutants from reaching the aquifer.

### I. FACILITY INFORMATION

#### Name and Location

Name of Permittee:	Arizona-American Water Company
Mailing Address:	19820 North 7 <sup>th</sup> Street, Suite 201 Phoenix, Arizona 85024
Facility Name and Location:	Verrado Water Reclamation Facility 1871 North Lancaster Street Buckeye, Arizona 85326

#### Regulatory Status

The Arizona-American Water Company received an individual Aquifer Protection Permit (APP) for the Verrado Water Reclamation Facility on August 11, 2004. The application for this "other" permit amendment was received by the Department on June 29, 2005.

#### Facility Description

Arizona-American Water Company is authorized to operate the Verrado Water Reclamation Facility (WRF), which has the capacity to collect and treat a maximum average monthly flow of 0.45 million gallons per day (mgd) using two parallel trains of sequencing batch reactors (SBRs). The treatment process consists of screening, grit removal, influent equalization tank, nitrification and denitrification, clarification, post equalization tank, filtration, and chlorine disinfection. Stand-by chemical feed (a portable polymer pump) is available if needed.

Effluent is delivered directly from the chlorine contact chamber to either the reuse site(s) under a valid reclaimed water permit or to two (2) vadose zone wells at the aquifer recharge facility (ARF) located approximately one mile north-northwest of the facility. The sludge from the SBR tanks is pumped to an aerated holding tank, from where it is pumped to a belt press for dewatering. The dewatered sludge is disposed off-site at an approved landfill. The WRF is designed and constructed according to plans approved by the ADEQ Wastewater, Recharge, & 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 any sewage sludge disposal in 40 Code of Federal Regulations (CFR) Part 503 and 18 A.A.C. Ch. 9, Art. 10.

### **Hydrogeology**

The facility is located in an alluvial basin adjacent to the west side of the White Tank Mountains in the Basin and Range Province over groundwater of the West Salt River Valley Sub-basin in the Phoenix Active Management Area within the Middle Gila Watershed. The alluvial deposits beneath the facility consist of a thick sequence (at least 550 feet thick) of interbedded silts, sands and gravels divided into three hydrogeologic units commonly called the Upper Alluvial Unit, Middle Alluvial Unit, Lower Alluvial Unit. Bedrock beneath these units is believed to consist of a similar mixture of metamorphic and igneous rocks as found in the adjacent White Tank Mountains. Groundwater is present under both confined and unconfined conditions within the groundwater basin with the alluvium in the Middle Alluvial Unit generally acting as the confining layer. Depth to groundwater beneath the WRF is approximately 230 feet below ground surface (bgs), and approximately 330 feet bgs in the vicinity of the aquifer recharge facility. The water table elevation is about 860 feet above mean sea level at both sites. Historically, the groundwater flow direction was probably southeastward, similar to topography at both the WRF and ARF sites, but excessive groundwater pumping in the center of the alluvial basin has altered the groundwater flow direction. Groundwater at the WRF appears to be flowing southeastward, whereas it appears to be flowing north-northeastward towards a hydrologic sink at the ARF. Existing groundwater quality data indicates that applicable AWQS are not exceeded.

### **Amendment Description**

This permit amendment was requested by the permittee to update the closure cost estimate, reinstate the adjusted financial assurance mechanism, remove reference to an effluent holding pond at the WRF, and set AQLs for the monitoring well.

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

1. Section 2.1, Facility/Site Description, Financial Capability - Removed reference to the effluent holding pond, added reference to stand-by chemical feed, and included the new closure cost estimate of \$56,500.00.

2. Section 4.2, Table IB - Removed enteric virus monitoring (due to the availability of chemical feed (a portable polymer pump) at the site.
3. Section 4.2, Table II - The permittee submitted eight (8) months of ambient groundwater monitoring results from MW-1 for nitrogen forms as required by Section 3.0 in the original permit. For Nitrate-Nitrite as N, the mean plus two standard deviations is less than the Aquifer Water Quality Standard of 10 mg/l. Therefore, the AQL for Nitrate-Nitrite as N is set at the AWQS. The AL is established as 80% of the AQL. For Total Nitrogen, the mean plus two standard deviations is less than the AWQS. Therefore, the AQL for Total Nitrogen is set at the AWQS of 10 mg/l. The ALs and AQLs are established in the permit as follows:

**TABLE II**  
**GROUNDWATER MONITORING<sup>1</sup>**

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
2	MW #1			33° 28' 46" N	112° 30' 28" W
Parameter	AL <sup>2</sup>	AQL <sup>3</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>4</sup> :	8.0	10.0	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	8.0	10.0	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Reserved	Reserved	mg/l	Monthly	Quarterly

4. Section 4.2, Table III - Removed requirement to visually inspect the liner integrity and berm integrity of the holding pond (as there is no holding pond at the WRF site).
5. Changed all references to the Water Permits Section to read "*Groundwater Section*".
6. Other changes include change in permit language to conform to the most current permit format.

