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MAR 29 2004

TO: Docket Control

FROM: Ernest G. Johnson
Director
Utilities Division

DOCKETED BY *[Signature]*

DATE: March 29, 2004

RE: STAFF REPORT FOR ASH FORK DEVELOPMENT ASSOCIATION, INC. DBA ASH FORK WATER SERVICE'S APPLICATION FOR A PERMANENT RATE INCREASE. (DOCKET NO. W-01004B-03-0722)

Attached is the Staff Report for Ash Fork Development Association, Inc.'s, dba Ash Fork Water Service application for a permanent rate increase. Staff recommends approval of the Company's application for a permanent rate increase.

EGJ:AII:rdp

Originator: Alexander Ibhade Igwe, CPA

Attachment: Original and sixteen copies

Service List for: Ash Fork Development Association, Inc. dba Ash Fork Water Service
Docket No. W-01004B-03-0722

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**STAFF REPORT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION**

**ASH FORK DEVELOPMENT ASSOCIATION, INC.
DBA
ASH FORK WATER SERVICE
DOCKET NO. W-01004B -03-0722**

APPLICATION FOR A PERMANENT RATE INCREASE

MARCH 29, 2004

STAFF ACKNOWLEDGMENT

The Staff Report for Ash Fork Development Association, Inc; dba Ash Fork Water Service, Docket No. W-01004B-03-0722, was the responsibility of the Staff members listed below. Alexander Ihhade Igwe was responsible for the review and analysis of the Company's application, recommended revenue requirements, rate base and rate design. Dorothy Hains was responsible for the engineering and technical analysis. Reg Lopez was responsible for reviewing the Commission's records on the Company, determining compliance with Commission policies/rules and reviewing customer complaints filed with the Commission.



Alexander Ihhade Igwe, CPA
Public Utilities Analyst V
Financial & Regulatory Analysis Section



Dorothy Hains
Utilities Engineer
Engineering section



Reg Lopez
Public Utilities Consumer Analyst II
Consumer Service Section

EXECUTIVE SUMMARY

Ash Fork Development Association, Inc; dba Ash Fork Water Service ("Ash Fork" or "Company"), is certificated to provide water service in Ash Fork, 20 miles west of Williams, Yavapai County, Arizona. The Company provided water service to 227 permanent customers and 254 standpipe customers during the test year. Its current rates and charges were approved in Decision No. 59167, dated July 20, 1995.

Ash Fork proposes to increase its test year revenues from \$242,710 to \$290,326, an increase of \$47,616, for a 12.13 percent rate of return on an original cost rate base ("OCRB") of \$949,207. Its proposed rates would increase the typical bill of a residential customer with median usage of 3,915 gallons by \$4.24, or 19.70 percent, from \$21.46 to \$25.70. The Company claims that its proposed rate increase is necessary to enable it to make the interest and principal payments on \$433,000 of United States Department of Agriculture loan approved in Decision No. 65852 dated April 25, 2003. The loan proceeds are currently being expended on the construction of a new well ("Well No. 2"), main lines and related appurtenances. In addition, the Company asserts that its proposed rate increase will mitigate the additional operating and maintenance costs that will result from operating the new well and related appurtenances.

Staff recommends rates that produce total operating revenue of \$267,669 and operating income of \$75,201, for a 14.72 percent rate of return on an OCRB of \$510,785. Staff's recommended rates would increase the typical residential bill with median usage of 3,915 gallons, by \$2.65 or 12.39 percent, from \$21.46 to \$24.11.

Ash Fork's most recent laboratory analysis indicates that Well No. 2 has an arsenic contamination level of 18 microgram/liter (" $\mu\text{g/l}$ "). Although the arsenic contamination level at Well No. 2 exceeds the Environmental Protection Agency's new Maximum Contamination Level ("MCL") of 10 $\mu\text{g/l}$, Ash Fork did not propose any arsenic treatment plan in this proceeding. Staff believes that it is imperative to analyze the costs of an arsenic treatment plan for Well No. 2 because of the imminence of EPA's arsenic compliance deadline of January 23, 2006.

Based on Arizona Department of Environmental Quality's Arsenic Master Plan, Staff's estimate of the capital costs of constructing an arsenic treatment plant for Well No. 2 is \$290,812, consisting of \$252,880 of plant and \$37,932 of engineering costs. Staff anticipates that the Company will finance its arsenic removal plant with long-term debt and estimates \$25,010 of annual debt service coverage on \$290,812 of long-term debt.

Staff recommends that the Commission authorize the Company to fund the costs of an arsenic removal treatment plan through a surcharge tariff. Approval of an arsenic removal surcharge tariff mechanism in this proceeding eliminates the need for another determination of fair value for Ash Fork in the immediate future. Staff further recommends that the Commission authorize determination of the specific arsenic removal surcharge tariff rates and the related conditions in a future proceeding.

Staff's analysis indicates that if the Commission authorizes the Company to collect \$25,010 of annual debt service coverage through a surcharge mechanism in a future proceeding, it will result in a monthly arsenic removal surcharge of \$3.55 per each of the Company's 227 permanent customers; \$0.83 per 1,000 gallons for the commercial standpipe and card operated standpipe customers and \$0.02 per 25 gallons for the coin-operated standpipe customers. Staff is not recommending approval of the above arsenic removal surcharge rates in this proceeding.

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FACTSHEET

COMPANY: Ash Fork Development Association, Inc. dba Ash Fork Water Service.

CC&N: Decision No. 5018, dated October 8, 1929

CURRENT RATES: Decision No. 59167, dated July 20, 1995

TYPE OF OWNERSHIP: C Corporation

LOCATION: The Company's water systems are located in Yavapai County, approximately 20 miles west of Williams, Arizona. The Company is not located in an Active Management Area.

RATES:

	<u>Current Rates</u>	<u>Company Proposed Rates</u>	<u>Staff Proposed Rates</u>
<u>Monthly Minimum Charge:</u>			
5/8 x 3/4 – Inch Meter	\$11.00	\$12.00	\$11.00
1-Inch Meter	\$16.00	\$20.00	\$16.00
2 -Inch Meter	\$30.00	\$40.00	\$30.00
 Gallons in Minimum	 1,000	 0	 0
<u>Excess of minimum charge per 1,000 gallons</u>			
From 0 - 6,000 gallons	N/A	\$3.50	\$3.35
1,000 – 6,000 gallons	\$3.59	N/A	N/A
6,001 to 12,000 gallons	\$3.59	\$3.70	\$3.75
Over 12,000 gallons	\$3.59	\$3.90	\$3.90
 Bulk Water/Standpipe (1,000 Gallons)	 \$7.00	 \$8.00	 \$8.00
Coin-operated Standpipe (Per 25 Gallons)	\$0.25	\$0.25	\$0.25
Filter Machine (Per Gallon)	N/A	\$0.25	\$0.25
Typical residential bill (Based on median usage of 3,915 gallons)	\$21.46	\$25.70	\$24.11

CUSTOMERS:

Number of customers in the prior test year (12/31/95): 206
 Number of permanent standpipe counts in the prior test year: 175

FACTSHEET (Cont.)

Number of customers in the current test year (12/31/02): 227
Number of permanent standpipe counts in the current test year: 254

Current Test Year customers by meter size:

5/8 x 3/4-inch	211
1-inch	6
1 1/2-inch	0
2-inch	10
Commercial Standpipe	18
Coin-operated 2-inch	1
Coin-operated Filter Machine	1
Card operated Standpipe	234

SEASONAL CUSTOMERS: 0

CUSTOMER NOTIFICATION MAILED: October 01, 2003

Number of customer complaints since rate application filed: 0

Percentage of complaints to customer base: 0 percent

Summary of Filing

In the test year, as adjusted by Staff, Ash Fork Water Development Association, Inc; dba Ash Fork Water Service ("Ash Fork" or "Company"), realized an operating income of \$50,242 for a 9.84 percent rate of return on an Original Cost Rate Base ("OCRB") of \$510,785. Please see Schedule 1.

The Company's proposed rates, as filed, produce a total operating revenue of \$290,326 and operating income of \$115,136, for a 12.13 percent rate of return on an OCRB of \$949,207. The Company's proposed rates would increase the typical residential bill, with a median usage of 3,915 gallons, by \$4.24, or 19.7 percent, from \$21.46 to \$25.70 (Schedule 5, Page 1).

Staff recommends rates that produce a total operating revenue of \$267,669 and operating income of \$75,201 for a 14.72 percent rate of return on an OCRB of \$510,785. Staff's recommended rates would increase the typical residential bill with median usage of 3,915 gallons, by \$2.65, or 12.39 percent, from \$21.46 to \$24.11.

Company Background

On September 30, 2003, Ash Fork filed an application for a permanent rate increase. The Company claims that its proposed rate increase is necessary to enable it make interest and principal repayment on \$433,000 of United States Department of Agriculture ("USDA") loan approved in Decision No. 65852 dated April 25, 2003. The loan proceeds are currently being expended on drilling a new well (Well No. 2), construction of 10,000 feet of main lines and installation of related appurtenances. In addition, Ash Fork contends that its proposed rate increase is warranted due to the anticipated additional operating and maintenance costs that would result from operating the new well and related appurtenances.

Ash Fork is a non-profit, "C" corporation certificated to provide water service in the town of Ash Fork, 20 miles west of Williams, Yavapai County, Arizona. During the test year, the Company provided water service to 227 permanent customers and approximately 254 standpipe customers. The Company's current rates were approved in Decision No. 59167 dated July 20, 1995.

Engineering Analysis

System Description

Staff conducted a field inspection of Ash Fork on November 19, 2003. The Company's water systems consist of two wells, two storage tanks and a distribution system. At the time of Staff's inspection, the Well No. 2 project had not been completed and was not used and useful.

A detailed description of the Company's system is contained in Section I and Exhibit 3 of Staff's Engineering Report.

Staff's analysis indicates that without the completion of Well No. 2, Ash Fork does not have adequate capacity to serve its current customers. Completion of Well No. 2 will also enable Ash Fork to provide water for fire protection. Well No. 2 will be deemed completed upon completion of the following projects: (a) approximately one-mile long three phased power extension; (b) complete installation of well, well meter, well pad, fencing and anti-freezing insulation; (c) installation of transmission line between Well No. 2 and the existing storage tanks and (d) well site grading. Ash Fork anticipates that Well No. 2 will be completed and placed in service by spring of 2004.

Arsenic

The U. S. Environmental Protection Agency ("EPA") has reduced arsenic maximum contamination level ("MCL") in drinking water from 50 micrograms per liter (" $\mu\text{g/l}$ ") to 10 $\mu\text{g/l}$. EPA requires all water companies to be in compliance with the new MCL by January 23, 2006. The most recent laboratory analysis performed by the Company indicates that the arsenic level at Well No. 2 is 18 $\mu\text{g/l}$, greater than the new arsenic level of 10 $\mu\text{g/l}$. Therefore, Staff recommends that the Company submit a detailed arsenic treatment plan to the Director of the Utilities Division by December 31, 2004.

