

NEW APPLICATION  
ORIGINAL  
RECEIVED



0000012794

Arizona Corporation Commission

DOCKETED

DEC 03 2004

DOCKETED BY

1 FENNEMORE CRAIG 2004 DEC -3 P 2: 38  
2 A Professional Corporation  
3 Jay L. Shapiro (No. 014650)  
4 3003 North Central Avenue  
5 Suite 2600  
6 Phoenix, Arizona 85012  
7 Telephone (602) 916-5000

ARIZONA CORPORATION COMMISSION  
DOCUMENT CONTROL

WS-02987A-04-0869

5 Attorneys for Johnson Utilities Company

6 **BEFORE THE ARIZONA CORPORATION COMMISSION**

7 IN THE MATTER OF THE APPLICATION  
8 OF JOHNSON UTILITIES COMPANY FOR  
9 AN EXTENSION OF ITS EXISTING  
10 CERTIFICATE OF CONVENIENCE AND  
11 NECESSITY FOR WATER SERVICE.

DOCKET NO. WS-02987A-  
APPLICATION FOR EXTENSION OF  
CERTIFICATE OF CONVENIENCE AND  
NECESSITY

11 Johnson Utilities Company, L.L.C. ("Applicant"), an Arizona public service corporation,  
12 hereby applies for an Order approving an extension of its existing Certificate of Convenience and  
13 Necessity ("CC&N") for water service to include an area encompassing a portion of the  
14 development known as Bella Vista ("the Development"). Applicant currently provides  
15 wastewater utility service in the requested area pursuant to Decision No. 63690 (September 4,  
16 2001), as amended by Decision No. 64062 (October 4, 2001) and Decision No. 65840 (April 22,  
17 2003). In support of this Application, Applicant states as follows:

18 1. Applicant is a public service corporation engaged in providing water and  
19 wastewater utility service, respectively, for public purposes within portions of Pinal County,  
20 Arizona. Applicant was first granted a CC&N in Decision No. 60223 (May 27, 1997), and  
21 currently serves approximately 8500 water utility customers. The area served by Applicant  
22 contains both residential and commercial properties.

23 2. Wolfcor, L.L.C. and Centex Homes have specifically requested that Applicant  
24 extend water utility service to the Development, located in Section 23, Township 3 South, Range  
25 8 East and Section 13, Township 3 South, Range 8 East, respectively. Copies of these requests  
26 for service are attached hereto as Exhibit 1.

1           3.       The area covered by this Application includes approximately 1,280 acres, and will  
2 ultimately contain approximately 4,200 lots. The Development shall be constructed in phases,  
3 and Wolfcor, L.L.C. and Centex Homes estimate that home construction and sales will commence  
4 in 2005. Because of the integrated nature of the Development, it is both prudent and economical  
5 to plan and design for the orderly development of both water and wastewater<sup>1</sup> utility  
6 infrastructure within the area that is the subject of this application.

7           4.       A legal description for the area covered by this Application is attached hereto as  
8 Exhibit 2.

9           5.       Applicant's management contact is Brian Tompsett of Johnson Utilities Company,  
10 whose business address is 5230 East Shea Boulevard, Suite 200, Scottsdale, Arizona 85254. The  
11 telephone number is (480) 998-3300.

12           6.       Applicant's operator, certified by the Arizona Department of Environmental  
13 Quality, is Jerry Beeler, whose business address is 968 E. Hunt Hwy, Queen Creek, Arizona. The  
14 telephone number is (480) 987-9870.

15           7.       Applicant's attorneys are Fennemore Craig, whose address is 3003 North Central  
16 Avenue, Suite 2600, Phoenix, Arizona 85012-2913. The individual attorney responsible for this  
17 application is Jay L. Shapiro. Mr. Shapiro's telephone number is (602) 916-5366. **All Data**  
18 **Requests or other Requests for Information should be directed to Mr. Brian Tompsett, with**  
19 **a copy to Mr. Shapiro's attention, on behalf of Johnson Utilities Company.**

20           8.       A Certificate of Good Standing for Johnson Utilities Company is attached hereto  
21 as Exhibit 3.

22           9.       The newly acquired customers in the area covered by the application will receive  
23 water service subject to Applicant's current rates and charges for utility service, which were  
24 approved in Decision No. 60223 (May 27, 1997).

25 <sup>1</sup> As stated above, Johnson Utilities Company is certified to provide wastewater utility service for the Development  
26 pursuant to Decision No. 63690 (September 4, 2001), as amended by Decision No. 64062 (October 4, 2001) and  
Decision No. 65840 (April 22, 2003).

1           10.    A detailed map indicating portions of Applicant's present CC&N and the area  
2 requested for extension by this Application is attached hereto as Exhibit 4.

3           11.    Applicant's balance sheet and profit and loss information for the 12-month period  
4 ending 2003 is attached hereto as Exhibit 5.

5           12.    A copy of a master water design report for the Development is attached hereto as  
6 Exhibit 6.

7           13.    A copy of Applicant's most recent Annual Report (2003) is attached hereto as  
8 Exhibit 7.

9           14.    The estimated numbers or customers to be served in each of the first five years of  
10 water utility service to the area covered by this Application is as follows:

11           Residential

12                   1<sup>st</sup> Year:     200  
13                   2<sup>nd</sup> Year:     400  
14                   3<sup>rd</sup> Year:     650  
15                   4<sup>th</sup> Year:    1,042  
16                   5<sup>th</sup> Year:    1,534

17           15.    Applicant's estimated annual operating revenue and operating expenses for each of  
18 the first five years of operation in the new area covered by this Application are as follows:

	<u>Operating Revenue</u>	<u>Operating Expenses</u>
19	1 <sup>st</sup> Year - \$53,000	1 <sup>st</sup> Year - \$43,941
20	2 <sup>nd</sup> Year - \$146,750	2 <sup>nd</sup> Year - \$119,269
21	3 <sup>rd</sup> Year - \$258,250	3 <sup>rd</sup> Year - \$198,755
22	4 <sup>th</sup> Year - \$442,380	4 <sup>th</sup> Year - \$338,760
23	5 <sup>th</sup> Year - \$678,540	5 <sup>th</sup> Year - \$517,252

24

25

26

27

28

29

30

1           16.    The plant cost projections, including service meters, by year for the next five (5)  
2 years is as follows:

3                           **Plant Cost Projection**

4                           1<sup>st</sup> Year - \$662,255  
5                           2<sup>nd</sup> Year - \$799,305  
6                           3<sup>rd</sup> Year - \$954,604  
7                           4<sup>th</sup> Year - \$1,796,249  
8                           5<sup>th</sup> Year - \$2,103,878

9           17.    The water facilities needed to serve the area covered by this Application will be  
10 constructed as needed to provide service to customers.

11           18.    The construction of the additional utility facilities needed to serve the area covered  
12 by this Application will be financed primarily by advances in aid of construction and hook-up  
13 fees in accordance with Commission regulations and Applicant's applicable tariffs, as well as  
14 pursuant to the terms of any main extension agreement between Applicant and Wolfcor, LLC. A  
15 copy of a fully executed main extension agreement between the parties shall be filed with the  
16 Commission in support of this application when completed.

17           19.    The Development is located within the boundaries of Applicant's present Pinal  
18 County franchise.

19           20.    Arizona Department of Environmental Quality ("ADEQ") Approvals to Construct  
20 concerning facilities to serve the requested extension area will be provided to the Commission as  
21 soon as they are received.

22           21.    Notice of this Application will be given by publication in a newspaper of general  
23 circulation as required by the Commission. Proof of publication will be filed with the  
24 Commission.

25           22.    Applicant maintains that this Application is in the public interest and should be  
26 granted. There is a present need for water service in order to foster orderly growth in Pinal  
County, as evidenced by the landowners' and developer's requests that Applicant extend water

1 utility service. Furthermore, Applicant is the largest water and wastewater utility provider in the  
2 area and already is the certified provider for wastewater utility service to the area covered by the  
3 extension. Therefore, in addition to the advantages of an increased regionalized customer base,  
4 granting this Application will allow customers in the area to receive water and wastewater utility  
5 service from one provider and allow the utility provider and customers to benefit from economies  
6 of scale in administration and planning as well as the benefits related to billing and collection that  
7 are present when water and wastewater is provided by a single entity. .

8 23. To the best of its knowledge and belief, Applicant is currently in compliance with  
9 all regulatory requirements applicable to its provision of water utility service in Arizona,  
10 including all applicable orders, rules and regulations of the Commission and ADEQ.

11 WHEREFORE, Applicant respectfully requests the following:

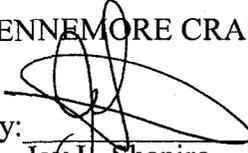
12 A. That the Commission proceed to consider and act upon this Application as timely  
13 as possible and to schedule a hearing, if necessary, on this matter;

14 B. That upon completion of said hearing that the Commission enter an Order  
15 approving the extension of Johnson Utilities Company's current Certificate of Convenience and  
16 Necessities to include the additional geographic areas requested by this Application as shown in  
17 Exhibit 4; and

18 C. That the Commission grant such other and further relief as may be appropriate  
19 under the circumstances herein.

20 DATED this 3<sup>rd</sup> day of December, 2004.

21 FENNEMORE CRAIG, P.C.

22  
23 By:   
Jay L. Shapiro  
24 Attorneys for Johnson Utilities Company  
25  
26

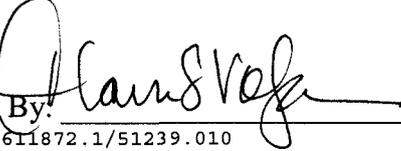
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26

ORIGINAL and 15 copies delivered this  
3<sup>rd</sup> day of December, 2004, to:

Docket Control  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

COPY hand-delivered this 3<sup>rd</sup> day of December, 2004:

Jim Fisher, Executive Consultant  
Utilities Division  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

By:   
1611872.1/51239.010

# **EXHIBIT 1**

# WOLFKIN FARMS PARTNERSHIP

---

Telephone (480) 969-8000  
Fax (480) 539-7321

3850 E. BASELINE ROAD, STE. 123  
MESA, ARIZONA 85206

HAND DELIVERED

April 16, 2004

Mr. George Johnson  
Mr. Brian Tompsett  
Johnson Utilities Co.  
5230 E. Shea Blvd.  
Scottsdale, AZ 85254

Re: Request for Water, Sewer, Cable and Trash Service

Dear Mr. Johnson and Mr. Tompsett:

Please accept this letter as our formal request for water, sewer, cable and trash service to our Section 13, Township 3 South, Range 8 East, located in Pinal County, more formally described on Exhibit A attached.

Please make application with the Arizona Corporation Commission to incorporate our property under your CC&N and let us know at your earliest convenience of our acceptance.

Please contact us at 480-969-8000 if you have any questions. Thank you for your consideration.

Sincerely,

WOLFKIN FARMS

  
Penny Wolfswinkel  
Partner

  
Kathy Aleman  
Partner

PW/KA:dt

c:\My Documents\Letters & Memos\ltr 4-16-04-Johnson Utilities-Wolfkin/dt

**WOLFCOR, L.L.C.**

3850 E. BASELINE ROAD, STE. 123  
MESA, ARIZONA 85206

Telephone (480) 969-8000  
Fax (480) 539-7321

HAND DELIVERED

April 16, 2004

Mr. George Johnson  
Mr. Brian Tompsett  
Johnson Utilities Co.  
5230 E. Shea Blvd.  
Scottsdale, AZ 85254

Re: Request for Water, Sewer, Cable and Trash Service

Dear Mr. Johnson and Mr. Tompsett:

Please accept this letter as our formal request for water, sewer, cable and trash service to our Section 23, Township 3 South, Range 8 East, located in Pinal County, more formally described on Exhibit A attached.

Please make application with the Arizona Corporation Commission to incorporate our property under your CC&N and let us know at your earliest convenience of our acceptance.

Please contact us at 480-969-8000 if you have any questions. Thank you for your consideration.

Sincerely,

WOLFCOR, L.L.C.



Penny Wolfswinkel  
Member/Manager



Kathy Aleman  
Member/Manager

PW/KA:dt

# CENTEX HOMES

Arizona Division

December 2, 2004

Mr. George Johnson  
Mr. Brian Tompsett  
Johnson Utilities Company  
5320 E. Shea Blvd.  
Scottsdale, Arizona 85254

Re: Request for Water Utility Service – “Bella Vista”

Dear Messrs. Johnson and Tompsett:

As you are aware, Centex Homes is currently purchasing the property and development known as “Bella Vista” from Wolfcor, LLC. I understand that Johnson Utilities Company is currently certificated to provide wastewater service to “Bella Vista”.

As part of Centex Homes’ due diligence in this matter, please accept this letter as a formal request for water utility service to “Bella Vista”, which is located in Sections 13 and 23, Township 3 South, Range 8 East, Pinal County, Arizona. In addition, please also make an application with the Arizona Corporation Commission to incorporate these two Sections into Johnson Utilities Company’s water CC&N.

Should you have any questions, please contact me at (480) 889-0924. Thank you for your consideration in this matter.