## II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

The Verrado WRF is designed to achieve tertiary treatment standards, and Class A+ reclaimed water. The effluent is used for beneficial purposes under a valid reclaimed water permit (A.A.C. R18-9, Article 7), and recharged using vadose zone wells. The WRF uses a

<sup>1</sup> Whenever there is discharge to the ARF, the facility shall conduct groundwater monitoring in that month, and for two additional quarters as per the above Table. Report "No flow" on SMRFs when there is no discharge to the ARF or after two consecutive quarters of monitoring following a discharge to the ARF.

<sup>2</sup> AL = Alert Level

<sup>3</sup> AQL = Aquifer Quality Limit

<sup>4</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

sequencing batch reactor technology for nitrification and de-nitrification and filtration to achieve tertiary quality effluent. All process tanks are constructed of reinforced concrete.

Effluent is monitored for nitrogen, metals, coliforms and volatile organic compounds (VOCs). In addition, whenever effluent is discharged to the reuse site the effluent is also monitored for Class A+ reclaimed water quality standards, which include fecal coliform, total nitrogen, and turbidity.

### III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

#### Monitoring and Reporting Requirements

The WRF produces denitrified and tertiary treated effluent. The effluent is chlorinated, but not de-chlorinated. A chlorine residual is maintained to prevent biological fouling of the recharge wells, reuse piping, and effluent pipeline. The amount of chlorine used is carefully monitored to prevent the formation of trihalomethanes. By matching the chlorine dosage with the chlorine demand the facility does not need to de-chlorinate and then re-chlorinate for maintenance of the well and pipeline. In order to ensure that the facility is not creating any disinfection bi-products, the permit requires monitoring for total trihalomethanes with the discharge limit set for TTHMs at the Aquifer Water Quality Standard (AWQS). The permit also requires the permittee to meet the AWQS for metals, VOCs, and nitrogen in the effluent being discharged. Most of the effluent is reused under a valid reclaimed water permit requiring the use of Class A+ reclaimed water.

When effluent is recharged, groundwater monitoring is required with limits set at the AWQS for the same constituents that are required in the discharge monitoring. This groundwater monitoring is required at monitor well MW-1 located immediately downgradient of the recharge wells. Because of these considerations the facility is expected to be in compliance with the AWQS at the point of compliance.

#### Points of Compliance (POCs)

Two hazardous/non-hazardous points of compliance have been designated for these facilities as follows:

POC	Location	Latitude	Longitude
1	Southeast corner of the WRF	33° 28' 02" N	112° 29' 50" W
2	MW #1, 200 to 300 feet east of the vadose zone recharge wells	33° 28' 46" N	112° 30' 28" W

#### **IV. STORM WATER AND SURFACE WATER CONSIDERATIONS**

The majority of the surface drainages within the study area are to the east and southeast from the White Tank Mountains towards the center of the alluvial basin. All surface water drainages are ephemeral. The eastern portion of the WRF site is located within the 100-year flood plain located on Tuthill Dike Wash. The WRF is graded and channelized to modify the floodway. Maricopa County approved these floodway modifications. The recharge site does not appear to be located within the 100-year flood plain. None of the recharge components (recharge or monitor wells) are constructed in the 100-year flood plain. Both sites are graded to ensure local surface drainage away from the facilities due to direct precipitation.

#### **V. COMPLIANCE SCHEDULE**

There is a concern that if the monitor well pumps dry during a sampling event, then a representative water quality sample may not be collected. Therefore a compliance schedule item states that if the monitor well pumps dry for two consecutive sampling events even if a low flow sampling method is used, the applicant should submit a report that proposes modifying the monitor well or installing additional monitor wells.

#### **VI. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT**

##### **Technical Capability**

Arizona-American Water Company 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).

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**

Arizona-American Water Company has demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee is expected to maintain financial capability throughout the life of the facility.

**ADEQ currently holds a \$220,800.00 surety bond for all the facilities operated by Arizona-American Water Company which includes the estimated cost of \$56,500 for closure of the Verrado WRF.**

**Zoning Requirements**

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

**VII. ADMINISTRATIVE INFORMATION**

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

This is an Other Amendment to an APP that ADEQ issued previously, in accordance with A.A.C. R18-9-A211(D). The Public Notice requirement for an Other Amendment consists solely of a written notification in accordance with A.A.C. R18-9-A211(E). On a monthly basis ADEQ provides a list of permits in process to the county departments of health, association of governments and other federal, state and local entities, as well as private parties who have requested notification. For Other Amendments, the publication of this list satisfies the public participation process.

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

Not applicable.

**Public Hearing (A.A.C R18-9-109(B))**

Not applicable.

**VIII. ADDITIONAL INFORMATION**

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

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