Based on the Arizona Department of Environmental Quality's ("ADEQ") Arsenic Master Plan ("AMP"), Staff has calculated a preliminary estimate of arsenic removal costs for Ash Fork's Well No. 2. Staff's preliminary estimate of the total costs of arsenic treatment plan for Well No. 2 is \$330,748, consisting of \$252,880 of capital cost, \$39,936 of annual operating and maintenance cost and \$37,932 of engineering cost. Staff's estimate is based on the following assumptions: (1) arsenic removal will be required for Well No. 2 only and treatment will occur at the well head; (2) arsenic will be removed to meet 8 $\mu\text{g/l}$ by Single Column Fe-AA (iron-modified active alumina) Treatment; (3) engineering cost will equal 15 percent of the capital cost and (4) the Company will implement the lowest cost option. Please See Sections D and L(II) of Engineering Report.

ADEQ Compliance

A compliance status report issued by ADEQ on October 3, 2003 states that Ash Fork has no major water quality monitoring/reporting deficiencies and that the water system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

Arizona Department of Water Resources ("ADWR") Compliance

Ash Fork is not in an ADWR Active Management Area. Therefore, the Company is not subject to ADWR's gallons per capita daily limits and conservation rules.

Depreciation Rates

Staff has developed typical and customary depreciation rates within the range of anticipated equipment economic useful life. These depreciation rates are presented in Exhibit 6 of the Staff's Engineering Report.

Other Issues

Service line and Meter Installation Charges

The Company has requested changes to its meter and service line installation charges. Staff's analysis confirms that the Company's proposed charges are within the range of reasonable and customary charges. Staff recommends approval of the Company's proposed meter and service line installation charges.

Consumer Services

A review of Consumer Service's record indicates that there were three inquiries regarding Ash Fork between January 10, 2000 and January 10, 2003. Ash Fork's record does not reflect any complaints or opinions during the above period. Also, a review of Dockcase did not show any pending or closed formal complaints against the Company in the last three years.

Arizona Corporation Commission Compliance

The Corporations Division of the Arizona Corporation Commission indicates that Ash Fork is in good standing. The Company's next annual report filing is due on April 7, 2004.

Taxes

Staff has confirmed with Yavapai County that Ash Fork is current on its property tax. Also, the Company is current on its sales tax payments.

Financial Analysis of Arsenic Removal Surcharge

Based on ADEQ's Arsenic Master Plan, Staff's estimate of the capital costs of implementing an arsenic treatment plan for well No. 2 is \$290,812, consisting of \$252,880 of plant and \$37,932 of engineering costs. The Company did not propose any arsenic treatment plan in this proceeding. However, Staff believes that it is imperative to analyze the costs of an

arsenic treatment plan because of the imminence of EPA's arsenic compliance due date of January 23, 2006. Staff's financial analysis is based on loan terms similar to the typical loan terms of the Water Infrastructure Finance Authority ("WIFA"). Staff's analysis assumes that the Company will fund its arsenic removal plant with the proceeds of \$290,812 of long term debt, repayable over 20 years at an annual interest rate of 6 percent. The annual debt service coverage on \$290,812 of long-term debt is \$25,010, consisting of \$17,245 of interest expense and \$7,765 of principal repayment.

Staff recommends that the Commission authorize the Company to fund the costs of arsenic removal treatment plan through a surcharge tariff. Approval of an arsenic removal surcharge tariff mechanism in this proceeding eliminates the need for another determination of fair value for Ash Fork in the immediate future. Staff further recommends that the Commission authorize determination of the specific arsenic removal surcharge tariff rates and the related conditions in a future proceeding.

Staff's analysis indicates that if the Commission authorizes the Company to collect \$25,010 of annual debt service coverage through a surcharge mechanism in a future proceeding, it will result in an arsenic removal surcharge of \$3.55 per each of the Company's 227 permanent customers; \$0.83 per 1,000 gallons for the commercial standpipe and card operated standpipe customers; and \$0.02 per 25 gallons for the coin-operated standpipe customers. Staff is not recommending approval of the above arsenic removal surcharge rates in this proceeding.

Staff recommends that the Company file a financing application for an amount not to exceed \$290,812, if it chooses to finance its arsenic treatment plan with the proceeds of long-term debt. Staff further recommends that the Company file a surcharge calculation with its financing application based on the terms of its loan agreement. Similar to a 30-day tariff, Staff shall review the Company's arsenic removal surcharge calculation and make recommendations to the Commission for its final determination. Staff recommends that the Company adopt Staff's methodology for calculating the arsenic removal surcharge illustrated on Schedule 4, page 2 of 2.

Rate Base

As shown on Schedule 2, page 1 of 3, Staff recommends a rate base of \$510,785, a decrease of \$438,422 to the Company's proposed rate base of \$949,207.

Adjustment A reduces rate base by \$500,000 to reflect Staff's adjustments to eliminate plant items that are not used and useful. Please see Schedule 2, page 2 of 3 for a detailed explanation.

Adjustment B increases rate base by \$61,358 to reflect Staff's recalculation of accumulated depreciation. Staff's recommended accumulated depreciation was derived by adding Commission approved accumulated depreciation in the last rate case to Staff recomputed depreciation expense for each year from January 1, 1995 through the end of the test year.

Adjustment C increases rate base by \$125 to reflect the impact of Staff's adjustment to purchased power expense.

Adjustment D increases rate base by \$95 to reflect the impact of Staff's adjustments to operating expenses.

Revenue

Staff accepts the Company's test year total operating revenue of \$242,710.

Operating Expenses

As shown on Schedule 3, page 1 of 3, Staff adjustments increase total operating expenses by \$17,278, from \$175,190 to \$192,468.

Adjustment A increases operating expenses by \$2,223 to reflect known and measurable changes to test year salaries and wages.

Adjustment B increases operating expenses by \$2,995 to reflect total test year purchased power expense.

Adjustment C increases operating expenses by \$783 to reflect Staff's recommended water testing expense.

Adjustment D decreases operating expenses by \$2,242 to eliminate \$2,088 of unidentifiable expense and \$154 of water treatment expense. The unidentifiable expenses are assumed to be non-recurring expenses.

Adjustment E increases operating expenses by \$5,782 to reflect application of Staff's recommended depreciation rates to Staff adjusted plant in service. Staff's recommended depreciation rates are consistent with the range of anticipated economic useful life of plant equipment. Please see Exhibit 6 of Staff's Engineering Report.

As shown on Schedule 3, page 3, Adjustment F increases operating expenses by \$7,737 to reflect Staff's re-computation of property tax based on Arizona Department of Revenues' methodology.

Revenue Requirement and Rate Design

Staff recommends total operating revenues of \$267,669, an increase of \$24,959, or 10.28 percent, over test year revenue of \$242,710. Staff's recommended revenue provides a 14.72 percent rate of return on a rate base of \$510,785 and an operating margin of 28.09 percent

(Schedule 1). Staff's recommended increase provides the Company with adequate cash flow to meet its normal operating expenses, make interest and principal repayments on long-term debt and fund other contingencies.

Staff concurs with the Company's proposal to reconfigure its current one-tier rate structure with 1,000 gallons in the monthly minimum charge to a three-tier rate structure with zero gallons in the monthly minimum charge (Schedule 4). Staff adopts the Company's proposed three tier structure which is comprised of 0 to 6,000 gallons for the first tier, 6,001 to 12,000 gallons for the second tier and over 12,000 gallons for the third tier. Staff recommends commodity rates of \$3.35 per 1,000 gallons for the first-tier, \$3.75 per 1,000 gallons for the second tier and \$3.90 per 1,000 gallons for the third tier. Consistent with the Company's proposal, Staff recommends the following commodity rates for standpipe and related customers: \$8.00 per 1,000 gallons for bulk water and standpipe; \$0.25 per 25 gallons for coin-operated standpipe and \$0.25 per gallon for filtered water dispenser. Except for the 4 inch meter and the 6 inch meter, Staff recommends retaining the current monthly minimum charges for all meter sizes.

Staff further recommends retaining the current service charges approved in Decision No. 59167. The Company did not provide any cost analysis to justify its proposed changes to service charges. Staff recommends adoption of the Company's proposed Service Line and Meter Installation Charges because they are within a reasonable range. Please see Attachment A, Staff's engineering Report.

Staff Recommendations

Staff recommends approval of its rates and charges shown on Schedule 4, page 1 of 2.

Staff recommends that the Company be ordered to file an arsenic removal treatment plan with the Director of the Utilities Division, by December 31, 2004.

Staff further recommends that the Company be put on notice that if it chooses to fund its arsenic removal treatment plan with the proceeds of long-term debt, it must file a financing application with the Commission.

Staff further recommends that if the Company does file a financing application, it be ordered to propose an arsenic removal surcharge tariff with its arsenic removal treatment plan financing filing.

Staff recommends that the Commission authorize the Company to fund its arsenic removal treatment plan through an arsenic removal surcharge tariff. Staff further recommends that the Commission authorize determination of the specific arsenic removal surcharge rates and the related conditions in a future proceeding, based of the Company's financing and arsenic

removal surcharge calculation filings. The calculation shall follow the method shown on Schedule 4, page 2 of 2, of this report.

Staff further recommends that the Company be ordered to file a new rate case within 48 months from the effective date of rates established in this rate case. The new rate case shall incorporate the arsenic treatment equipment in rate base. In the event that the Company fails to file a new rate case within 48 months, Staff shall file an Order to Show Cause ("OSC") proceeding against the Company.

Staff further recommends that the Company adopt the depreciation rates shown on Exhibit 6 of the Staff's Engineering Report, on a going forward basis.

Staff further recommends that the Company files a copy of the Certificate of Approval of Construction issued by ADEQ regarding Well No. 2 to the Director of the Utilities Division six months from the effective date of the Decision in this rate proceeding.

Staff further recommends that in addition to collection of regular rates and charges, the company shall collect from its customers their proportionate share of any privilege, sales or use tax as provided for in A.A.C. R14-2-409(D).