CENTEX HOMES – Arizona Division



Todd M. Skoro  
Land Development Manager

Cc: Marc Blonstein, Centex Homes General Council  
WOLFCOR, Penny Wolfswinkel

8665 East Hartford Drive, #200  
Scottsdale, Arizona 85256  
Tel 480.889.0900 • Fax 480.889.0943

[centexhomes-az.com](http://centexhomes-az.com)

Designated Broker: John P. Bechtold

ROC#111596

# **EXHIBIT 2**

**Legal Description**  
**Bella Vista Farms**

**Section 23, Township 3 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona**

**Section 13, Township 3 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona**

# **EXHIBIT 3**

# STATE OF ARIZONA



Office of the  
**CORPORATION COMMISSION**

**CERTIFICATE OF GOOD STANDING**

To all to whom these presents shall come, greeting:

I, Brian C. McNeil, Executive Secretary of the Arizona Corporation Commission, do hereby certify that

**\*\*\*JOHNSON UTILITIES, L.L.C.\*\*\***

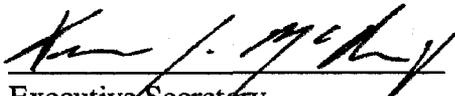
a domestic limited liability company organized under the laws of the State of Arizona, did organize on the 5th day of June 1997.

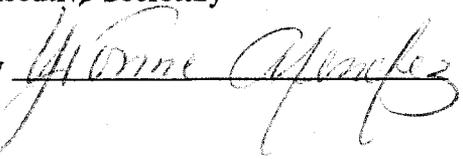
I further certify that according to the records of the Arizona Corporation Commission, as of the date set forth hereunder, the said limited liability company is not administratively dissolved for failure to comply with the provisions of A.R.S. section 29-601 et seq., the Arizona Limited Liability Company Act; and that the said limited liability company has not filed Articles of Termination as of the date of this certificate.

This certificate relates only to the legal existence of the above named entity as of the date issued. This certificate is not to be construed as an endorsement, recommendation, or notice of approval of the entity's condition or business activities and practices.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Arizona Corporation Commission. Done at Phoenix, the Capital, this 1st Day of December, 2004, A. D.



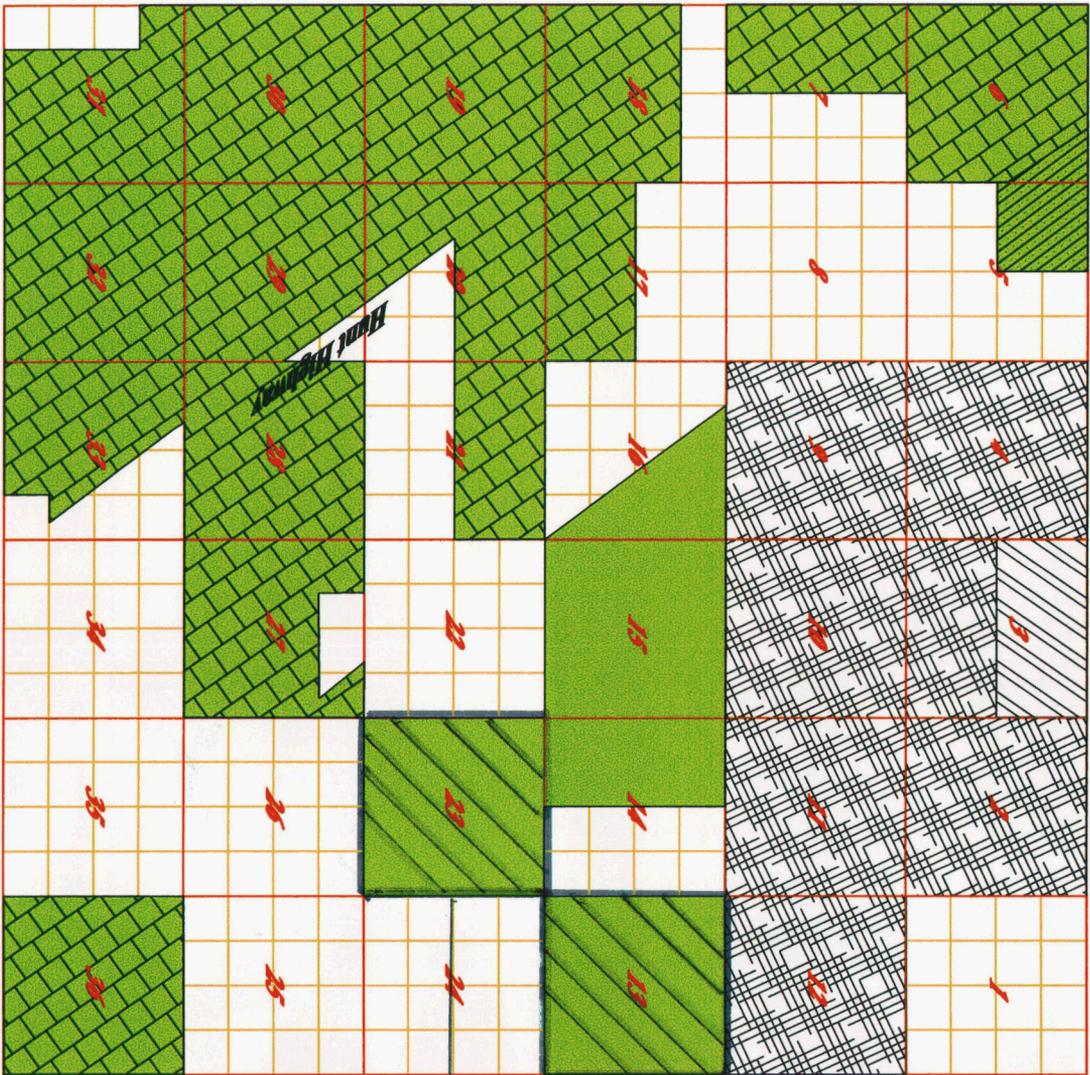
  
Executive Secretary

By 

# **EXHIBIT 4**

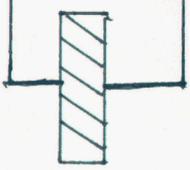
# COUNTY: Pinal

## RANGE 8 East



## TOWNSHIP 3 South

-  W-2859 (3)  
Diversified Water Utilities, Inc.
-  W-2234 (2)  
H<sub>2</sub>O, Inc.
-  WS-2987 (6)  
Johnson Utilities Company
-  W-2425 (2)  
Sun Valley Farms Unit VI Water Company
-  Sewer



Johnson Utilities Company  
Application for Extension of CC&N-Water

# **EXHIBIT 5**

**Johnson Utilities, L.L.C.**  
**Balance Sheet**  
**December 31, 2003**

**ASSETS**

**Utility Plant**

Plant in Service	\$ 40,382,861
Less: Accumulated Depreciation	(2,046,608)
<b><u>Net Utility Plant in Service</u></b>	<b><u>\$ 38,336,253</u></b>

Construction Work-in Progress	6,899,861
<b><u>Net Utility Plant</u></b>	<b><u>\$ 45,236,114</u></b>

**Current Assets**

Cash	\$ 684,314
Accounts Receivable	1,476,030
Other Receivables	38,000
<b><u>Total Current Assets</u></b>	<b><u>\$ 2,198,344</u></b>

**Other Assets**

Deferred Legal Fees	\$ 553,533
Land Held For Investment	70,257
Deposit	12,670
<b><u>Total Other Assets</u></b>	<b><u>\$ 636,460</u></b>

<b><u>Total Assets</u></b>	<b><u>\$ 48,070,918</u></b>
----------------------------	-----------------------------

**MEMBER'S CAPITAL & LIABILITIES**

<b><u>Member's Capital</u></b>	<b><u>\$ 5,447,979</u></b>
--------------------------------	----------------------------

<b><u>Contributions in Aid of Construction</u></b>	<b><u>\$ 20,149,882</u></b>
--	-----------------------------

<b><u>Long-Term Debt</u></b>	<b><u>\$ 807,000</u></b>
------------------------------	--------------------------

**Current Liabilities**

Accounts Payable	\$ 423,801
Current Portion of Advances in Aid of Construction	138,000
Due to Member	715,823
Customer Deposits	45,940
Accrued Taxes	175,974
Accrued Interest	7,040
<b><u>Total Current Liabilities</u></b>	<b><u>\$ 1,506,578</u></b>

**Deferred Liabilities**

Advances in Aid of Construction, Less Current Portion	\$ 20,159,479
---	---------------

<b><u>Total Member's Capital &amp; Liabilities</u></b>	<b><u>\$ 48,070,918</u></b>
--	-----------------------------

See Accountants' Compilation Report

**Johnson Utilities, L.L.C.**  
**Statement of Income**  
**December 31, 2003**

<b><u>Operating Revenue</u></b>	
Water Sales	\$ 3,919,316
Sewer Fees	1,237,464
Other Revenue	101,170
<b><u>Total Revenue</u></b>	<b><u>\$ 5,257,950</u></b>
<b><u>Operating Expenses</u></b>	
Purchased Water	\$ 222,808
Purchased Power	291,396
Repairs & Maintenance	12,099
Outside Services	1,203,322
Water Testing	52,163
Rents	117,648
Transportation	557
Insurance	28,964
Sludge Removal	2,685
Miscellaneous Operating Expense	41,641
Depreciation and Amortization	419,049
Taxes Other Than Income	2,089
Property Taxes	71,731
<b><u>Total Operating Expenses</u></b>	<b><u>\$ 2,466,152</u></b>
<b><u>Net Operating Income</u></b>	<b><u>\$ 2,791,798</u></b>
<b><u>Other Income (Expenses)</u></b>	
Interest Income	\$ 18,662
Interest Expense	(79,211)
<b><u>Total Other Income (Expenses)</u></b>	<b><u>\$ (60,549)</u></b>
<b><u>Net Income</u></b>	<b><u>\$ 2,731,249</u></b>

See Accountants' Compilation Report

# **EXHIBIT 6**

# BELLA VISTA

## WATER FEASIBILITY STUDY

June 03, 2004

*Prepared for:*

Centex Homes  
8665 E. Hartford, Suite 200  
Scottsdale, AZ 85255  
(480) 889-0900

*Prepared by:*

Coe & Van Loo Consultants, Inc.  
4550 N. 12<sup>th</sup> Street  
Phoenix, AZ 85014  
(602) 264-6831



CVL Job No. 04-7021-02

**BELLA VISTA**  
**WATER FEASIBILITY STUDY**

**June 03, 2004**

**I. Background:**

The intent of the task was to conduct a feasibility study to identify water infrastructure required to serve the 1,280-acre Bella Vista development. This project is located in Sections 13 and 23, Township 3 South, Range 8 East of the Gila River Basin and Meridian, Pinal County, Arizona as shown in Figure 1.0. The proposed development will consist of single-family units, commercial and school parcels constructed in four phases.

**II. Water Demand Projections**

Table 1.0 shows the projected water demands for the development. The lot density of 3.5 dwelling units per acre was used in calculations of water demand. Unit water demands were based on the *Johnson Utilities Company Design Guide and Standard Details* (May 2003). Unless otherwise noted, all design criteria used in these calculations were obtained from this source.

- Average day demand for a residential unit was calculated using 260 gallons per dwelling units per day.
- The commercial and school water demand was calculated using 1,500 gallons per acre per day.
- A maximum day factor of 1.8 times average day and a peak hour factor of 3.0 times average day was used in calculating demand.
- A residential fire flow of 1,000 gpm for 2 hours was used to calculate the residential maximum day plus fire flow scenario water demand.
- A commercial fire flow of 2,500 gpm for 3 hours was used to calculate the residential maximum day plus fire flow scenario water demand.

### III. Water Facilities

The project area is currently undeveloped and there are no existing onsite water facilities. The proposed development is adjacent to Johnson Utilities Company's CC&N (See Attachment A – Correspondence from ACC). However, the *Hydrology Study Report for Johnson Utilities Company, dated June 2001 and prepared by Clear Creek and Associates* shows that Bella Vista development will be part of Johnson Utilities pending CC&N Expansion (Attachment B-CC&N Exhibit). [Note: Johnson Utilities has been recently purchased by Vanderbilt Farms LLC. We have assumed that the unit flow factors and the regional infrastructure improvements proposed by Johnson Utilities will be unchanged by this transfer of ownership].

Per the *Summary Report for Johnson Utilities Existing Water System, dated March 3, 2004 and prepared by the WLB Group, Inc.* indicates that there is an 8-inch waterline on Bella Vista Road, north of Section 23 and south of Section 13 (Attachment C-Existing Water System). This waterline originates from a 12-inch waterline serving the Johnson Ranch development.

The water storage facilities will be sized per the Johnson Utilities Company Design Guide and Standard Details (dated, July 2002). The usable storage volume will equal to no less than approximately 48% of the peak day demand plus 120,000 gallons for fire protection. The water storage required for the proposed development based on the above guideline is 1.87 million gallons.

Table 2.0 shows the Arizona Department Water Resources well registration data for the existing wells present in the proposed development. These existing wells are shown in Figure 2. Five out of six wells are non-exempt and are intended for irrigation use. Any well to be abandoned must be abandoned in accordance with ADWR requirements. It is the responsibility of the well owner or developer to abandon wells within the parcels being developed.

Assuming that the number of wells meets the maximum day demand and each well has a capacity of 1,000gpm, the Bella Vista development would require two (2) production wells. The interconnection to the existing 8-inch waterline on Bella Vista Road will serve as a backup

supply should one well be out of service. See also Appendix D for further analysis of available well resources as summarized in a report prepared by Clear Creek Associates, dated April 28, 2004.

#### IV. Network Analysis

##### Modeling Criteria

The following criteria were used for distribution system modeling and design.

1. Minimum pressure = 40 psig  
Maximum pressure = 80 psig  
Minimum pressure during fire flow condition = 20 psig
2. Factors utilized:
  - Average day = 100 gallons/day/person
  - Max day = 1.8 x Average day demand
  - Peak hour = 3.0 x Average day demand

##### WaterCAD Analysis

The computer network analysis for this project was accomplished using the WaterCAD Software by Haestad Methods. The layout of the distribution system for the proposed development is shown in Figure 3. Flows were allocated to each node (pipe junctions or external demands) based on tributary area mapped to each node within the development. Flows were then determined by land use and unit flows. The system was modeled using three pumps characterized by pump curve showing the head (ft) and discharge (gpm). The interconnected 8-inch waterline, which is used as back up was allowed to discharge water to the proposed subdivision when the pressures in the system dropped below 50 psi which is the minimum pressure to be maintained during average and maximum day demand. In order to achieve this in field, pressure-sustaining valves would be used all interconnections. Three (3) are assumed in the model.

The model was run with several scenarios within the model. Final pipe sizing was based on the results of this analysis. Changes were made to the layout based on the results of successive simulations as needed to meet the above criteria. Wherever possible, water lines were internalized to maximize system efficiency and reduce construction costs. A roughness coefficient of 130 was used for all simulations. Within the model, several cases were included to fully analyze how peak flows

and fire flow demands will affect the system. Fire flows were evaluated for overall system using 1,000 gpm for residential demands and 2,500 gpm for commercial demands.

The general scenarios that are analyzed are as follows:

1. Average Day Demand
2. Max Day Demand
3. Peak Hour Demand
4. Max Day Demand with Coincident Residential Fire Flow
5. Max Day Demand with Coincident Commercial Fire Flow

Input parameters of the water distribution system as modeled above include the following:

1. Pipe diameters (inches)
2. Pipe lengths (feet)
3. System Demands (as outlined above)
4. Fire Flows (1,000 and 1,500 gpm)
5. Pipe Friction Coefficient, C = 130

Output parameters include:

1. Velocities (fps)
2. Pressures (psig)
3. Head Loss (feet)
4. Flow Rates (gpm)
5. Modeling Results

The results of the Watercad analysis serving the site are presented in Attachment E. This analysis represents the proposed water distribution system as shown on Figure 3. Tables 3.0 presents summary of the Watercad analysis for the proposed water distribution system. Maximum pressures reflect the pump output for the demand condition.

**Table 3.0: Results of Water CAD Analysis for the proposed development**

Scenario	Minimum Pressure (psig)	Node	Maximum Pressure (psig)	Node	Maximum Velocity (fps)	Pipe
Average Day Demand	50.05	J-22	66.35	J-25	1.24	P-45
Maximum Day Demand	67.46	J-22	85.65	J-25	2.49	P-45
Maximum Day Demand + Fire Flow (Residential)	41.99	J-31	90.86	J-18 (Comm.)	NA	NA
Maximum Day Demand + Fire Flow (Commercial)	26.10	J-6	63.59	J-25	5.89	P-45
Peak Hour	45.49	J-22	66.45	J-25	3.52	P-77

NA-Not applicable

## V. Water Campus

Based on the Johnson Utilities Design Guide and Standard Details, different water facilities as identified in Section III are required to meet the water demands of Bella Vista subdivision. To accommodate these water facilities, a 3.5-acre Water Campus site is proposed for the subdivision and the proposed location is shown in Figure 3.0. The Water Campus will include one (1) - 1 million gallon tanks for Phase 1, a booster pump station and a well. A second one (1) million gallon tank will be required beginning with Phase 3.

**TABLES**

**Table 1.0:** Water Demand Projections

Area	Development	Acres	Dwelling Units <sup>(1)</sup>	Average Day Demand (gpm) <sup>(2)</sup>	Maximum Day Demand (gpm) <sup>(4)</sup>	Peak Hour Demand (gpm) <sup>(4)</sup>
Bella Vista - Sec. 23	Residential	580	2,030	366.5	733.1	1,099.6
Bella Vista - Sec. 23	Commercial <sup>(3)</sup>	40	-	41.7	83.3	125.0
Bella Vista - Sec. 23	School <sup>(3)</sup>	20	-	20.8	41.7	62.5
Bella Vista - Sec. 13	Residential	580	2,030	366.5	733.1	1,099.6
Bella Vista - Sec. 13	Commercial <sup>(3)</sup>	40	-	41.7	83.3	125.0
Bella Vista - Sec. 13	School <sup>(3)</sup>	20	-	20.8	41.7	62.5
<b>Total</b>		1280	4,060	858	1,716	2,574
<b>Total (MD+FF-Resi)<sup>(5)</sup></b>						
<b>Total (MD+FF-Comm)<sup>(6)</sup></b>						
<b>4,216</b>						

Notes:

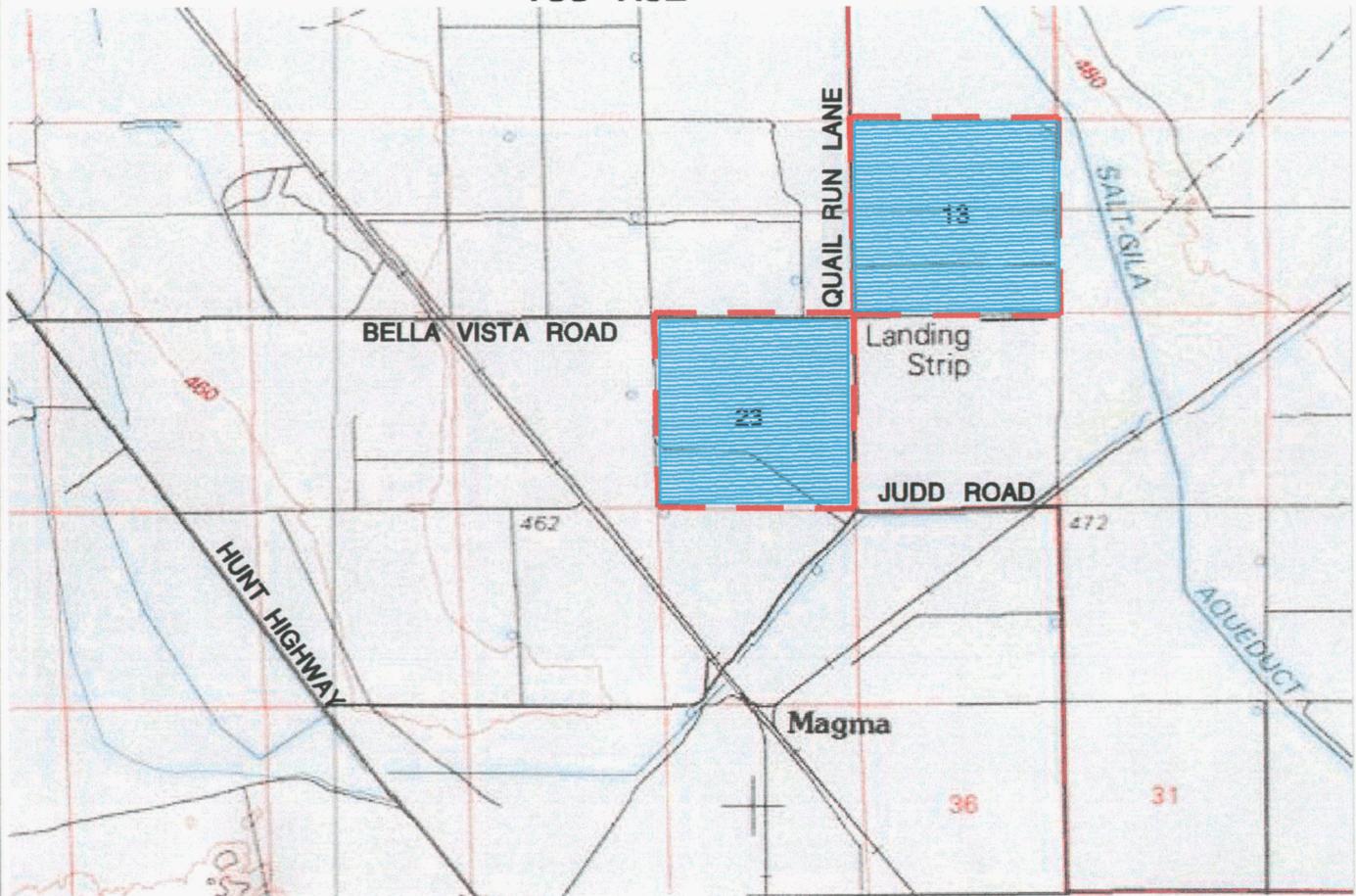
- <sup>(1)</sup> Assume HU/acre = 3.5
- <sup>(2)</sup> Residential Use Demand - 260 gallons/dwelling/day
- <sup>(3)</sup> Commercial & School Use demand - 1,500 gallons/acre/day
- <sup>(4)</sup> The peaking factor for Maximum Day Demand = 2.0x Avg. Day Demand; the peaking factor for Peak Hour Demand = 3.0x Avg. Day Demand
- <sup>(5)</sup> Residential Fire Flow = 1,000 gpm for 2 hours
- <sup>(6)</sup> Commercial Fire Flow = 2, 500 gpm for 3 hours

**Table 2.0: Existing Wells**

Well ID No.	Location	Owner	Well Type	Water Use	Flow (gpm)	Well Depth (ft)	Casing		
							Depth (ft)	diameter (in)	Type
55-603383	Section 13, 1/4 NE, 1/4 NE, 1/4 NE	Wolfkin Farms	Non-Exempt	Irrigation	NA	1200	1200	16	Steel-Perforated
55-603373	Section 13, 1/4 NE, 1/4 SW, 1/4 SW	Bella Vista Farms #4	Non-Exempt	Irrigation	NA	708	700	20	Steel-Perforated
55-603387	Section 13, 1/4 NW, 1/4 NE, 1/4 NE	Wolfkin Farms	Non-Exempt	Irrigation	NA	700	700	20	Steel-Perforated
55-589317	Section 13, 1/4 SW, 1/4 SW, 1/4 NW	Ginger Waterman	Exempt	Domestic	NA	750	750	5	Plastic or PVC
55-603380	Section 13, 1/4 SE, 1/4 NE, 1/4 SE	Bella Vista Farms #4	Non-Exempt	Irrigation	NA	1200	1200	20	Steel-Perforated
55-603372	Section 23, 1/4 NW, 1/4 NE, 1/4 NE	Wolfcor LLC	Non-Exempt	Irrigation	NA	730	711	18	Steel-Perforated