SUMMARY OF FILING

	-- Present Rates --		-- Proposed Rates --	
	Company as Filed	Staff as Adjusted	Company as Filed	Staff as Adjusted
Revenues:				
Metered Water Revenue	\$240,470	\$240,470	\$288,086	\$265,429
Unmetered Water Revenue	0	0	0	0
Other Water Revenue	2,240	2,240	2,240	2,240
Total Operating Revenue	\$242,710	\$242,710	\$290,326	\$267,669
Operating Expenses:				
Operation and Maintenance	\$118,277	\$122,036	\$118,277	\$122,036
Depreciation	37,314	43,096	37,314	43,096
Property & Other Taxes	19,599	27,336	19,599	27,336
Income Tax	0	0	0	0
Total Operating Expense	\$175,190	\$192,468	\$175,190	\$192,468
Operating Income/(Loss)	\$67,520	\$50,242	\$115,136	\$75,201
Rate Base O.C.L.D.	\$949,207	\$510,785	\$949,207	\$510,785
Rate of Return - O.C.L.D.	7.11%	9.84%	12.13%	14.72%
Times Interest Earned Ratio (Pre-Tax)	2.25	2.51	3.84	2.51
Debt Service Coverage Ratio (Pre-Tax)	2.30	2.60	3.35	2.60
Operating Margin	27.82%	20.70%	39.66%	28.09%

NOTES:

1. The times interest earned ratio (TIER) represents the ability of the Company to pay interest expenses before taxes.
2. Operating Margin represents the proportion of funds available to pay interest and other below the line or non-ratemaking expenses.

RATE BASE

	----- Original Cost -----			Staff
	Company	Adjustment	Ref.	
Plant in Service	\$1,571,679	(\$500,000)	A	\$1,071,679
Less:				
Accum. Depreciation	622,556	(61,358)	B	561,198
Net Plant	\$949,123	(\$438,642)		\$510,481
Less:				
Customer Deposits	17,279	0		17,279
Total Advances	\$17,279	\$0		\$17,279
Contributions Gross	\$0	\$0		\$0
Less:				
Amortization of CIAC	0	0		0
Net CIAC	\$0	\$0		\$0
Total Deductions	\$17,279	\$0		\$17,279
Plus:				
1/24 Power	\$748	\$125	C	\$872
1/8 Operation & Maint.	12,542	96	D	12,638
Inventory	0	0		0
Prepayments	4,073	0		4,073
Total Additions	\$17,363	\$220		\$17,583
Rate Base	\$949,207	(\$438,422)		\$510,785

A - Adjustment A decreases rate base by \$500,000 to eliminate \$20,000 of land and \$480,000 of construction work in progress (Well #2) that are not used and useful.

B - Adjustment B increases rate base by \$61,358 to reflect Staff's recomputation of accumulated depreciation. Accumulated depreciation is derived by multiplying Commission approved depreciation rates by Staff adjusted plant in service.

C- Adjustment C decreases rate base by \$125 to reflect the impact of Staff's adjustments to purchased power expense.

D- Adjustment D increases rate base by \$95 to reflect the impact of Staff's adjustments to operating expenses.

PLANT ADJUSTMENTS

Description	[A] Company As Filed	[B] Adjustment	Ref	[C] Staff Adjusted
1 Organization	\$ -			\$ -
2 Franchises	\$ -			\$ -
3 Land & Land Rights	\$ 74,443	\$ (20,000)	A	\$ 54,443
4 Structures & Improvements	\$ 24,077	\$ -		\$ 24,077
5 Wells & Springs	\$ 692,323	\$ (480,000)	B	\$ 212,323
6 Power Generating Equipment	\$ -	\$ -		\$ -
7 Pumping Equipment	\$ 48,138	\$ -		\$ 48,138
8 Water Treatment Equipment	\$ 47,218	\$ -		\$ 47,218
9 Distribution Reservoirs & Standpipes	\$ 107,780	\$ -		\$ 107,780
10 Transmission & Distribution Mains	\$ 422,674	\$ -		\$ 422,674
11 Services	\$ -	\$ -		\$ -
12 Meters & Meter Installations	\$ 13,120	\$ -		\$ 13,120
13 Hydrants	\$ -	\$ -		\$ -
14 Backflow Prevention Devices	\$ -	\$ -		\$ -
15 Other Plant and Misc. Equipment	\$ -	\$ -		\$ -
16 Office Furniture & Equipment	\$ 17,762	\$ -		\$ 17,762
17 Transportation Equipment	\$ 32,740	\$ -		\$ 32,740
18 Tools Shop & Garage Equipment	\$ 23,555	\$ -		\$ 23,555
19 Computer and Copy Equipment	\$ -	\$ -		\$ -
20 Power Operated Equipment	\$ -	\$ -		\$ -
21 Communication Equipment	\$ 48,852	\$ -		\$ 48,852
22 Miscellaneous Equipment	\$ 18,997	\$ -		\$ 18,997
23 Other Tangible Plant	\$ -	\$ -		\$ -
24 C.W.I.P.	\$ -	\$ -		\$ -
25 TOTALS	\$1,571,679	\$ (500,000)		\$ 1,071,679

26

27 A - Adjustment A reduces plant in service by \$20,000 to eliminate 2.4 acres of land that
28 is not used and useful.

29

30 B - Adjustment B decreases plant in service by \$480,000 to eliminate the cost of Well #2
31 that is not used and useful.

STATEMENT OF OPERATING INCOME

	Company Exhibit	Staff Adjustments	Ref.	Staff Adjusted
Revenues:				
461.00 Metered Water Revenue	\$240,470	\$0		\$240,470
460.00 Unmetered Water Revenue	0	0		0
474.00 Other Water Revenues	2,240	0		2,240
Total Operating Revenue	\$242,710	\$0		\$242,710
Operating Expenses:				
601.00 Salaries and Wages	\$55,531	\$2,223	A	\$57,754
610.00 Purchased Water	0	0		0
615.00 Purchased Power	17,940	2,995	B	20,935
618.00 Chemicals	0	0		0
620.00 Repairs and Maintenance	20,086	0		20,086
621.00 Office Supplies & Expense	1,453	0		1,453
630.00 Outside Services	5,148	0		5,148
635.00 Water Testing	1,032	783	C	1,815
641.00 Rents	3,231	0		3,231
650.00 Transportation Expenses	1,125	0		1,125
657.00 Insurance - General Liability	8,435	0		8,435
659.00 Insurance - Health and Life	0	0		0
666.00 Regulatory Commission Expense - Rate Case	0	0		0
675.00 Miscellaneous Expense	4,296	(2,242)	D	2,054
403.00 Depreciation Expense	37,314	5,782	E	43,096
408.00 Taxes Other Than Income	7,295	0		7,295
408.11 Property Taxes	12,304	7,737	F	20,041
409.00 Income Tax	0	0		0
Total Operating Expenses	\$175,190	\$17,278		\$192,468
OPERATING INCOME/(LOSS)	\$67,520	(\$17,278)		\$50,242
Other Income/(Expense):				
419.00 Interest and Dividend Income	\$3,480	\$0		\$3,480
421.00 Non-Utility Income	13,169	0		13,169
427.00 Interest Expense	(29,990)	0		(29,990)
426.00 Miscellaneous Non-Utility Expense	0	0		0
Total Other Income/(Expense)	(\$13,341)	\$0		(\$13,341)
NET INCOME/(LOSS)	\$54,179	(\$17,278)		\$36,901

STAFF ADJUSTMENTS

A	- SALARIES AND WAGES - Per Company	\$55,531	
	Per Staff	57,754	<u>\$2,223</u>

Adjustment A increases operating expenses by \$2,223 to reflect known and measurable changes to salaries and wages.

B	- PURCHASED POWER - Per Company	\$17,940	
	Per Staff	20,935	<u>\$2,995</u>

Adjustment B increases operating expenses by \$2,995 to reflect total cost of test year purchased power expense.

C	- WATER TESTING - Per Company	\$1,032	
	Per Staff	1,815	<u>\$783</u>

Adjustment C increases water testing expense by \$783 per Engineering recommendation.

D	- MISCELLANEOUS EXPENSE - Per Company	\$4,296	
	Per Staff	2,054	<u>(\$2,242)</u>

CALCULATION OF STAFF ADJUSTMENT

Unknown Expenses	2,088	
Water Treatment Expense	154	
Staff Adjustment	<u>2,242</u>	

Adjustment D eliminates \$2,088 of unknown expenses and \$154 of water treatment expense.

E	- DEPRECIATION - Per Company	\$37,314	
	Per Staff	43,096	<u>\$5,782</u>

Pro Forma Annual Depreciation Expense:

Plant in Service	\$1,071,679	
Less: Non Depreciable Plant	54,558	
Fully Depreciated Plant	0	
Depreciable Plant	<u>\$1,017,121</u>	
Times: Staff Proposed Depreciation Rate	4.24%	
Credit to Accumulated Depreciation	<u>\$43,096</u>	
Less: Amort. of CIAC* @ 4.24%	0	
Pro Forma Annual Depreciation Expense	<u>\$43,096</u>	

Adjustment E reflects application of Staff recommended depreciation rates to adjusted plant by account. Please see Schedule 3B for detailed calculation.

STAFF ADJUSTMENTS CONTINUED

F	- PROPERTY TAXES - Per Company	\$12,304	
	Per Staff	20,041	\$7,737

Adjustment E reflects Staff's recalculation of property taxes based on the Arizona Department of Revenue method.

COMPUTATION OF STAFF ADJUSTED TEST YEAR PROPERTY TAXES, DOR METHODOLOGY

Line No.	Description	Staff Adjusted Test Year
1	Staff's Recommended Revenue	\$ 267,669
2	Staff's Adjusted Test Year Revenue -2002	\$ 242,710
3	Staff's Adjusted Test Year Revenue -2002	\$ 242,710
4	Three Year Average of Revenues	251,030
5	Multiply by Two	2
6	Subtotal (L4 * L5)	\$ 502,059
7	Plus:	
8	Construction Work in Progress (CWIP) \$ 440,000	
9	Valuation of CWIP for FCV Computation 10.00%	
10	Subtotal (L8*L9)	\$ 44,000
	Less:	
11	Licensed Vehicles \$ 32,740	
12	Less: Accumulated Depreciation \$ 10,092	
13	Net Book Value (L11-L12)	\$ 22,648
14	Full Cash Value (L6+L10-L13)	\$ 523,411
15	Times Assessment Ratio	25%
16	Assessed Value (L14 x L15)	\$ 130,853
17	Property Tax Rate	0.1531540
18	Property Taxes (L16 x L17)	\$ 20,041
19	Company Proposed	\$ 12,304
20	Staff Adjustment	\$ 7,737