**FIGURES**

T3S R8E



--- PROJECT AREA



VICINITY MAP

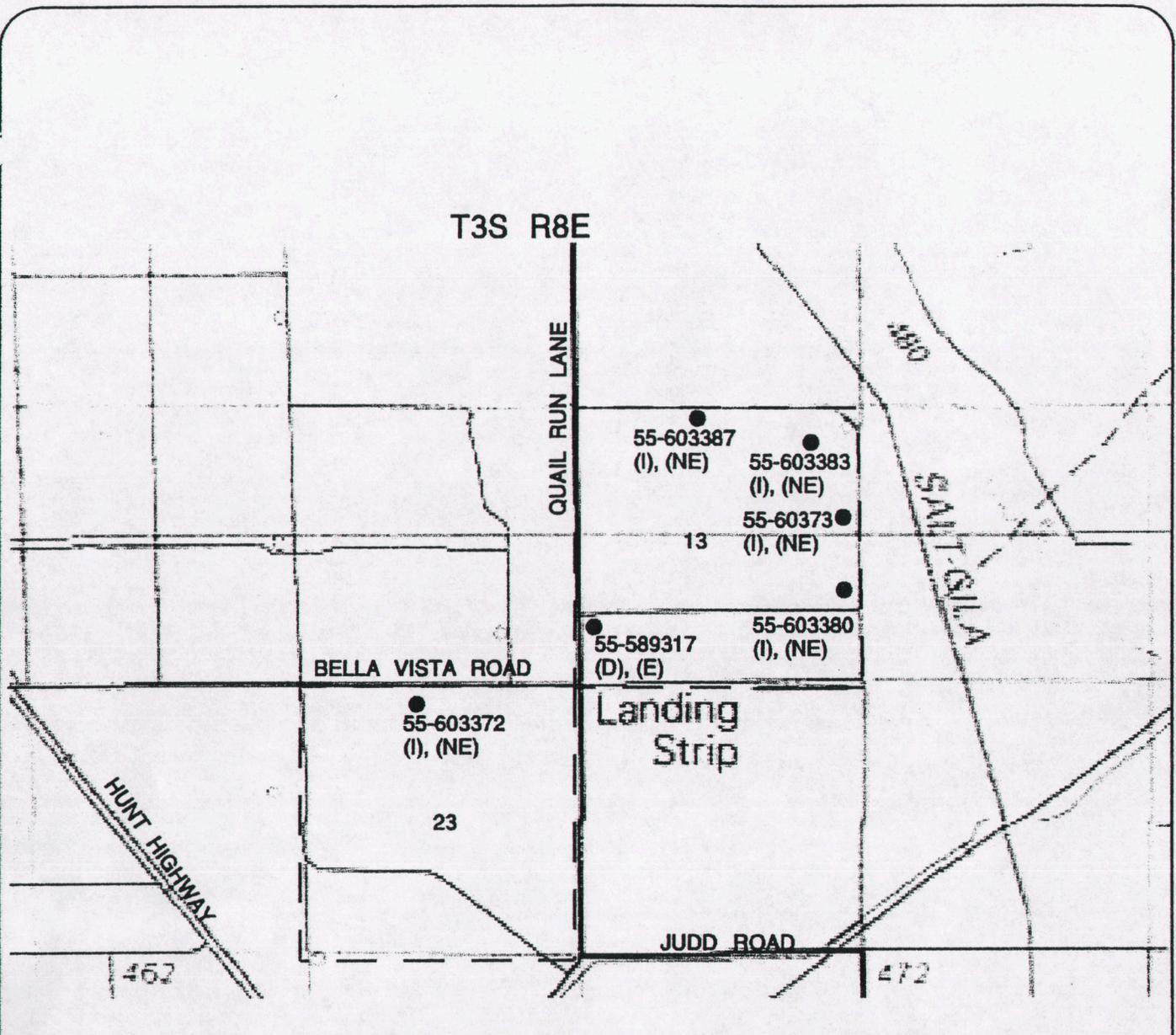
BELLA VISTA FARMS

JOB NO  
047021-02

4550 NORTH 12TH STREET  
PHOENIX, ARIZONA 85014  
TELEPHONE (602) 264-6831

**COE & VAN LOO**  
PLANNING • ENGINEERING • LANDSCAPE ARCHITECTURE

FIGURE  
1



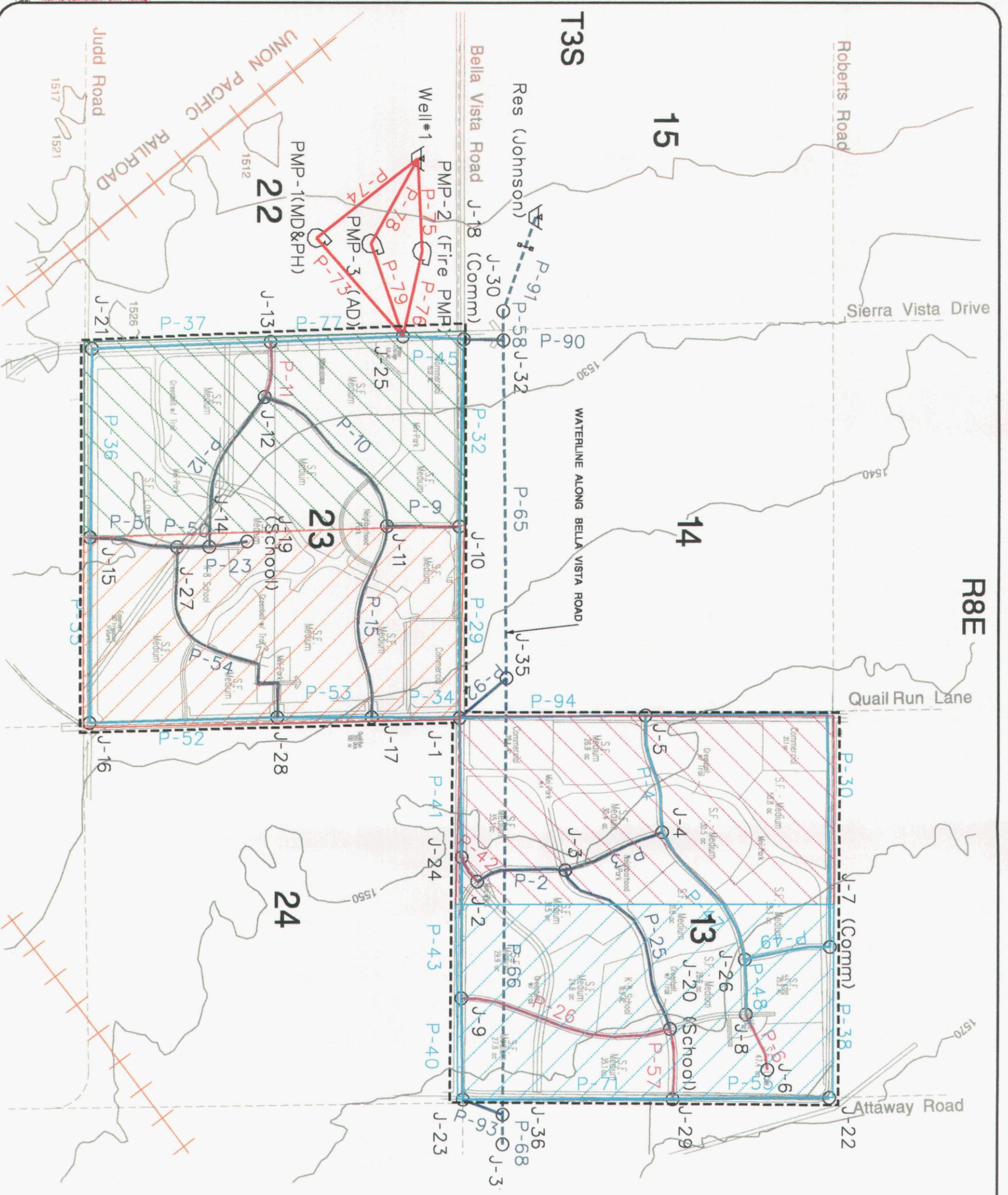
— — — PROJECT AREA

I - IRRIGATION      E - EXEMPT  
 D - DOMESTIC      NE - NON-EXEMPT

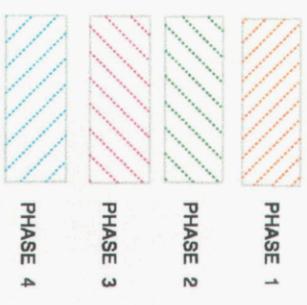
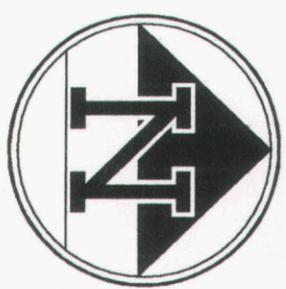


SCALE = NONE

APPR. WELL LOCATION	<b>BELLA VISTA FARMS</b>	JOB NO 047021-02
4550 NORTH 12TH STREET PHOENIX, ARIZONA 85014 TELEPHONE (602) 264-6831	<b>COE &amp; VAN LOO</b> PLANNING • ENGINEERING • LANDSCAPE ARCHITECTURE	FIGURE <b>2</b>



SCALE: 1" = 1400'



- LEGEND**
- P-6 WATER TRANSMISSION LINE AND NUMBER
  - - - PROJECT BOUNDARY
  - - - 8" WATER LINE
  - - - EXISTING 8" WATERLINE (BY JOHNSON UTILITIES)
  - 10" WATER LINE
  - 12" WATER LINE
  - 24" WATER LINE
  - DEMAND NODE
  - J-31

**WATER NETWORK ANALYSIS**

JOB NO

04702102

FIGURE



4550 NORTH 12TH STREET  
 PHOENIX, ARIZONA 85014  
 TELEPHONE (602) 264-6831

**BELLA VISTA FARMS**

**COE & VAN LOO**  
 PLANNING • ENGINEERING • LANDSCAPE ARCHITECTURE

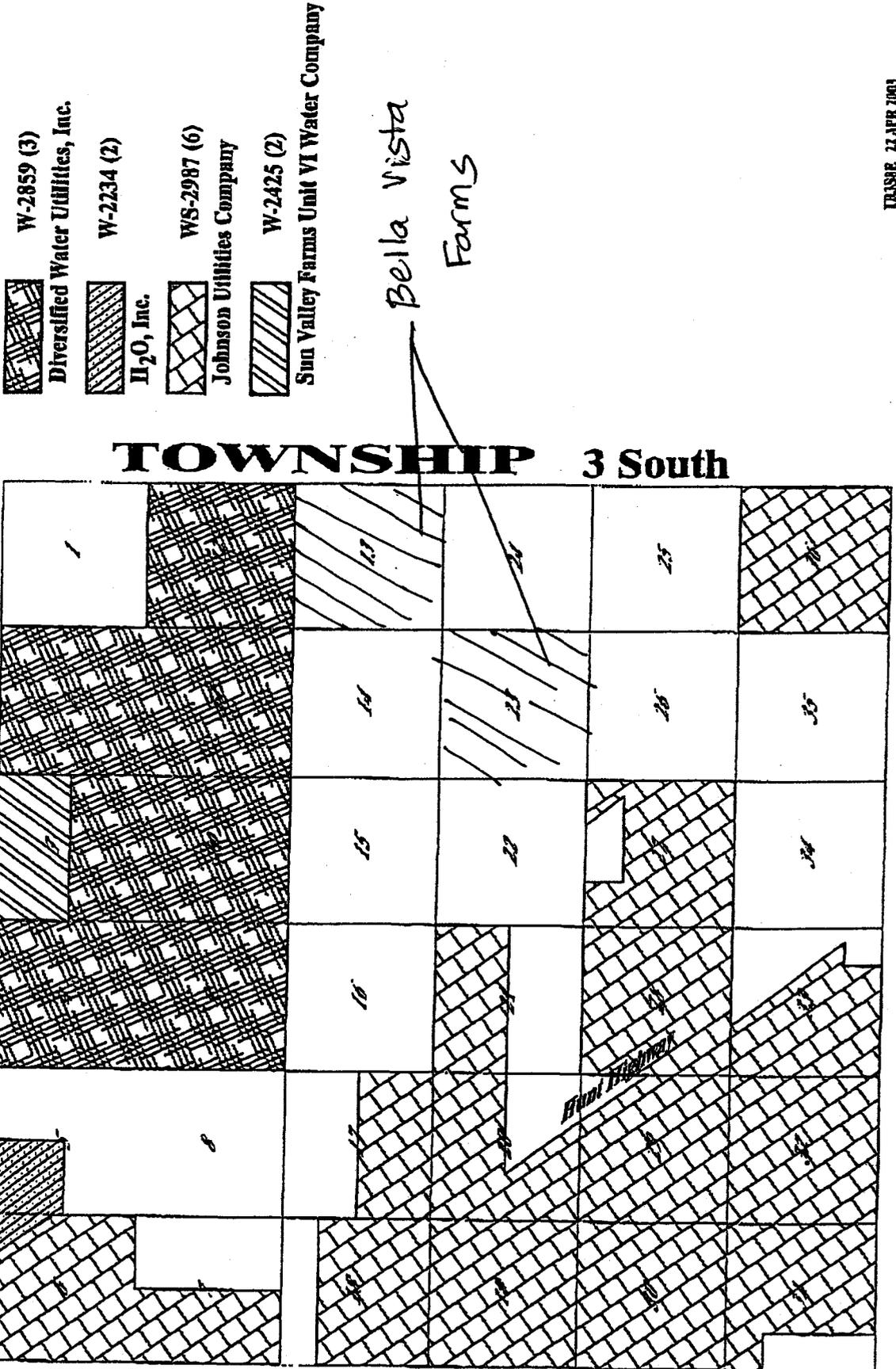
**ATTACHMENT A**  
**ARIZONA CORPORATION COMMISSION**  
**CORRESPONDENCE**

Map 7, 11

# COUNTY = Pinal

## RANGE 8 East

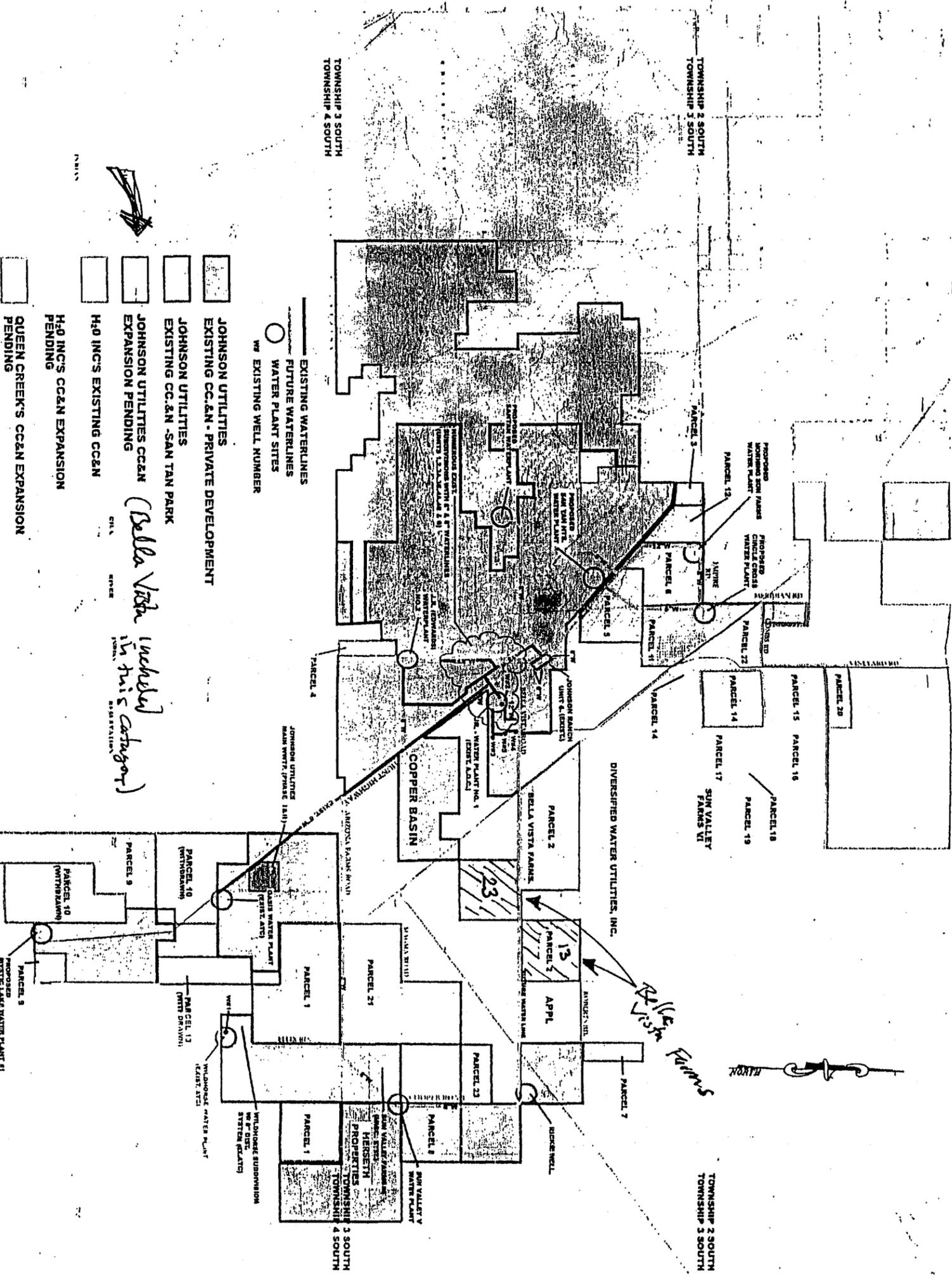
## TOWNSHIP 3 South



**ATTACHMENT B**  
**JOHNSON UTILITY CC&N EXPANSION**

RANGE 7 EAST  
RANGE 8 EAST

RANGE 8 EAST  
RANGE 9 EAST



- EXISTING WATERLINES
- FUTURE WATERLINES
- WATER PLANT SITES
- EXISTING WELL NUMBER
- JOHNSON UTILITIES EXISTING CC.&N - PRIVATE DEVELOPMENT
- JOHNSON UTILITIES EXISTING CC.&N - SAN TAN PARK
- JOHNSON UTILITIES CC&N EXPANSION PENDING
- H2O INC'S EXISTING CC&N
- H2O INC'S CC&N EXPANSION PENDING
- QUEEN CREEK'S CC&N EXPANSION PENDING
- DIVERSIFIED WATER UTILITIES, INC. EXISTING CC.&N
- ROAD RUNNER ESTATES

*Bella Vista included in this category*

*Bella Vista Farms*

TOWNSHIP 4 SOUTH  
TOWNSHIP 5 SOUTH

NGR 7 EAST  
NGR 8 EAST

The WB Group  
**WLB**  
Water & Sewer  
Engineering & Construction  
10000 N. 10th Street, Suite 100  
Scottsdale, AZ 85258  
Phone: 480-344-1111  
Fax: 480-344-1112  
www.wbgroup.com

TOWNSHIP 4 SOUTH  
TOWNSHIP 5 SOUTH

**ATTACHMENT C**  
**JOHNSON UTILITIES EXISTING WATER**  
**SYSTEM**

OVERSIZED  
MAP  
SEE  
DOCKET

WS-02987A-04-0869

**ATTACHMENT D**  
**WELL REPORT -CLEAR CREEK ASSOCIATES**



Practical Solutions  
in Groundwater Science

June 3, 2004

2150 East Highland Avenue  
Suite 201  
Phoenix, Arizona 85016  
602-294-9600 office  
602-294-9700 fax  
www.clearcreekassociates.com

Mr. Eric Laurin, P.E.  
Coe & Van Loo Consultants, Inc.  
4550 North 12<sup>th</sup> Street  
Phoenix, Arizona 85014-4291

**Hydrogeologic Feasibility Analysis  
Bella Vista Farms Development  
Pinal County, Arizona**

---

This letter report documents the results of the Hydrogeologic Feasibility Analysis for the Centex Homes Bella Vista Farms Development. The purpose of the Hydrogeologic Feasibility Analysis was to evaluate and site production well facilities based on site-specific hydrogeologic and regulatory considerations. The subject property is located in the East Salt River Valley, and encompasses Sections 13 and 23 of Township 3 South, Range 8 East. The subject property is located within the Phoenix Active Management Area (AMA) in Pinal County.

**WELL INVENTORY**

A well inventory for the study area was conducted based on the Arizona Department of Water Resources (ADWR) "Wells 55" database (ADWR, October 2003). The study area includes the approximately 14-square mile area surrounding the subject property. Within the study area, the ADWR database indicated 53 active wells. Information relating to the wells within the study area is summarized in *Table 1*, and the well locations are illustrated on *Figure 1*. *Table 1* also indicates wells in which the location has been recently field verified (April 2004). The well categories illustrated on *Figure 1* include irrigation wells, domestic wells, and industrial wells. Piezometers, geotechnical borings, monitoring wells, hydrologic test wells, and wells that were listed as abandoned or cancelled in the ADWR database were not included in the well inventory, because the ADWR well impact rules do not apply to those types of wells.

**GROUNDWATER ELEVATIONS**

A winter 2002/2003 groundwater elevation contour map was prepared using the most recent available water level data for wells located within the study area as reported in the ADWR Groundwater Site Inventory (GWSI) database (ADWR, September 15, 2003). The ADWR Basic Data Section conducted a basin-wide water level survey during this time period. The groundwater elevation contour map is presented on *Figure 2*. The groundwater elevations across

the subject property in Section 13 range from approximately 1179.9 feet above mean sea level (amsl) to 1183.71 feet amsl (January 2003). These elevations correlate to a depth to water between approximately 380 feet below land surface (bls) to 390 feet bls. The groundwater elevation across the subject property in Section 23 is approximately 1182.61 feet amsl (January 2003) with a depth to water of 353.4 feet bls. The groundwater elevation contour map indicates that the predominant direction of groundwater flow across the subject property is to the north-northwest.

### GROUNDWATER QUALITY

The majority of wells located within the study area are domestic wells and irrigation wells with limited water quality data available. Some water quality data are available for irrigation wells located within the study area in the ADWR GWSI water quality database (ADWR, September 15, 2003). The available water quality data is summarized in *Table 2*.

#### Fluoride

The water quality data for fluoride (F) obtained from the ADWR GWSI database is summarized in *Table 2*. The concentration of fluoride is shown in milligrams per liter (mg/l), which is equivalent to parts per million. The Primary Drinking Water Standard for fluoride is 4 mg/l. Fluoride concentrations in the study area ranged from 0.5 to 1.1 mg/l, well below the Maximum Contaminant Level (MCL) of 4.0 mg/l.

#### Total Dissolved Solids (TDS)

The water quality data for Total Dissolved Solids (TDS) is also summarized on *Table 2*. The concentration of TDS is shown in milligrams per liter (mg/l). The Secondary Drinking Water Standard for TDS is 500 mg/l. TDS concentrations in the study area ranged from 260 to 800 mg/l. Elevated TDS concentrations can be the result of irrigation and agricultural practices are accumulating in the shallow groundwater.

#### Nitrate

There were no data available for nitrate, however due to past and current land use (agricultural) in the study area, elevated nitrate levels are likely a problem in the shallow aquifer (Upper Alluvial Unit). Major sources of nitrate include fertilizers, livestock feeding operations, inputs to sewer and septic systems, atmospheric deposition, industrial waste, and streamflow. Nitrate can enter stream channels from treated sewage effluent from wastewater treatment plants or from excess irrigation water from agricultural areas. The Primary Drinking Water Standard for Nitrate (NO<sub>3</sub>-N) is 10 mg/l.

### Arsenic

There were no data available for arsenic (As) in the study area. Elevated arsenic concentrations are a common naturally-occurring groundwater quality problem in many portions of the Salt River Valley. The current MCL for arsenic in drinking water is 50 micrograms per liter ( $\mu\text{g}/\text{l}$ ), which is equivalent to parts per billion. This standard will drop to 10  $\mu\text{g}/\text{l}$  in the year 2006.

### Volatile Organic Compounds (VOCs)

Volatile Organic Compounds (VOCs) include gasoline compounds, refrigerants, and solvents and occur in groundwater primarily from leaking underground storage tanks and disposal. Data for VOCs in the study area were not readily available. Given the rural history of the site, VOCs are not likely a problem in the Bella Vista Farms area.

## HYDROGEOLOGY

The hydrogeology of the East Salt River Valley (ESRV) is described in a report by Laney and Hahn (1986). The ESRV is an alluvial groundwater basin defined and surrounded by predominantly north to northwest trending fault-block mountain ranges. The ESRV alluvial basin and a majority of the surrounding mountains are characteristic of the present Basin and Range physiography that were formed during a period of high-angle block faulting occurring approximately 15 to 8 million years ago.

Surrounding mountain ranges are composed primarily of crystalline rocks of Precambrian to mid Tertiary age and extrusive rocks of mid Tertiary to Quaternary age (Brown and Pool, 1989). The crystalline and extrusive rocks form nearly impermeable barriers to groundwater flow.

### Basin-Fill Deposits

The ESRV sub-basin consists of thick basin-fill deposits of unconsolidated to semi-consolidated clastic sediments of Later Tertiary to Quaternary age that overly the crystalline rocks or bedrock. Basin-fill deposits east of the Town of Gilbert may be greater than 9,000 feet in thickness as indicated by geothermal exploration drilling.

The basin-fill deposits are made up of inter-bedded sequences of conglomerate, gravel, sand, silt, clay, and evaporate. Sediments are weakly consolidated to unconsolidated alluvial fan, playa, and fluvial deposits. The basin-fill deposits are generally finer grained toward the basin center and coarsen upward. The lithologic relationships are interpreted as alluvial fan and playa deposits formed in closed basins during the early and middle stages of basin development, followed by fluvial and alluvial fan deposits formed during the late stages of basin development after the through flowing drainages were established (Brown and Pool, 1989). The basin-fill

deposits comprise the regional aquifer in the ESRV sub-basin. The basin-fill deposits are subdivided into three hydrogeologic units and are briefly discussed below.

#### Upper Alluvial Unit

The Upper Alluvial Unit (UAU) overlies the Middle Alluvial Unit (MAU) and consists of silt, sand, and gravel. The UAU is dominated by sand and gravel near the present course of the Salt River and near an earlier course of the Salt River to the east and south of South Mountain and near sub-basin margins. The UAU is generally dominated by silt and sand in other areas.

The UAU was deposited during the later stages of basin development. The relatively uniform thickness of the unit and association of coarser-grained sediments along major drainages indicate that the unit was probably deposited by ancestral Salt and Gila River drainages after the establishment of through flowing drainages. The UAU is also comprised of alluvial fan deposits along mountain fronts. The UAU consists of alluvial channel, terrace, floodplain, and alluvial fan deposits. UAU sediments were derived from through flowing drainages and from the surrounding mountains. The unit is generally 200 to 300 feet thick in the ESRV and thins toward the sub-basin margins.

#### Middle Alluvial Unit

The MAU overlies the Lower Alluvial Unit (LAU) and consists primarily of clay, silt, mudstone, gypsiferous mudstone, with inter-bedded sand and gravel. Near sub-basin margins the unit is primarily sand and gravel and may be difficult to distinguish from other units. The MAU consists of alluvial fan deposits along the mountain fronts grading to fluvial, playa, and evaporate deposits in the central sub-basin. The predominance of silt and clay suggest the unit was primarily a playa deposit with sediments derived from the surrounding mountain ranges.

The MAU thickens toward the central sub-basin and in the ESRV is thickest southeast of the Town of Gilbert. The increasing thickness and decreasing particle size of the MAU away from the basin margins suggest that the alluvial basin was still closed and subsiding during deposition of the unit.

#### Lower Alluvial Unit

The LAU overlies or is in fault contact with the bedrock and consists of conglomerate and gravel near basin margins, grading to mudstone, gypsiferous and anhydritic mudstone, and anhydrite in the central basin. The LAU may contain locally inter-bedded volcanics. The LAU consists of alluvial fan deposits at the mountain fronts grading to fluvial, playa, and evaporite deposits in the central basin. LAU sediments were likely derived from the surrounding mountain ranges.

The LAU ranges from 0 feet in thickness at the basin margins, to several thousands of feet thick in the central basin. The LAU was deposited during early stages of alluvial basin development. Similar to the MAU, the increasing thickness and decreasing particle size of the LAU basin-ward suggest that the alluvial basin was closed during deposition.