COMPUTATION OF DEPRECIATION EXPENSE

Description	Depreciation Rates	Staff Adjusted Plant Balance	Depreciation Expense
1 Organization	0%	\$0	\$0
2 Franchises	0%	\$0	\$0
3 Land & Land Rights	0%	\$54,443	\$0
4 Structures & Improvements	3%	\$24,077	\$802
5 Wells & Springs	3%	\$212,323	\$7,070
6 Power Generating Equipment	5%	\$0	\$0
7 Pumping Equipment	13%	\$48,138	\$6,017
8 Water Treatment Equipment	3%	\$47,218	\$1,572
9 Distribution Reservoirs & Standpipes	2%	\$107,780	\$2,393
10 Transmission & Distribution Mains	2%	\$422,674	\$8,453
11 Services	3%	\$0	\$0
12 Meters & Meter Installations	8%	\$13,120	\$1,093
13 Hydrants	2%	\$0	\$0
14 Backflow Prevention Devices	7%	\$0	\$0
15 Other Plant and Misc. Equipment	7%	\$0	\$0
16 Office Furniture & Equipment	7%	\$17,762	\$1,185
17 Transportation Equipment	20%	\$32,740	\$6,548
18 Tools Shop & Garage Equipment	5%	\$23,555	\$1,178
19 Computer and Copy Equipment	20%	\$0	\$0
20 Power Operated Equipment	5%	\$0	\$0
21 Communication Equipment	10%	\$48,852	\$4,885
22 Miscellaneous Equipment	10%	\$18,997	\$1,900
23 Other Tangible Plant		\$0	\$0
24 C.W.I.P.		\$0	\$0
25 Total Plant in Service		\$1,071,679	\$43,096
26 Less: Amortization of Contribution in Aid of Construction	4.237%	\$ -	\$0
27 Depreciation Expense		\$1,071,679	\$43,096

RATE DESIGN

Monthly Usage Charge	Present	-Proposed Rates-	
	Rates	Company	Staff
5/8" x 3/4" Meter	\$11.00	\$12.00	\$11.00
3/4" Meter	11.00	12.00	\$11.00
1" Meter	16.00	20.00	\$16.00
1 1/2" Meter	22.00	25.00	\$22.00
2" Meter	30.00	35.00	\$30.00
3" Meter	50.00	75.00	\$50.00
4" Meter	60.00	90.00	\$90.00
6" Meter	70.00	100.00	\$100.00
Gallons Included in Minimum	1,000	-	-
<u>Commodity Rates:</u>			
Excess of Minimum - per 1,000 Gallons			
0 - 6,000	N/A	\$3.50	\$3.35
1,000 - 6,000	\$ 3.59	N/A	N/A
6,001 - 12,000	\$ 3.59	\$3.70	\$3.75
Over 12,000	\$ 3.59	\$3.90	\$3.90
Bulk Water/ Standpipe (1,000 Gallons)	\$ 7.00	\$8.00	\$8.00
Coin-Operated Standpipe (25 Gallons)	\$ 0.25	\$0.25	\$0.25
Filter Machine (Per Gallon)	\$ -	\$0.25	\$0.25
<u>Service Line and Meter Installation Charges</u>			
5/8" x 3/4" Meter	\$180.00	\$216.00	\$216.00
3/4" Meter	225.00	270.00	\$270.00
1" Meter	255.00	306.00	\$306.00
1 1/2" Meter	455.00	546.00	\$546.00
2" Meter	650.00	780.00	\$780.00
3" Meter	750.00	900.00	\$900.00
4" Meter	850.00	1,020.00	\$1,020.00
6" Meter	950.00	1,140.00	\$1,140.00
<u>Service Charges</u>			
Establishment	\$15.00	\$18.00	\$15.00
Establishment (After Hours)	20.00	24.00	\$20.00
Reconnection (Delinquent)	15.00	18.00	\$15.00
Meter Test (If Correct)	10.00	24.00	\$10.00
Deposit	*	*	*
Deposit Interest	**	**	**
Re-Establishment (Within 12 Months)	***	***	***
NSF Check	15.00	18.00	\$15.00
Deferred Payment	N/A	N/A	N/A
Meter Re-Read (If Correct)	10.00	10.00	\$10.00
Late Fees	N/A	5.00	1.50%
<u>Additional Service Charges:</u>			
Annual Back Flow Device Testing	\$ 25.00	\$ 25.00	\$ 25.00
Replacement Credit Card for Standpipe accounts	\$ 5.00	\$ 5.00	\$ 5.00
Early Account Termination (Less Than 6 Months)	\$ 1.00	\$ 1.00	\$ 1.00
Work for Customer (Backflow Device Repair, Install Customer Shut-off Valve, Install Backflow Device)	****	****	****

* Per Commission Rules (R14-2-403.B)
** Per Commission Rules (R14-2-403.B)
*** Months off system times the minimum (R14-2-403.D)
**** \$15 Per Hour Plus Costs of Parts

IN ADDITION TO THE COLLECTION OF ITS REGULAR RATES AND CHARGES, THE COMPANY SHALL COLLECT FROM ITS CUSTOMERS THEIR PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES OR USE TAX IN ACCORDANCE WITH R14-2-409.D5.

STAFF'S ESTIMATE OF MONTHLY ARSENIC REMOVAL SURCHARGE

Monthly Arsenic Removal Surcharge:		MONTHLY
Monthly Charge Per Customer (All Meter Sizes)		SURCHARGE
Commercial Standpipe (Per 1,000 Gallons)		\$ 3.55
Card operated Standpipe (Per 1,000 Gallons)		\$ 0.83
Coin-Operated Standpipe (Per 25 Gallons)		\$ 0.83
Filter Machine (Per Gallon)		\$ 0.02
		N/A
Calculation of Monthly Arsenic Removal Surcharge		
1 Allocation of Arsenic Removal Surcharge to Permanent Customers (Based on Revenue)		ALLOCATION
2 Total Number of Permanent Customers		\$ 9,659
3 Total Surcharge Per Customer/Year (L1/L2)		227
4 Surcharge Per Permanent Customer/Month (L3/12 Months)		\$ 42.55
5		\$ 3.55
6		
7		
8 Surcharge Allocation to Standpipe (Based on Revenue)		
9 Commercial Standpipe (Per 1,000 Gallons)	Gallons Used	ALLOCATION Surcharge
10 Card Operated Standpipe (Per 1,000 Gallons)	(Gallon Used)	(Gallon)
11 Coin Operated Standpipe (Per 25 Gallons)	7,270,000	\$ 6,035 \$ 0.83
12	7,358,000	\$ 6,108 \$ 0.83
13	3,864,300	\$ 3,208 \$ 0.02
14 Total Arsenic Removal Surcharge Per Year	18,492,300	\$ 15,351
15		\$ 25,010
16		
17 Calculation of Total Arsenic Removal Surcharge		
18 <u>Loan Terms</u>		
19 Loan Amount		\$ 290,812
20 Duration		20 Years
21 Interest Rate		6%
22		
23 Step 1		
24 <u>Annual Payment on Loan</u>		
25 Annual Payment Conversion Factor		0.0860
26 Loan Amount (L16)		\$ 290,812
27 Annual Loan Payment (L25 x L26)		\$ 25,010
28		
29 Step 2		
30 <u>Annual interest Payment</u>		
31 Conversion Factor		0.0593
32 Annual Interest Expense (L19 x L31)		\$ 17,245
33		
34 Step 3		
35 <u>Annual Principal Payment</u>		
36 Conversion Factor		0.0267
37 Annual Principal Payment (L19 x L36)		\$ 7,765
38		
39 Step 4		
40 <u>CALCULATION OF GROSS REVENUE CONVERSION FACTOR ("GRCF")</u>		
41 Effective Tax Rate (ERR)		0
42 GRCF = 1/(1-ETR)		1
43		
44 Step 5		
45 <u>Incremental Income Tax Factor</u>		
46 GRCF		0
47 Annual Principal Payment		\$ 7,765
48 Incremental Income (L46 x L47)		\$ -
49		
50 Step 6		
51 <u>Find the debt Component of Annual Surcharge Revenue</u>		
52 Annual Interest (L32)		\$ 17,245
53 Annual Principal (L37)		\$ 7,765
54 Total (L52 + L53)		\$ 25,010
55		
56 Step 7		
57 <u>Total Surcharge Revenue Requirement Needed for Loan</u>		
58 Annual Income Tax Component (L48)		\$ -
59 Debt Service Component (L54)		\$ 25,010
60 Total Arsenic Removal Surcharge (L58 +L59)		\$ 25,010

TYPICAL BILL ANALYSIS
General Service 5/8 x 3/4 - Inch Meter

Average Number of Customers: 211

<u>Company Proposed</u>	<u>Gallons</u>	<u>Present Rates</u>	<u>Proposed Rates</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
Average Usage	5,848	\$28.40	\$32.47	\$4.06	14.3%
Median Usage	3,915	\$21.46	\$25.70	\$4.24	19.7%
<u>Staff Proposed</u>					
Average Usage	5,848	\$28.40	\$30.59	\$2.19	7.7%
Median Usage	3,915	\$21.46	\$24.11	\$2.65	12.3%
<u>Staff Proposed (Including Surcharge)</u>					
Average Usage	5,848	\$28.40	\$34.62	\$12.63	44.5%
Median Usage	3,915	\$21.46	\$28.14	\$13.09	61.0%

Present & Proposed Rates (Without Taxes)
General Service 5/8 x 3/4 - Inch Meter

<u>Gallons Consumption</u>	<u>Present Rates</u>	<u>Company Proposed Rates</u>	<u>% Increase</u>	<u>Excluding Surcharge</u>		<u>Including Surcharge</u>	
				<u>Staff Proposed Rates</u>	<u>% Increase</u>	<u>Staff Proposed Rates</u>	<u>% Increase</u>
0	\$11.00	\$12.00	9.1%	\$11.00	0.0%	\$ 15.03	36.6%
1,000	11.00	15.50	40.9%	14.35	30.5%	18.38	67.1%
2,000	14.59	19.00	30.2%	17.70	21.3%	21.73	48.9%
3,000	18.18	22.50	23.8%	21.05	15.8%	25.08	38.0%
4,000	21.77	26.00	19.4%	24.40	12.1%	28.43	30.6%
5,000	25.36	29.50	16.3%	27.75	9.4%	31.78	25.3%
6,000	28.95	33.00	14.0%	31.10	7.4%	35.13	21.3%
7,000	32.54	36.70	12.8%	34.85	7.1%	38.88	19.5%
8,000	36.13	40.40	11.8%	38.60	6.8%	42.63	18.0%
9,000	39.72	44.10	11.0%	42.35	6.6%	46.38	16.8%
10,000	43.31	47.80	10.4%	46.10	6.4%	50.13	15.7%
15,000	61.26	66.90	9.2%	65.30	6.6%	69.33	13.2%
20,000	79.21	86.40	9.1%	84.80	7.1%	88.83	12.1%
25,000	97.16	105.90	9.0%	104.30	7.3%	108.33	11.5%
50,000	186.91	203.40	8.8%	201.80	8.0%	205.83	10.1%
75,000	276.66	300.90	8.8%	299.30	8.2%	303.33	9.6%
100,000	366.41	398.40	8.7%	396.80	8.3%	400.83	9.4%
125,000	456.16	495.90	8.7%	494.30	8.4%	498.33	9.2%
150,000	545.91	593.40	8.7%	591.80	8.4%	595.83	9.1%
175,000	635.66	690.90	8.7%	689.30	8.4%	693.33	9.1%
200,000	725.41	788.40	8.7%	786.80	8.5%	790.83	9.0%