#### Cross-Section A - A'

Hydrogeologic cross-section A - A' illustrated on *Figure 3* was prepared from data compiled from the ADWR Salt River Valley groundwater model (Corell and Corkhill, 1994). The cross-section extends from the southwest to the northeast across the Bella Vista Farms development. The location of the cross-section is indicated on *Figure 1*. *Figure 3* also illustrates the approximate 2002/2003 groundwater elevation and indicates a depth to water across the subject property ranging from approximately 328 feet bls in the southwest corner of Section 23 (D-03-08) to approximately 388 feet bls in the northeast corner of Section 13 (D-03-08). *Figure 3* indicates a depth to the bottom of the UAU of approximately 160 to 280 feet bls across the subject property, approximately 530 to 820 feet bls to the bottom of the MAU, and approximately 990 to 1450 feet bls to bedrock.

#### NEW WELL SITING

An impact analysis was conducted to evaluate potential well locations on the subject property. Four preferred new well sites are illustrated on *Figure 4*. The preferred new well sites on the subject property were selected based on the distance to neighboring wells illustrated on *Figure 1*. ADWR Rule R12-15-830 prohibits new water supply wells within an Active Management Area (AMA) from causing more than 10 feet of water level decline in neighboring wells, after continuous pumping for a period of 5 years. To enforce this rule, ADWR requires a well spacing/well impact study as part of the permit process for large water supply wells, and the result of the well impact/well spacing study may limit the location and/or water production capacity of the well(s) to be installed.

A Theis non-equilibrium drawdown spreadsheet was used to conduct the 5-year, 10-foot drawdown analysis. As local aquifer test data were unavailable, aquifer parameters such as hydraulic conductivity and storage coefficients were obtained from the ADWR Salt River Valley groundwater model (Corell and Corkhill, 1994). For the purpose of the impact analysis, we assumed a 1,200 foot deep well screened from 800 to 1,200 feet bls. This places the screened interval of the hypothetical well primarily within the LAU. Specific assumptions used in calculating the 5-year 10-foot drawdown included:

Aquifer Thickness (b) = 400 feet (well screen interval)  
 Conductivity (K) = 59.85 gal/ft<sup>2</sup>/day (or 8 ft/day/ADWR SRV Model)  
 Transmissivity (T) = Kb 23,940 gpd/ft  
 Storage Coefficient (S) = 0.10 (unitless/ADWR SRV Model)  
 Pumping Rate (Q) = 675 to 860 gpm (varied based on an assumed impact radius)

The impact radius for each new well site was based on the distance to neighboring wells. A corresponding pumping rate was developed using the above assumptions and the impact distance for each new well site. Installation of a new water supply well and aquifer testing may indicate a higher transmissivity than used in this analysis, if that is the case a revised well impact study could be submitted to ADWR to obtain higher annual allotments for each well. The 5-year 10-foot impact radius and associated pumping rates for the new well sites are illustrated on *Figure 4*. The well impact calculations for each preferred well site are summarized in the table below:

<i>Preferred Well Site No.</i>	<i>Location</i>	<i>Aquifer Thickness (ft)</i>	<i>Conductivity (gpd/ft<sup>2</sup>)</i>	<i>Transmissivity (gpd/ft)</i>	<i>Storage Coefficient (unitless)</i>	<i>Pumping Rate (gpm/ac-ft/yr)</i>	<i>5-Year 10-Foot Impact Radius (ft)</i>
Site No.1.	D(03-08)13CAC	400	59.85	23,940	0.10	860/1,387	3,500
Site No.2.	D(03-08)13CAC	400	59.85	23,940	0.10	765/1,234	3,000
Site No.3.	D(03-08)23BBA	400	59.85	23,940	0.10	695/1,121	2,600
Site No. 4.	D(03-08)23ACC	400	59.85	23,940	0.10	675/1,089	2,500

**POTENTIAL WELL REPLACEMENT SITES**

Three potential well replacement sites have been identified based on the presence of existing wells all located in Section 13 of Township 3 South, Range 8 East. The three potential well replacement sites are illustrated on *Figure 5*. The advantages of replacing an existing well are that; 1) there is no need to submit a well impact study to ADWR, and 2) the annual allotment of the replacement well is the higher value of either the reported annual pumping or 50 percent of the reported pump capacity of the well. The disadvantages are that the replacement well must be located within 660 feet of the existing well, the existing well must be abandoned in accordance with ADWR well abandonment rules, and potential water quality issues as a result of the old well. The potential well replacement sites identified are summarized in the table below:

<i>Replacement Well Registration No.</i>	<i>Location</i>	<i>Well Type</i>	<i>Installed</i>	<i>Total Depth (ft. bls)</i>	<i>Reported Pump Capacity (gpm)</i>	<i>Maximum Reported Annual Pumping (ac-ft/yr / gpm)</i>
55-603387	D(03-08)13BAA	Non-Exempt/Irrigation	January 1963	700	N/A	N/A
55-603383	D(03-08)13AAA	Non-Exempt/Irrigation	January 1957	1,200	N/A	N/A
55-603380	D(03-08)13DAD	Non-Exempt/Irrigation	December 1974	1,200	N/A	959/594.5

Given that two of the three wells have neither a reported pump capacity nor annual pumpage, Clear Creek is uncertain what capacity ADWR would allow for the replacement well. Replacement of the third well would result in a legal capacity of the new well of 594 gpm continuous.

## RESULTS

The results of the hydrogeologic feasibility analysis indicate the following:

- New production wells are viable and the four preferred locations would have legal capacities ranging from 675 to 860 gpm assuming wells with 400 foot screened intervals.
- Section 13 is preferential to Section 23 for new wells based on a greater MAU thickness.
- Groundwater quality should not be significantly different between the two Sections of land.
- Three existing irrigation wells could be used as replacement well sites, however only one well has information regarding historical pumpage. Based on the historical data, the legal capacity of a replacement would be 594 gpm continuous.
- No site-specific aquifer parameters are available. Completing a pump test at one of the existing irrigation wells would allow Clear Creek to develop estimates relating to the physical capacity of newly installed wells.



June 3, 2004  
Mr. Eric Laurin  
Coe & Van Loo Consultants, Inc.  
Page 8 of 8

Clear Creek Associates appreciates this opportunity to provide hydrogeologic services to Coe & Van Loo Consultants, Inc. and Centex Homes. If you have any questions, please call.

Sincerely,  
CLEAR CREEK ASSOCIATES, PLC

A handwritten signature in black ink, appearing to read "Donald P. Hanson".

Donald P. Hanson, R.G.  
Senior Hydrogeologist

A handwritten signature in black ink, appearing to read "Steven W. Corell".

Steven W. Corell, R.G.  
Senior Hydrogeologist

Attachments



**TABLE 1**  
**Well Inventory - Bella Vista Farms**  
 Pinal County, Arizona

Registration No.	Location	Location Verified	Well Type	Well Use	Water Use	Approved	Installed	Well Depth	Water Level	Casing Depth	Casing Dia.	Pump Rate	Drawdown	Drill Log	Owner	
627085	D(03-08)11AAA	Y (Capped)	NON-EXEMPT	WATER PRODUCTION	INDUSTRIAL		14-Jul-87	1803	502	1803	20	2300	0		ELLSWORTH LINDA/VEST	
603379	D(03-08)11BBC	?	EXEMPT	WATER PRODUCTION	DOMESTIC		3-Jul-00	668	0	668	20	0	0		BREWER GRANT & CAROLYN	
613323	D(03-08)11BBD	?	NON-EXEMPT	WATER PRODUCTION	DOMESTIC INDUSTRIAL		3-Jul-00	0	0	0	0	0	0		BREWER GRANT & CAROLYN	
603383	D(03-08)13AAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-57	1200	445	1200	16	0	0		WOLFKN FARMS	
603373	D(03-08)13ADD	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-51	708	0	700	20	0	0		BELLAVISTA FARMS #4.	
603387	D(03-08)13BAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-63	700	365	700	20	0	0		WOLFKN FARMS	
589317	D(03-08)13CCB	Y	EXEMPT	WATER PRODUCTION	DOMESTIC		31-Oct-01	750	380	750	5	0	0	0	X	WATERMAN GINGER
603380	D(03-08)13DAD	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		31-Dec-74	1200	0	1200	20	0	0		WOLFKN FARMS	
615280	D(03-08)14AAA	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-63	707	495	707	20	2000	0		AZ STATE LAND DEPT.	
603381	D(03-08)14AAA	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-63	707	0	707	20	0	0		BELLAVISTA FARMS #3.	
603385	D(03-08)14ACA	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-48	1240	430	1245	18	0	0		BELLAVISTA FARMS #3.	
615281	D(03-08)14ACD	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-48	1290	339	1245	18	0	0		AZ STATE LAND DEPT.	
615282	D(03-08)14ACD	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-48	800	0	200	20	1520	0		AZ STATE LAND DEPT.	
603376	D(03-08)14DCB	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-50	724	180	697	20	0	0		WOLFKN FARMS	
603386	D(03-08)15ADD	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-50	724	300	697	20	0	0		GILLESPIE PROPERTIES INC	
603377	D(03-08)15BAB	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-52	702	279	668	20	0	0		BELLAVISTA FARMS #2.	
615289	D(03-08)22ACC	Y	EXEMPT	WATER PRODUCTION	DOMESTIC		3-May-94	500	440	550	6	15	0	0	X	AZ STATE LAND DEPT.
603916	D(03-08)22ADC	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-51	600	257	600	20	3000	0		AZ STATE LAND DEPT.	
603915	D(03-08)22ADD	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-51	0	539	0	0	803	0		HUFFAKER ENT INC.	
615290	D(03-08)22ADD	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-71	1000	522	1000	18	1645	0		HUFFAKER ENT INC.	
615291	D(03-08)22ACC	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-51	1000	185	600	18	1840	0		AZ STATE LAND DEPT.	
543282	D(03-08)24AAA	Y	EXEMPT	WATER PRODUCTION	DOMESTIC		3-May-94	500	440	550	6	15	0	0	X	AZ STATE LAND DEPT.
603857	D(03-08)24AAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		4-Feb-51	773	500	773	18	1320	0		NEVITT EDWARD.	
603858	D(03-08)24ADD	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		12-Jul-74	1001	500	1001	18	1750	0		NEVITT FARMS LP	
615292	D(03-08)25AAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-51	748	451	748	20	2200	0		NEVITT FARMS LP	
627108	D(03-08)25AAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		27-Jan-51	748	466	748	20	1400	0		AZ STATE LAND DEPT.	
615293	D(03-08)25DAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-51	721	423	664	20	3275	0		STATE OF ARIZONA	
615294	D(03-08)26AAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-64	900	441	900	20	2000	0		AZ STATE LAND DEPT.	
627109	D(03-08)26AAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		11-Jun-84	900	498	873	20	1450	0		AZ STATE LAND DEPT.	
615295	D(03-08)26ACA	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-56	816	439	816	20	2100	0		STATE OF ARIZONA	
615296	D(03-08)26BBA	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		17-Mar-56	816	500	776	20	1450	0		STATE OF ARIZONA	
627111	D(03-08)27AAA	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		1-Jan-58	811	480	350	20	0	0		AZ STATE LAND DEPT.	
627112	D(03-08)27ABA	Y	EXEMPT	WATER PRODUCTION	DOMESTIC		14-Jan-58	811	500	738	20	1300	0		SPIKE H. ENTERPRISES,	
591110	D(03-08)27ABA	Y	NON-EXEMPT	WATER PRODUCTION	DOMESTIC		18-Jan-63	814	488	814	18	1100	0		SPIKE H. ENTERPRISES,	
627113	D(03-08)27BAB	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		27-Feb-02	0	0	0	0	0	0		KOEPNICK MAX	
627114	D(03-08)27BDB	Y	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		20-Mar-74	680	510	673	16	350	0		SPIKE H. ENTERPRISES.	
627115	D(03-08)27CAB	?	NON-EXEMPT	WATER PRODUCTION	IRRIGATION		2-Dec-51	800	500	530	20	600	0		SONDRAN VISTA PARTNERS LL	
589319	D(03-09)18AAA	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		22-Feb-63	800	490	800	16	500	0		SPIKE H. ENTERPRISES,	
579670	D(03-09)18AAB	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		5-Apr-00	480	500	0	0	0	0	0	X	UPTAIN CLIFFORD L
579691	D(03-09)18AAC	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		18-Oct-01	0	0	0	0	15	0		MONDAY & MONDAY II	
581888	D(03-09)18AAB	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		23-Feb-00	480	440	480	6	0	0	0	X	HARRIS ALICE W
579466	D(03-09)18AAD	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		24-Aug-00	620	423	620	6	0	0	0	X	KOWALSKI MIKE
525819	D(03-09)18ADC	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		28-Jun-00	500	500	500	7	0	0	0	X	KE-BO ENTERPRISES INC
583432	D(03-09)18ADD	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		9-Feb-00	500	450	500	7	0	0	0	X	LINES CHUCK & KRISTEN
599039	D(03-09)18ADD	Y (Capped)	EXEMPT	WATER PRODUCTION	DOMESTIC		28-Dec-89	785	610	760	5	10	0	0	X	PETTY LYNNETTE
529858	D(03-09)18BCC	?(private land)	EXEMPT	WATER PRODUCTION	DOMESTIC		9-Jul-02	0	0	0	0	0	0		DAILEY MATTHEW	
500581	D(03-09)18BCC	?(private land)	NON-SERVICE	WATER PRODUCTION	DOMESTIC		7-Aug-03	540	180	540	6	0	0	0	X	PINNACLE SOUTHWEST PROPER
566197	D(03-09)18BDA	?(private land)	EXEMPT	WATER PRODUCTION	COMMERCIAL		30-Dec-90	657	540	657	7	23	0	0	X	PHILLIPS DAVID.T
517638	D(03-09)18CBB	?(private land)	EXEMPT	WATER PRODUCTION	DOMESTIC		21-Sep-82	800	500	760	8	150	0	0	X	BUCHLID J
517637	D(03-09)18CCB	?(private land)	EXEMPT	WATER PRODUCTION	DOMESTIC		5-Jan-98	840	620	840	4	20	480	0	X	LOWE MILTON & LUCILL
517905	D(03-09)18CCC	?(private land)	EXEMPT	WATER PRODUCTION	DOMESTIC		15-May-87	800	800	800	8	35	560	0	X	GROH JOHN.
							22-May-87	800	620	800	10	35	560	0	X	GROH JOHN.
							28-May-87	790	620	790	10	0	0	0	X	BEEHAN, BOBBY & ROD.

**TABLE 2**  
**GWSI Water Quality Database**  
 Bella Vista Farms  
 Pinal County, Arizona

Well ID	Well Elevation	Well Location	Well Depth	Registration No.	Temp (ft)	Temp (in)	WQID	Date Measured	Specific Conductance	TDS (mg/l)	fluoride	Temp (F)	Salinity
331122111303401	1540	D-03-08 11BBC	666	603379	452510.488	3672212.887		1 01-Aug-72				80	
331032111282801	1568	D-03-08 13AAA1	620		455766.179	3670657.808		1 10-Jul-52				25	
331032111282801	1568	D-03-08 13AAA1	620		455766.179	3670657.808		2 18-Jul-56				25.5	
331032111282801	1568	D-03-08 13AAA1	620		455766.179	3670657.808		3 11-Jul-62				27.2	
331032111282801	1568	D-03-08 13AAA1	620		455766.179	3670657.808		4 16-Jun-64				27.2	
331033111282901	1568	D-03-08 13AAA2	1,200	603383	455792.217	3670688.486		1 08-Aug-72	850	340		29	
331033111282901	1568	D-03-08 13AAA2	1,200	603383	455792.217	3670688.486		2 23-Jun-71	850	340		27	
331033111282901	1568	D-03-08 13AAA2	1,200	603383	455792.217	3670688.486		3 03-Sep-72				28.5	
331033111282901	1568	D-03-08 13AAA2	1,200	603383	455792.217	3670688.486		4 28-Jul-75				29	
331033111285501	1564	D-03-08 13ABB	700	603387	454963.759	3670753.864		1 09-Aug-72	810	324		27	
331014111282901	1565	D-03-08 13ADD	708	603373	455763.668	3670103.502		1 10-Jul-52				25.5	
331014111282901	1565	D-03-08 13ADD	708	603373	455763.668	3670103.502		2 18-Jul-56				26	
331014111282901	1565	D-03-08 13ADD	708	603373	455763.668	3670103.502		3 23-Jun-71	850	340		26	
331014111282901	1565	D-03-08 13ADD	708	603373	455763.668	3670103.502		4 09-Aug-72	840	336		27	
331014111282901	1565	D-03-08 13ADD	708	603373	455763.668	3670103.502		5 18-Jul-52				26	
331014111282901	1565	D-03-08 13ADD	708	603373	455763.668	3670103.502		6 09-Aug-72	840	336		27	
331014111282901	1565	D-03-08 13ADD	708	603373	455763.668	3670103.502		7 26-Jun-71	850	340		26	
331033111293201	1552	D-03-08 14AAA	707	615280	454135.022	3670757.723		1 27-Aug-72	900	360		27	
331033111293201	1552	D-03-08 14AAA	707	615280	454135.022	3670757.723		2 09-Aug-72				27	
331033111293201	1552	D-03-08 14AAA	707	615280	454135.022	3670757.723		3 28-Jul-75				28	
331017111295801	1544	D-03-08 14ACB	1,200	615281	453433.131	3670206.725		1 08-Aug-72	850	340		28.5	
331017111295801	1544	D-03-08 14ACB	1,200	615281	453433.131	3670206.725		2 29-Jul-75				29	
331017111295801	1544	D-03-08 14ACB	1,200	615281	453433.131	3670206.725		3 03-Sep-75				29	
330952111294701	1542	D-03-08 14DCA	620	615282	453714.522	3669466.295		2 08-Aug-72	800	320		27	
330952111294701	1542	D-03-08 14DCA	620	615282	453714.522	3669466.295		3 28-Jul-75				26	
330952111294701	1542	D-03-08 14DCA	620	615282	453714.522	3669466.295		4 25-Jun-71	800	320		27	
331031111311801	1517	D-03-08 15BAB	702	603377	451363.315	3670647.956		1 01-Aug-72				79	
331008111303801	1527	D-03-08 15DAA	724	603386	452395.798	3669934.568		1 01-Aug-72				82	
330919111303301	1525	D-03-08 22ADD	1,000	615290	452517.964	3668424.991		1 06-Apr-88	850	340	0.5	30.5	7.9
330852111305301	1519	D-03-08 22DCD	1,000	615291	451995.794	3667596.063		1 22-Feb-71	950	380		27	
330852111305301	1519	D-03-08 22DCD	1,000	615291	451995.794	3667596.063		2 20-Apr-75	1050	420			
330852111305301	1519	D-03-08 22DCD	1,000	615291	451995.794	3667596.063		3 19-May-56				26.5	
330852111305301	1519	D-03-08 22DCD	1,000	615291	451995.794	3667596.063		4 30-Jul-56				26.5	
330852111305301	1519	D-03-08 22DCD	1,000	615291	451995.794	3667596.063		5 04-Aug-53				25.5	
330852111305301	1519	D-03-08 22DCD	1,000	615291	451995.794	3667596.063		6 09-May-85	1340	536	0.6	27	
330852111305301	1519	D-03-08 22DCD	1,000	615291	451995.794	3667596.063		7 13-Apr-88	1500	600	0.6	28.5	7.6
330942111300201	1536	D-03-08 23BAA	730	603372	453324.381	3669129.401		1 10-Jul-52				25.5	
330942111300201	1536	D-03-08 23BAA	730	603372	453324.381	3669129.401		2 01-Jul-56				25	
330942111300201	1536	D-03-08 23BAA	730	603372	453324.381	3669129.401		3 31-May-62				25	
330942111282601	1562	D-03-08 24AAA	773	633857	455811.008	3669117.834		1 18-Jul-56				26	
330942111282601	1562	D-03-08 24AAA	773	633857	455811.008	3669117.834		2 11-Jul-62				26.5	
330942111282601	1562	D-03-08 24AAA	773	633857	455811.008	3669117.834		3 22-Jun-71	650	260		26	
330918111282601	1558	D-03-08 24ADD	1,000	633858	455807.665	3668378.76		1 07-May-85	860	344	0.8	26	
330849111282501	1547	D-03-08 25AAA	748	615292	455829.532	3667485.597		1 22-Jun-71	950	380		25	
330849111282501	1547	D-03-08 25AAA	748	615292	455829.532	3667485.597		2 26-Jul-83	890	356	1	26	
330849111282501	1547	D-03-08 25AAA	748	615292	455829.532	3667485.597		3 07-May-85	790	316	0.8	25	
330849111282501	1547	D-03-08 25AAA	748	615292	455829.532	3667485.597		4 20-Aug-91	1080	432	1.1	26	7.5
330820111282601	1541	D-03-08 25DAA	724	615293	455825.357	3666561.757		1 22-Jun-71	1000	400		25	
330846111302801	1537	D-03-08 26AAA	900	615294	454196.978	3667400.726		2 09-May-85	878	351.2	0.8	26	
330846111302801	1537	D-03-08 26AAA	900	615294	454196.978	3667400.726		3 20-Aug-91	880	352	1	27.5	7.1
330835111294001	1532	D-03-08 26ADB	816	615295	453884.496	3667063.446		1 22-Jun-71	950	380		26	
330835111294001	1532	D-03-08 26ADB	816	615295	453884.496	3667063.446		2 26-Jul-83	970	388	0.6	28.5	
330835111294001	1532	D-03-08 26ADB	816	615295	453884.496	3667063.446		3 30-May-85	980	392	0.5	29	
330843111304801	1521	D-03-08 27ABD	914	627112	452123.969	3667318.275		1 26-Jul-83	2000	800	0.6	28.5	
330817111311301	1512	D-03-08 27CAC	800	627115	451472.313	3666520.806		1 30-Jul-56				28	
330817111311301	1512	D-03-08 27CAC	800	627115	451472.313	3666520.806		2 04-Aug-53				28	

minimum 260  
 maximum 800 0.5 1.1

**TABLE 3**  
**ADWR SRV Model Parameters**  
 Bella Vista Farms  
 Pinal County, Arizona

SRV Cell No	SRV Row	SRV Col	Location	Land Surface Elevation		UAU Elevation	IMAU Elevation	LAU Elevation	Depth to UAU (ft bis)		Depth to MAU (ft bis)		Depth to LAU (ft bis)		Hydraulic Conductivity (ft/day)		Specific Yield (unitless)	
				Elevation	Elevation				UAU (ft bis)	LAU (ft bis)	IMAU (ft bis)	LAU (ft bis)	UAU	MAU	LAU	UAU	MAU	LAU
4577	51	77	D030801	1580	1410	790	-270	170	790	1850	50	12	8	0.10	0.07	0.09		
4576	51	76	D030802	1550	1400	670	-550	150	880	2100	50	12	8	0.10	0.07	0.09		
4575	51	75	D030803	1530	1350	600	-650	180	930	2180	50	12	8	0.10	0.07	0.09		
4574	51	74	D030804	1510	1280	700	-690	230	810	2200	50	12	8	0.10	0.07	0.09		
4573	51	73	D030805	1490	1220	700	-710	270	790	2200	50	12	8	0.10	0.07	0.09		
4572	51	72	D030806	1480	1150	840	-510	330	640	1990	30	7	4	0.10	0.07	0.09		
4662	52	72	D030807	1490	1150	1110	510	340	380	980	30	7	4	0.10	0.10	0.10		
4663	52	73	D030808	1490	1250	900	390	240	590	1100	50	12	8	0.10	0.10	0.10		
4664	52	74	D030809	1510	1300	910	10	210	600	1500	50	12	8	0.10	0.10	0.10		
4665	52	75	D030810	1520	1400	800	-200	120	720	1720	50	12	8	0.10	0.10	0.10		
4666	52	76	D030811	1550	1420	590	-250	130	960	1800	50	12	8	0.10	0.07	0.09		
4667	52	77	D030812	1570	1430	880	-80	140	690	1650	50	12	8	0.10	0.07	0.09		
4757	53	77	D030813	1560	1400	740	-110	160	820	1450	50	12	8	0.10	0.07	0.10		
4756	53	76	D030814	1540	1400	800	100	140	740	1440	50	12	8	0.10	0.10	0.10		
4755	53	75	D030815	1520	1350	990	420	170	530	1100	50	12	8	0.10	0.10	0.10		
4754	53	74	D030816	1500	1330	1010	690	170	490	810	50	12	8	0.09	0.10	0.10		
4753	53	73	D030817	1500	1300	1010	720	200	490	780	50	12	8	0.09	0.10	0.10		
4843	54	73	D030820	1520	1250	1150	1020	270	370	500	50	12	8	0.09	0.10	0.10		
4844	54	74	D030821	1510	1300	1150	1010	210	360	500	50	12	8	0.09	0.10	0.10		
4845	54	75	D030822	1520	1300	980	720	220	540	800	50	12	8	0.09	0.10	0.10		
4846	54	76	D030823	1530	1290	800	540	230	530	950	50	12	8	0.10	0.10	0.10		
4847	54	77	D030824	1550	1300	900	360	250	650	1180	50	12	8	0.10	0.10	0.10		
4937	55	77	D030825	1540	1250	1140	630	290	400	910	50	12	8	0.10	0.10	0.10		
4936	55	76	D030826	1520	1150	1100	1010	370	420	510	50	12	8	0.09	0.10	0.10		
4935	55	75	D030827	1520	1200	1150	1090	320	370	430	50	12	8	0.09	0.10	0.10		
4934	55	74	D030828	1510	1190	1150	1110	320	360	400	50	12	8	0.09	0.10	0.10		
4933	55	73	D030829	1530	1190	1110	1030	340	420	500	50	12	8	0.09	0.10	0.10		
5025	56	75	D030834	1520	1240	1200	1020	280	320	500	50	12	8	0.09	0.10	0.10		
5026	56	76	D030835	1520	1240	1200	1030	280	320	490	50	12	8	0.09	0.10	0.10		
5027	56	77	D030836	1530	1250	1170	1030	280	360	500	50	12	8	0.09	0.10	0.10		
4583	51	83	D030901	1730	1510	1200	520	220	530	1210	30	7	4	0.10	0.07	0.09		
4582	51	82	D030902	1700	1510	1100	440	190	600	1260	30	7	4	0.10	0.07	0.09		
4581	51	81	D030903	1670	1510	960	360	160	710	1310	30	7	4	0.10	0.07	0.09		
4580	51	80	D030904	1640	1500	880	220	140	760	1420	30	7	4	0.10	0.07	0.09		
4579	51	79	D030905	1620	1470	860	120	150	760	1500	30	7	4	0.10	0.07	0.09		
4578	51	78	D030906	1600	1450	850	-10	150	750	1610	30	12	8	0.10	0.07	0.09		
4668	52	78	D030907	1590	1440	1010	90	150	580	1500	50	12	8	0.10	0.07	0.09		
4669	52	79	D030908	1610	1420	950	100	190	660	1510	50	12	8	0.10	0.07	0.09		
4670	52	80	D030909	1630	1430	900	400	200	730	1230	30	12	8	0.10	0.07	0.09		
4671	52	81	D030910	1660	1490	910	530	170	750	1130	30	7	4	0.10	0.07	0.09		
4672	52	82	D030911	1690	1500	1050	560	190	640	1130	30	7	4	0.10	0.07	0.09		
4673	52	83	D030912	1710	1510	1130	600	200	580	1110	30	7	4	0.10	0.07	0.09		
4763	53	83	D030913	1700	1490	1100	750	210	600	950	30	12	8	0.10	0.07	0.09		
4762	53	82	D030914	1670	1470	1020	820	200	650	850	50	12	8	0.10	0.07	0.09		
4761	53	81	D030915	1640	1450	930	740	190	710	900	50	12	8	0.10	0.07	0.09		