ACTUAL BILL ANALYSIS

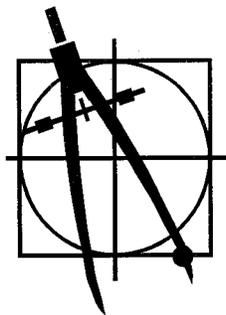
General Service 5/8 X 3/4-Inch Meter

High Consumption Customer

	Actual Gallons	Present Rate	Company Proposed Rates	% Increase	Staff Recommended Rates			
					Excluding Surcharge	% Increase	Including Surcharge	% Increase
January	9,302	\$ 44.39	\$ 45.22	1.85%	\$ 43.32	-2.43%	\$ 47.35	6.65%
February	9,530	\$ 45.21	\$ 46.06	1.88%	\$ 44.16	-2.33%	\$ 48.19	6.59%
March	8,370	\$ 41.05	\$ 41.77	1.76%	\$ 39.87	-2.87%	\$ 43.90	6.94%
April	25,390	\$ 102.15	\$ 107.42	5.16%	\$ 105.82	3.59%	\$ 109.85	7.54%
May	38,970	\$ 150.90	\$ 160.38	6.28%	\$ 158.78	5.22%	\$ 162.81	7.89%
June	62,840	\$ 236.60	\$ 253.48	7.13%	\$ 251.88	6.46%	\$ 255.91	8.16%
July	27,040	\$ 108.07	\$ 113.86	5.35%	\$ 112.26	3.87%	\$ 116.29	7.60%
August	21,140	\$ 86.89	\$ 90.85	4.55%	\$ 89.25	2.71%	\$ 93.28	7.35%
September	28,610	\$ 113.71	\$ 119.98	5.51%	\$ 118.38	4.11%	\$ 122.41	7.65%
October	37,450	\$ 145.45	\$ 154.46	6.19%	\$ 152.86	5.09%	\$ 156.89	7.87%
November	5,980	\$ 32.47	\$ 32.93	1.41%	\$ 31.03	-4.44%	\$ 35.06	7.97%
December	5,940	\$ 32.32	\$ 32.78	1.40%	\$ 30.88	-4.48%	\$ 34.91	7.99%
Total Gallons	280,562	\$ 1,139.22	\$ 1,199.17		\$ 1,178.47		\$ 1,226.83	

Low Consumption Customer

	Actual Gallons	Present Rate	Company Proposed Rates	% Increase	Staff Recommended Rates			
					Excluding Surcharge	% Increase	Including Surcharge	% Increase
January	7,349	\$ 37.38	\$ 37.99	1.63%	\$ 36.09	-3.46%	\$ 40.12	7.33%
February	5,840	\$ 31.97	\$ 32.41	1.38%	\$ 30.51	-4.56%	\$ 34.54	8.05%
March	6,931	\$ 35.88	\$ 36.44	1.57%	\$ 34.54	-3.73%	\$ 38.57	7.50%
April	12,269	\$ 55.05	\$ 56.20	2.09%	\$ 54.30	-1.36%	\$ 58.33	5.96%
May	17,390	\$ 73.43	\$ 75.14	2.33%	\$ 73.24	-0.25%	\$ 77.27	5.23%
June	35,800	\$ 139.52	\$ 143.26	2.68%	\$ 141.36	1.32%	\$ 145.39	4.21%
July	16,050	\$ 68.62	\$ 70.19	2.28%	\$ 68.29	-0.49%	\$ 72.32	5.39%
August	17,980	\$ 75.55	\$ 77.33	2.35%	\$ 75.43	-0.16%	\$ 79.46	5.17%
September	19,510	\$ 81.04	\$ 82.99	2.40%	\$ 81.09	0.06%	\$ 85.12	5.03%
October	9,290	\$ 44.35	\$ 45.17	1.85%	\$ 43.27	-2.43%	\$ 47.30	6.66%
November	5,490	\$ 30.71	\$ 31.11	1.32%	\$ 29.21	-4.87%	\$ 33.24	8.25%
December	5,190	\$ 29.63	\$ 30.00	1.25%	\$ 28.10	-5.16%	\$ 32.13	8.44%
Total Gallons	159,089	\$ 703.13	\$ 718.23		\$ 695.43		\$ 743.79	



Attachment 1

**Engineering Report
For Ash Fork Water Service
Docket No. W-01004B-03-0722
(Rate Application)**

**By Dorothy Hains
March 29, 2004**

EXECUTIVE SUMMARY

Recommendations:

1. Staff recommends that the Ash Fork Water Service ("Ash Fork" or "Company") use specific depreciation rates by the National Association of Regulatory Utility Commissioners ("NARUC") category. (See §K and Exhibit 6 for a discussion and a tabulation of the recommended rates.)
2. The installation of Well No. 2 had not been completed and it was not in-service at the time Staff conducted its system inspection, therefore, Staff finds this well not used and useful to the Company's provision of service. (See §C of report for discussion and details.)
3. The most recent lab analysis by the Company indicated that the arsenic level in the Company's new well supply exceeds the new arsenic MCL. Staff recommends that the Company submit its detailed arsenic treatment plan to the Director of Utilities Division by December 31, 2004. (See §D of report for discussion and details.)
4. Water testing expenses are based upon participation in the ADEQ Monitoring Assistance Program ("MAP"). Annual testing expenses should be adjusted to \$1,815. (See §J and Table 8 for discussion and details.)
5. Staff recommends accepting the Company's proposed service line and meter installation charges. (See §L of report for discussion and details.)
6. Staff recommends that the Company complete the installation of Well No. 2 and the associated projects and submit a copy of the Certificate of Approval of Construction issued by ADEQ regarding Well No. 2 to the Director of the Utilities Division within six months of a Decision in this case. (See §C of report for discussion and details.)

Conclusions:

1. According to the Utilities Division Compliance Unit, the Company has no outstanding ACC compliance issues.
2. The Company is not in any Arizona Department of Water Resources ("ADWR") Active Management Area.
3. Arizona Department of Environmental Quality ("ADEQ") has determined that Ash Fork Water Co. has no major water quality monitoring and reporting deficiencies. ADEQ states that it has determined that the water system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.
4. Staff calculated a non-account water loss of 5.5 percent which is within acceptable limits. (See §E of report for discussion and details.)
5. Using the ADEQ Arsenic Master Plan ("AMP"), Staff has calculated a preliminary estimate of arsenic removal costs for Ash Fork's system. Staff's estimate includes \$252,880 in capital cost, \$39,936 for annual O&M cost and \$37,932 in engineering cost. Staff's estimate assumes (1) arsenic removal will only be required for the new Well No. 2 and this treatment process will occur at the well head, (2) arsenic will be removed to meet 8 $\mu\text{g}/\text{l}$ by Single Column Fe-AA (iron-modified active alumina) Treatment, (3) engineering cost will equal 15 percent of the capital cost and (4) the Company will implement the lowest cost option. (See §L and Attachment 2 for discussion and details.)

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**ENGINEERING REPORT
FOR
ASH FORK WATER COMPANY, INC.
DOCKET NO. W-01004B-03-0722 (RATES)**

A. PURPOSE OF REPORT

This report was prepared in response to the application for a rate increase by Ash Fork Water Service. ("Ash Fork" or "Company"). An inspection and evaluation of the Company's water system was conducted by Dorothy Hains, Utilities Engineer, accompanied by Marlin Scott, Jr. Utilities Engineer and Lewis Hume, the Company's water system Operator and Manager on November 19, 2003.

B. LOCATION OF SYSTEM

The Company serves the Town of Ash Fork, which is approximately 20 miles west of Williams in Yavapai County. Exhibit 1 shows the approximate one and one-half square-miles of certificated area, and Exhibit 2 shows the location of the Company within Yavapai County.

C. DESCRIPTION OF SYSTEM

I. System Description

The Company owns and operates a water system that consists of two wells, two storage tanks and a distribution system to serve 235 metered customers. The majority of customers are standpipe users. The Company had developed a method to track each standpipe user as an individual metered user. Therefore, the Company reported 479 customers during the test year. Construction of Well No. 2 had not been completed and it was not in-service at the time Staff conducted its system inspection. Exhibit 3 is a schematic drawing of the water system; a detailed description of the facility's system is as follows:

Table 1. Active Well Data

Well Name	ADWR ID No.	Pump HP	Yield GPM	Casing Size (in inch) & Depth (in ft)	(Meter Size inch)	Year drilled
Well #1	55-604624	75	150	12" x 1,700'	3	1975
		TOTAL:	150 GPM			

Table 2. Inactive Well Data

Well Name	ADWR ID No.	Pump HP	Yield GPM	Casing Size (in inch) & Depth (in ft)	(Meter Size inch)	Year drilled
Well #2*	55-590950	75	150	12" x 1,302'	N/A	2002
		TOTAL:	150 GPM			

Note: * Constructions of Well No. 2 had not been completed and this well was not in-service at the time Staff conducted its system inspection.

Table 3. Storage Tanks

Capacity (Gallons)	Quantity (Each)	Location
100,000	2	Near HWY 89
Totals: 200,000 gallons	2	

Table 4. Distribution Mains

Diameter	Material	Length
8 inch	polyvinyl chloride ("PVC")	7,130 feet
4 inch	PVC	10,610 feet
4 inch	Steel (galvanized)	750 feet
2 inch	PVC	1,790 feet
2 inch	Steel (galvanized)	11,200 feet

Table 5. Meters

Size	Quantity
5/8 x 3/4 inch	210
1 inch	7
2 inch	16
4 inch (Turbo)	2
Total	235

Well No. 2 was drilled in 2002, however well construction had not been completed at the time Staff conducted its system inspection. Therefore, Staff finds this well not used and useful to the Company's provision of service during the test year. The Company expects this well to be completed and in-service by the spring of 2004. Completion of Well No. 2 is dependent upon the Company's completion of the following projects: (1) complete approximately one mile long, three-phased power line extension; (2) complete installation of well, install well meter, well pad, fencing, anti-freezing insulation, etc.; (3) complete installation of a transmission line between Well No. 2 and existing storage tanks; and (4) complete well site grading. (The financing for these projects was approved in Decision No. 65852, dated April 25, 2003.)

Without Well No. 2, the Company does not have adequate capacity to serve its existing customer base. Well No. 2 will also enable the Company to provide water for fire protection. The Ash Fork community fire department currently obtains most of its water from surface water runoff pumped from a manmade lake. However, some domestic water must be used during times of drought when the surface water is not available. Therefore, Staff recommends that the Company complete the installation of Well No. 2 and associated projects and submit a copy of the Certificate of Approval of Construction issued by ADEQ regarding Well No. 2 to the Director of the Utilities Division within six months of a Decision in this case.

II. System Analysis

When Well No. 2 is completed and in-service, the system will have adequate production and storage capacity to support the existing customer base.

D. ARSENIC

The U.S. Environmental Protection Agency ("EPA") has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 micrograms per liter (" $\mu\text{g/l}$ ") to 10 $\mu\text{g/l}$. The date for compliance with the new MCL is January 23, 2006. The most recent lab analysis by the Company indicated that the arsenic level in the new Well No. 2 is 18 $\mu\text{g/l}$ which is above the new arsenic MCL. Therefore, Staff recommends that the Company submit its detailed arsenic treatment plan to the Director of the Utilities Division by December 31, 2004. (See Section L and Attachment 2 for further discussion of the Arsenic issue.)

E. WATER USAGE

Table 6 summarizes water usage for the Company's system. Attached as Exhibit 4, is a graph that shows gallons per day per connection water consumption data during the test year 2002.

Table 6. Water Usage

Month	Number of Customers	Water Sold (gallons)	Water pumped (gallons)	Water purchased (gallons)	Daily Average (gal/day/customer)
Jan 02	464	2,554,270	2,894,000	0	178
Feb 02	466	2,357,130	2,608,000	0	181
Mar 02	456	2,538,090	2,828,000	0	180
Apr 02	450	3,368,800	3,535,000	0	250
May 02	464	3,335,300	3,567,000	0	232
Jun 02	464	3,870,090	3,970,000	0	278
Jul 02	469	4,908,210	5,183,000	0	338
Aug 02	473	4,089,260	4,229,000	0	279
Sep 02	478	3,060,920	3,240,000	0	213
Oct 02	479	3,643,580	3,724,000	0	245
Nov 02	482	2,210,180	2,245,000	0	153
Dec 02	477	2,525,250	2,680,000	0	171
Total		38,461,080	40,703,000	0	
Average					225

I. Water Sold

Based on information provided by the Company, during the test year, the Company experienced a daily average usage of 225 gallons per day ("gpd") per customer, a high usage of 338 gpd per customer and a low usage of 153 gpd per customer. The highest monthly usage occurred in July, when 4,908,210 gallons were sold to 469 customers. The lowest monthly usage occurred in November, when 2,210,180 gallons were sold to 482 customers.

II. Non-account Water

Non-account water should be not more than 10 percent. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a water company to identify water and revenue losses due to leakage, theft, and flushing. Non-account water for Ash Fork was calculated to be 5.5 percent annually, which is within an acceptable limit.

F. GROWTH PROJECTION

Exhibit 5 details total actual and projected growth for the system using linear regression analysis. The number of service connections was obtained from annual reports submitted to the Commission. Based on the service meter data contained in these reports, the number of connections increased from 291 at the end of 1994 to 477 by the end of 2002, with an average growth rate of 24 connections per year. Based on the linear regression analysis, the Company could have approximately 610 customers by the end of 2007. The following table summarizes actual and projected growth for the Company.

Table 7. Actual and Projected Growth

Year	Nos. of Customers	
1994	291	Reported
1995	324	Reported
1996	344	Reported
1997	368	Reported
1998	392	Reported
1999	411	Reported
2000	461	Reported
2001	466	Reported
2002	477	Reported
2003	513	Estimated
2004	537	Estimated
2005	561	Estimated
2006	586	Estimated
2007	610	Estimated

**G. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ("ADEQ")
COMPLIANCE**

Staff received a compliance status report from ADEQ on October 3, 2003, in which ADEQ stated that it has determined that the Company has no major water quality monitoring/reporting deficiencies and that the water system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

**H. ARIZONA DEPARTMENT OF WATER RESOURCES ("ADWR")
COMPLIANCE**

Ash Fork is not in any ADWR Active Management Area. Therefore, the Company is not subject to ADWR's gallons per capita per day limits and conservation rules.

I. ARIZONA CORPORATION COMMISSION ("ACC") COMPLIANCE

According to the Utilities Division Compliance Unit, the Company has no outstanding ACC compliance issues.

J. WATER TESTING EXPENSES

Ash Fork is subject to mandatory participation in the ADEQ Monitoring Assistance Program ("MAP"). Staff calculated the testing costs based on the following assumptions:

1. MAP will do baseline testing on everything except copper, lead, nitrates, and bacteria.
2. ADEQ testing is performed in 3 year compliance cycles. Therefore, monitoring costs are estimated for a 3 year compliance period and then presented as a pro forma expense on an annualized basis.
3. MAP fees were calculated from the ADEQ MAP rules.
4. All monitoring expenses are based on Staff's best knowledge of lab costs and methodology and two points of entry.
5. The estimated water testing expenses represent a minimum cost based on no "hits" other than lead and copper, and assume compositing of well samples. If any constituents were found, then the testing costs would dramatically increase.

Table 8 shows the estimated annual monitoring expense, assuming participation in the MAP program. Water testing expenses should be adjusted to the annual expense amount shown in Table 8, which is \$ 1,815.

Table 8. Water Testing Cost

Monitoring – 2 wells (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Bacteriological – monthly	\$15	72	\$1,080	\$360
Inorganics (& secondary)	\$240	2	\$480	\$160
Radiochemical – (1/ 4 yr)	\$55			MAP
IOC's, SOC's, VOC's				MAP
Nitrites	\$15			MAP
Nitrates – annual	\$25	6	\$150	\$50
Asbestos – per 9 years	\$180			MAP
Lead & Copper – annual	\$25	60	\$1,500	\$500
MAP fees (annual)				\$744.73
Total				\$1,815

K. DEPRECIATION RATES

Staff has developed typical and customary depreciation rates within the range of anticipated equipment life. These rates are presented in Exhibit 6, and should be used to calculate the annual depreciation expense for the Company. It is recommended that the Company use depreciation rates by the National Association of Regulatory Utility Commissioners (“NARUC”) category, as delineated in Exhibit 6.

L. OTHER ISSUES

I. Service Line and Meter Installation Charges

The Company has requested to change its meter and service line charges. These charges are refundable advances and the Company’s proposed charges are within Staff’s experience of reasonable and customary charges. Therefore, Staff accepts the Company’s proposed meter and service line installation charges as shown in Table 9.

Table 9. Service Line and Meter Installation Charges

Meter Size	Current Charges	Proposed Charges	Staff Recommendation
5/8 x3/4-inch	\$180	\$216	\$216
3/4-inch	\$225	\$270	\$270
1-inch	\$255	\$306	\$306
1-1/2-inch	\$455	\$546	\$546
2-inch	\$650	\$780	\$780
3-inch	\$750	\$900	\$900
4-inch	\$850	\$1,020	\$1,020
6-inch	\$950	\$1,140	\$1,140

II. Staff's Estimate of Arsenic Removal Costs

The most recent lab analysis by the Company indicated that the arsenic level in Well No. 2 is 18 µg/l which is above the new arsenic MCL. Using the ADEQ Arsenic Master Plan ("AMP"), Staff has calculated a preliminary estimate of arsenic removal costs for Ash Fork's system. Staff's estimate includes \$252,880 in capital cost, \$39,936 for annual operation & maintenance ("O&M") cost and \$37,932 in engineering cost. Staff's estimate assumes (1) arsenic removal will only be required for Well No. 2 and this treatment process will occur at the well head, (2) arsenic will be removed to meet 8 µg/l by Single Column Fe-AA (iron-modified active alumina) Treatment, (3) engineering cost will equal 15 percent of the capital cost and (4) the Company will implement the lowest cost option. (See Attachment 2 for further discussion of the AMP and Staff's cost estimate.)

EXHIBIT 1

Ash Fork's Certificate Service Area

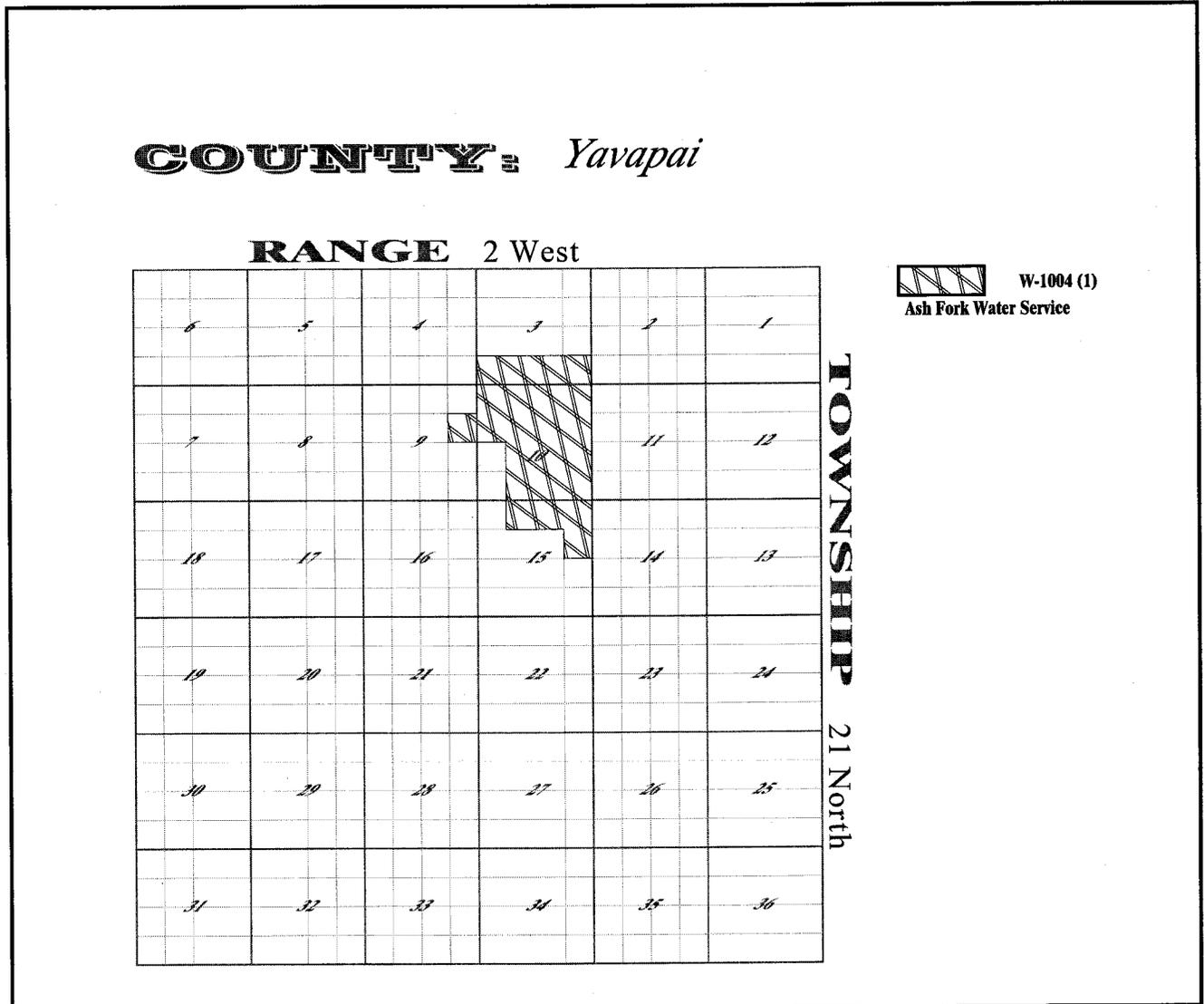


EXHIBIT 2.

LOCATION OF ASH FORK WATER SERVICE

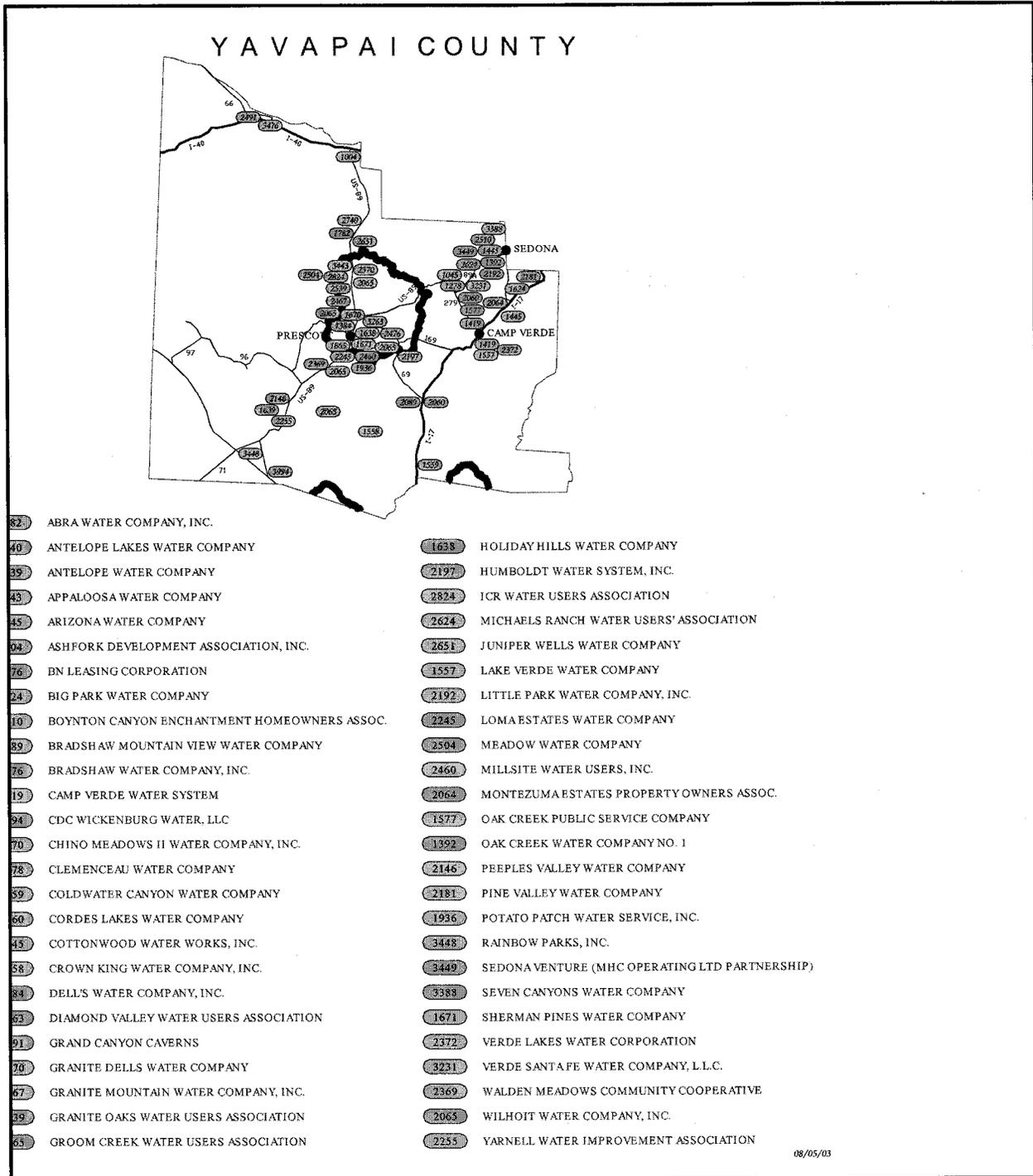


EXHIBIT 3.
SYSTEMATIC DRAWING

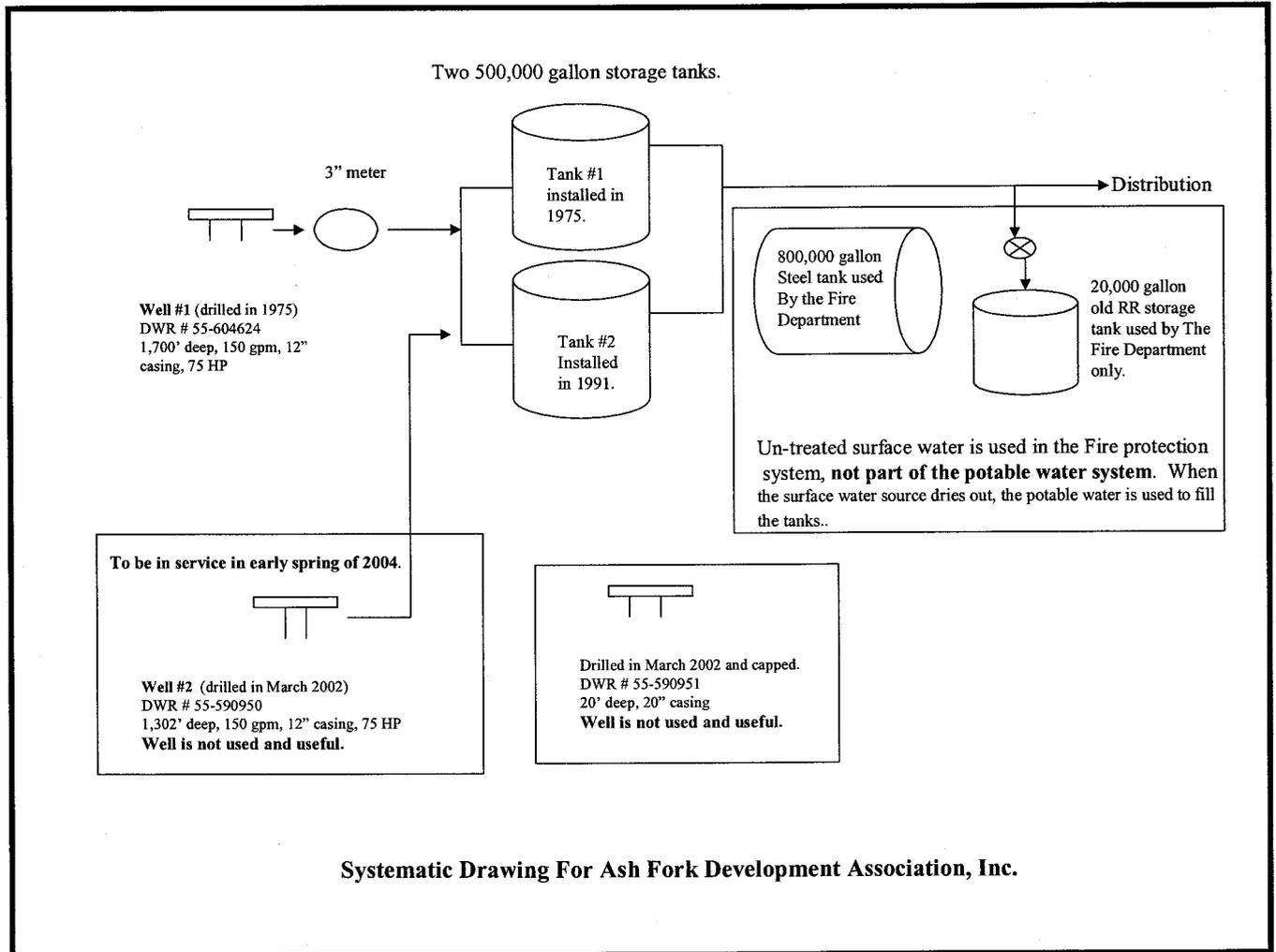


EXHIBIT 4

WATER USAGE ON THE ASH FORK WATER SYSTEM

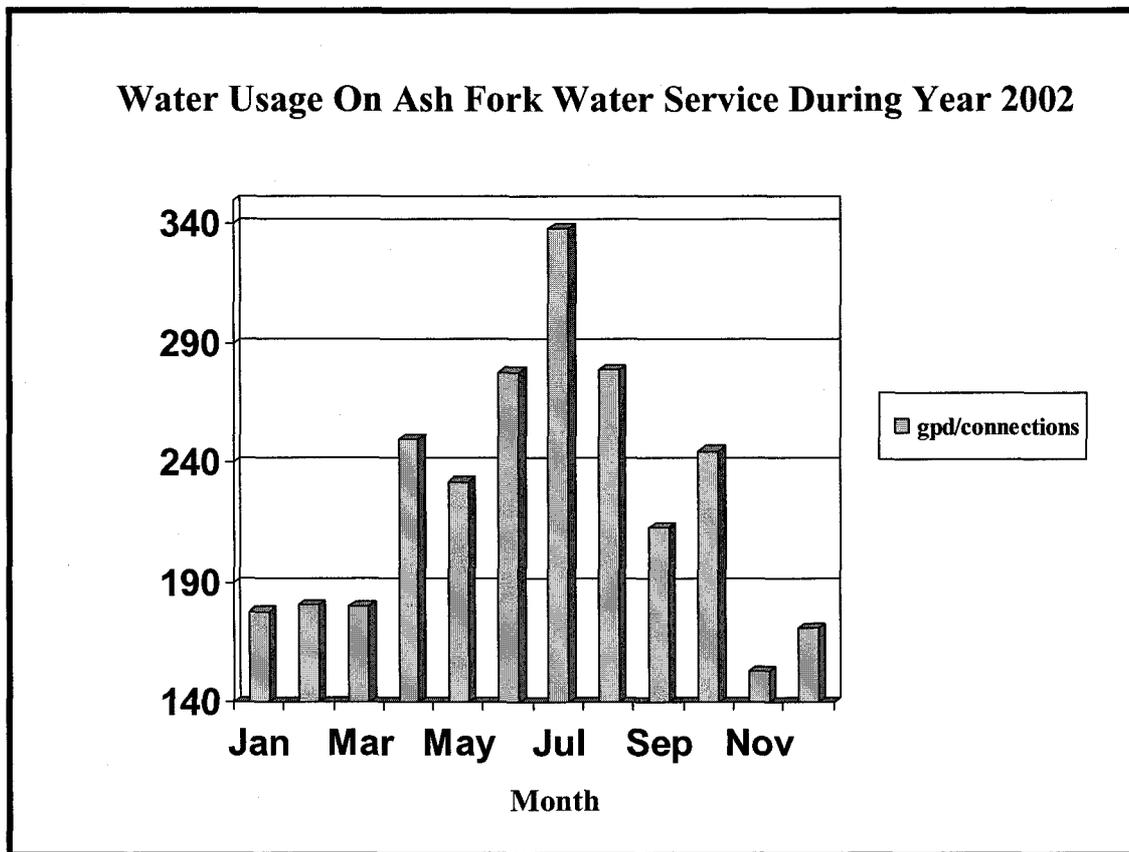


EXHIBIT 5

ACTUAL AND PROJECTED GROWTH FOR ASH FORK

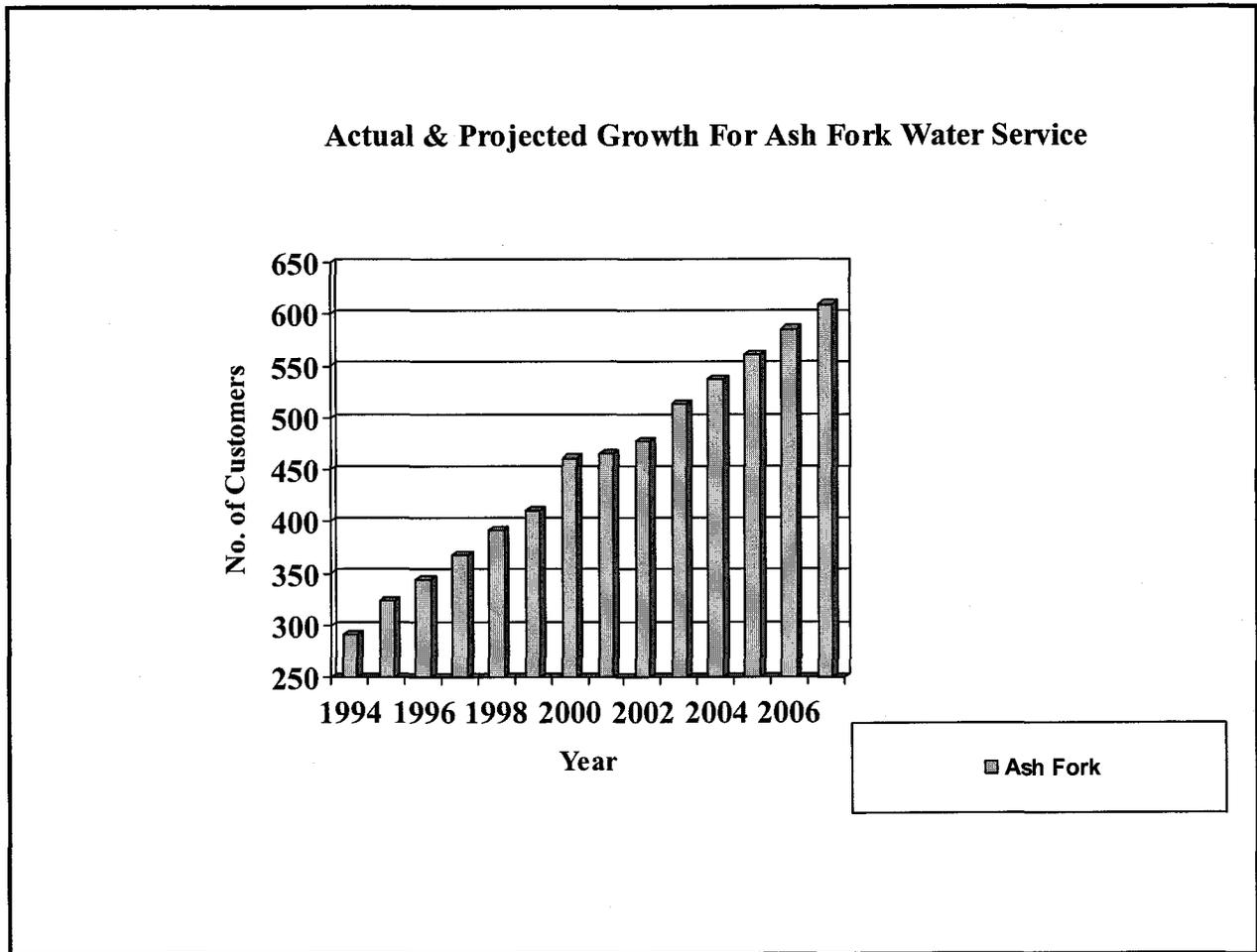


Exhibit 6

Water Depreciation Rates

Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	----	----

MEMORANDUM

DATE: March 29, 2004
TO: Alexander Igwe, Public Utilities Analyst V
FROM: Dorothy Hains, Utilities Engineer
RE: Ash Fork Water Service – Arsenic Treatment Cost
Docket No. W-1004B-03-0722 (Rates)

Introduction

Ash Fork Water Service (“Ash Fork” or “Company”) serves the Town of Ash Fork in Yavapai County. The Company is in the process of constructing a new Well No. 2. The most recent lab analysis by the Company indicated that the arsenic level in Well No. 2 is 18 micrograms per liter (“µg/l”) or parts per billion (“ppb”) which is above the new arsenic maximum contaminant level (“MCL”). The Company did not file an arsenic treatment plan with the Commission in connection with the pending rate case. Using the ADEQ Arsenic Master Plan (“AMP”), Staff has calculated a preliminary estimate of arsenic removal costs for Ash Fork’s system.

Water System

The Company operates a water system consisting of Well No. 1 producing 150 gpm, two storage tanks (100,000 gallons each), and distribution system serving 477 customers (approximately 240 metered service connections and 234 standpipe customers). The system operates as a gravity-operated system. The arsenic concentration from Well No. 1 is 7.9 ppb.

The new Well No. 2 which is under construction is expected to produce 150 gpm and is scheduled to be completed and placed into service by spring of 2004. The arsenic concentration from water produced by Well No. 2 is 18 ppb.

ADEQ Arsenic Master Plan

ADEQ initiated the AMP in early 2002 to assist water systems in Arizona that are affected by the new arsenic rule. To assist these affected small water systems, compliance options were developed to categorize systems serving less than 10,000 persons and develop costs for funding

arsenic mitigation projects for the systems. The focus of the AMP is on small groundwater systems serving fewer than 10,000 persons, although the report should also prove useful for larger groundwater systems.

Treatment Alternatives and Cost Models

The AMP report provides detailed discussion of the potential arsenic removal technologies for small water systems and the associated costs. Iron-modified activated alumina (Fe-AA), granular iron media such as granular ferric hydroxide (GFH) or Sorb-33, coagulation with granular media filtration and point-of-use ("POU") devices (reverse osmosis and adsorption media) were determined as the feasible treatment options. Detailed information on site plans and schematics, and design criteria for each treatment alternative, were presented in the report. Cost models were developed for varying configuration options and media types, using Arizona specific cost factor models. Based on the cost models, capital and operation & maintenance ("O&M") costs were estimated for each category of system based on its flow capacity.

Cost Evaluation

Capital and O&M costs were developed on a statewide basis for each of the feasible treatment alternatives. From these treatment alternatives, the two lowest cost options, from an annualized treatment cost perspective were selected (annualized cost is equal to capital cost amortized over 20 years at a 6 percent interest rate plus annual O&M cost). A list of the two lowest cost options for each of the 473 impacted point-of-entries ("POEs") was presented in the report. The AMP recommends the use of the two lowest cost options for each POE as arsenic mitigation strategies.

The cost estimates do not include the engineering fees for design for these facilities. According to the AMP, a 30 percent factor should be used to estimate the engineering fee.

Point-of-Use

Systems serving fewer than 300 persons should consider the possibility of using Point-Of-Use ("POU") treatment. According to the Report significant capital cost savings, ranging from 5 to 20 percent of centralized treatment cost, may be realized. Based on a comparison between centralized and POU treatment costs, it was observed that POU costs were significantly lower than centralized treatment cost for systems serving fewer than 30 connections (300 persons). Based on a statewide POU evaluation, it was observed that approximately 64 POEs with average population less than 300 persons had annualized POU costs lower than the lowest central annualized treatment costs. These POEs should be further evaluated on a site-specific basis for POU feasibility, taking into consideration political and logistic issues associated with POU treatment.

Estimated Arsenic capital and O&M Costs

In 2002 the AMP selected a treatment method and listed capital and O&M costs for Well No. 1 as follows:

<u>System No.</u>	<u>System Name</u>	<u>AMP Selected Alternative</u>	<u>Capital Cost</u>	<u>Annual O&M Cost</u>
13-008 (Well #1)	Ash Fork	1b	\$272,151	\$27,428

Using the AMP and applying updated system information, such as, reviewing data of old Well No. 1 and new Well No. 2, evaluating the latest lab results regarding arsenic concentration (Well No. 1 at 7.9 ppb and new Well No. 2 at 18 ppb), using current system well production (in gpm), and the current number of service connections, Staff estimated capital and O&M arsenic treatment costs for the new Well No. 2 as follows:

<u>System No.</u>	<u>System Name</u>	<u>AMP Selected Treatment</u>	<u>Capital Cost</u>	<u>Annual O&M Cost</u>
13-008 (Well #2)	Ash Fork	1b	\$252,880	\$39,936
	Engineering at 15%:		\$37,932	(Staff believes 15% is reasonable.)
	Staff Total:		\$290,812	

Using AMP and updated system information, Staff's estimated total arsenic treatment capital cost for Well No. 2 is \$290,812.

Conclusion and Recommendation

The most recent lab analysis by the Company indicated that the arsenic level in Well No. 2 is 18 µg/l which is above the new arsenic MCL. Using the AMP, Staff has calculated a preliminary estimate of arsenic removal costs for Well No. 2 (a more accurate arsenic treatment cost may be determined once the final engineering design work has been completed). Staff's estimate includes \$252,880 in capital cost, \$39,936 for annual O&M cost (excluding the cost of engineering) and \$37,932 in engineering cost. Staff's estimate assumes (1) arsenic removal will only be required for Well No. 2 and the treatment process will occur at the well head, (2) arsenic will be removed to meet 8 µg/l by Single Column Fe-AA (iron-modified active alumina) Treatment, (3) engineering cost will equal 15 percent of the capital cost and (4) the Company will implement the lowest cost option.