**TABLE 3**  
**ADWR SRV Model Parameters**  
 Bella Vista Farms  
 Pinal County, Arizona

SRV Cell No	SRV Row	SRV Col	Location	Land Surface Elevation		MAU Elevation		LAU Elevation		Depth to UAU (ft bis)		Depth to LAU (ft bis)		Hydraulic Conductivity (ft/day)		Specific Yield (unitless)	
				UAU Elevation	MAU Elevation	LAU Elevation	MAU Elevation	LAU Elevation	UAU	MAU	UAU	MAU	UAU	MAU	UAU	MAU	UAU
4760	53	80	D030916	1620	1400	1000	770	620	220	850	12	8	0.10	0.07	0.09		
4759	53	79	D030917	1600	1400	1000	380	600	200	1220	12	8	0.10	0.07	0.09		
4758	53	78	D030918	1580	1400	890	170	690	180	1410	12	8	0.10	0.07	0.09		
4848	54	78	D030919	1570	1320	870	340	700	250	1230	50	12	0.10	0.07	0.09		
4849	54	79	D030920	1580	1350	970	480	610	230	1100	50	12	0.10	0.07	0.09		
4850	54	80	D030921	1610	1380	1100	910	510	230	700	50	12	0.10	0.07	0.09		
4851	54	81	D030922	1630	1400	1030	880	600	230	650	50	12	0.10	0.07	0.09		
4852	54	82	D030923	1650	1430	1000	800	650	220	850	50	12	0.10	0.07	0.09		
4853	54	83	D030924	1680	1450	1050	880	630	230	800	50	12	0.10	0.07	0.09		
4943	55	83	D030925	1660	1440	1300	910	360	220	750	50	12	0.10	0.07	0.09		
4942	55	82	D030926	1630	1420	1250	700	380	210	930	50	12	0.10	0.07	0.09		
4940	55	80	D030928	1590	1380	1150	680	440	210	410	50	12	0.10	0.07	0.09		
4939	55	79	D030929	1570	1365	1100	900	470	205	670	50	12	0.10	0.07	0.09		
4938	55	78	D030930	1550	1350	1000	800	550	200	750	50	12	0.10	0.07	0.09		
5028	56	78	D030931	1550	1320	1220	970	330	230	580	50	12	0.09	0.10	0.09		
5029	56	79	D030932	1580	1350	1200	630	360	210	930	50	12	0.09	0.10	0.09		
5030	56	80	D030933	1580	1370	1200	640	380	210	940	75	15	0.10	0.10	0.09		
5031	56	81	D030934	1590	1390	1240	650	350	200	940	75	15	0.10	0.07	0.09		
5032	56	82	D030935	1620	1400	1300	700	320	220	920	75	15	0.10	0.07	0.09		
5033	56	83	D030936	1640	1420	1370	820	270	220	820	75	15	0.10	0.07	0.09		

**ATTACHMENT E**  
**WATERCAD ANALYSIS RESULTS**



**Scenario: Avg. Day Demand  
Steady State Analysis  
Junction Report**

Label	Elevation (ft)	Base Flow (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-22	1,564.00	0.00	1,679.68	50.05
J-6	1,562.00	73.30	1,679.57	50.87
J-8	1,561.00	73.30	1,679.60	51.31
J-29	1,561.00	0.00	1,679.70	51.36
J-23	1,560.00	0.00	1,679.73	51.80
J-36	1,560.00	0.00	1,679.76	51.81
J-31	1,560.00	0.00	1,679.76	51.81
J-9	1,559.00	0.00	1,679.74	52.24
J-26	1,558.00	0.00	1,679.64	52.63
J-7 (Comm)	1,556.00	41.70	1,679.66	53.50
J-20 (School)	1,555.00	20.80	1,679.70	53.95
J-4	1,552.00	73.30	1,679.66	55.23
J-3	1,552.00	73.30	1,679.66	55.23
J-2	1,552.00	73.30	1,679.74	55.27
J-5	1,550.00	0.00	1,679.73	56.13
J-24	1,550.00	0.00	1,679.77	56.15
J-1	1,545.00	0.00	1,679.96	58.39
J-35	1,545.00	0.00	1,680.02	58.42
J-17	1,541.00	73.30	1,680.00	60.14
J-28	1,541.00	0.00	1,680.04	60.16
J-16	1,541.00	73.30	1,680.09	60.18
J-10	1,539.00	0.00	1,680.39	61.17
J-11	1,538.00	73.30	1,680.27	61.55
J-19 (School)	1,535.00	20.80	1,680.20	62.82
J-14	1,530.00	73.30	1,680.21	64.99
J-27	1,530.00	0.00	1,680.21	64.99
J-15	1,530.00	0.00	1,680.24	65.00
J-12	1,529.00	73.30	1,680.49	65.54
J-21	1,528.00	0.00	1,680.48	65.97
J-13	1,528.00	0.00	1,680.69	66.06
J-32	1,528.00	0.00	1,680.92	66.16
J-30	1,528.00	0.00	1,680.92	66.16
J-18 (Comm)	1,528.00	41.70	1,681.02	66.21
J-25	1,528.00	0.00	1,681.35	66.35

**Scenario: Avg. Day Demand  
Steady State Analysis  
Pipe Report**

Label	From Node	To Node	Length (ft)	Diameter (in)	Hazen-Williams C	Discharge (gpm)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)	Control Status
P-2	J-2	J-3	926.00	8.0	130.0	53.06	0.08	0.34	Open
P-3	J-3	J-4	1,086.00	8.0	130.0	3.83	0.00	0.02	Open
P-4	J-4	J-5	1,144.00	12.0	130.0	-130.70	0.06	0.37	Open
P-6	J-8	J-6	585.00	10.0	130.0	73.30	0.05	0.30	Open
P-9	J-10	J-11	742.00	8.0	130.0	77.64	0.16	0.50	Open
P-10	J-11	J-12	1,836.00	8.0	130.0	-67.16	0.12	0.43	Open
P-11	J-12	J-13	529.00	10.0	130.0	-221.98	0.38	0.91	Open
P-12	J-12	J-14	1,608.00	8.0	130.0	81.52	0.18	0.52	Open
P-15	J-11	J-17	1,942.00	8.0	130.0	71.50	0.14	0.46	Open
P-23	J-14	J-19 (School)	392.00	8.0	130.0	20.80	0.01	0.13	Open
P-25	J-3	J-20 (School)	2,103.00	8.0	130.0	-24.07	0.02	0.15	Open
P-26	J-20 (School)	J-9	2,118.00	10.0	130.0	-42.32	0.02	0.17	Open
P-29	J-10	J-1	1,887.00	12.0	130.0	270.18	0.22	0.77	Open
P-30	J-5	J-7 (Comm)	4,010.00	12.0	130.0	67.28	0.02	0.19	Open
P-32	J-18 (Comm)	J-10	1,771.00	12.0	130.0	347.82	0.36	0.99	Open
P-34	J-1	J-17	858.00	12.0	130.0	-110.13	0.04	0.31	Open
P-35	J-16	J-15	1,757.00	12.0	130.0	-161.77	0.09	0.46	Open
P-36	J-15	J-21	1,886.00	12.0	130.0	-197.81	0.13	0.56	Open
P-37	J-21	J-13	1,691.00	12.0	130.0	-197.81	0.13	0.56	Open
P-38	J-7 (Comm)	J-22	1,462.00	12.0	130.0	-59.79	0.01	0.17	Open
P-40	J-23	J-9	1,016.00	12.0	130.0	-40.67	0.01	0.12	Open
P-41	J-1	J-24	1,355.00	12.0	130.0	209.36	0.14	0.59	Open
P-42	J-24	J-2	271.00	10.0	130.0	126.36	0.13	0.52	Open
P-43	J-24	J-9	1,338.00	12.0	130.0	83.00	0.03	0.24	Open
P-45	J-25	J-18 (Comm)	596.00	12.0	130.0	438.21	0.55	1.24	Open
P-47	J-4	J-26	1,490.00	12.0	130.0	61.23	0.01	0.17	Open
P-48	J-26	J-8	587.00	12.0	130.0	146.60	0.07	0.42	Open
P-49	J-7 (Comm)	J-26	743.00	12.0	130.0	85.37	0.03	0.24	Open
P-50	J-14	J-27	285.00	8.0	130.0	-12.58	0.01	0.08	Open
P-51	J-27	J-15	800.00	8.0	130.0	-36.04	0.04	0.23	Open
P-52	J-16	J-28	1,811.00	12.0	130.0	88.47	0.03	0.25	Open
P-53	J-28	J-17	894.00	12.0	130.0	111.93	0.04	0.32	Open
P-54	J-27	J-28	2,432.00	6.0	130.0	23.46	0.07	0.27	Open
P-55	J-22	J-29	1,521.00	12.0	130.0	-59.79	0.01	0.17	Open
P-57	J-20 (School)	J-29	596.00	10.0	130.0	-2.55	0.00	0.01	Open
P-58	J-30	J-32	20.00	6.0	130.0	0.00	0.00	0.00	Open
P-65	J-32	J-35	3,262.00	6.0	130.0	48.69	0.28	0.55	Open
P-66	J-35	J-36	4,237.00	6.0	130.0	21.67	0.06	0.25	Open
P-68	J-36	J-31	287.00	6.0	130.0	0.00	0.00	0.00	Open
P-71	J-29	J-23	2,048.00	12.0	130.0	-62.34	0.01	0.18	Open
P-73	PMP-1(MD&PH)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-74	Well#1	PMP-1(MD&PH)	50.00	24.0	130.0	0.00	0.00	0.00	Open
P-75	Well#1	PMP-2 (Fire PM)	50.00	24.0	130.0	0.00	0.00	0.00	Open
P-76	PMP-2 (Fire PM)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-77	J-25	J-13	1,291.00	12.0	130.0	419.79	0.51	1.19	Open
P-78	Well#1	PMP-3 (AD)	50.00	24.0	130.0	858.00	0.07	0.61	Open
P-79	PMP-3 (AD)	J-25	50.00	24.0	130.0	858.00	0.07	0.61	Open
P-90	J-18 (Comm)	J-32	386.00	6.0	130.0	48.69	0.28	0.55	Open
P-91	Res (Johnson)	J-30	5,280.00	6.0	130.0	0.00	0.00	0.00	Closed
P-92	J-35	J-1	598.00	6.0	130.0	27.02	0.09	0.31	Open
P-93	J-23	J-36	414.00	6.0	130.0	-21.67	0.06	0.25	Open
P-94	J-1	J-5	1,847.00	12.0	130.0	197.97	0.13	0.56	Open

**Scenario: Avg. Day Demand  
Steady State Analysis  
Pump Report**

Label	Control Status	Elevation (ft)	Discharge (gpm)	Discharge Pump Grade (ft)	Pump Head (ft)
PMP-1(MD&PH)	Off	1,530.00	0.00	1,681.35	0.00
PMP-2 (Fire PMP)	Off	1,530.00	0.00	1,681.35	0.00
PMP-3 (AD)	On	1,530.00	858.00	1,681.35	151.36

**Scenario: Avg. Day Demand  
Steady State Analysis  
Reservoir Report**

Label	Elevation (ft)	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Res (Johnson)	1,689.70	0.00	0.00	1,689.70
Well#1	1,530.00	-858.00	858.00	1,530.00

**Scenario: Max Day Demand  
Steady State Analysis  
Junction Report**

Label	Elevation (ft)	Base Flow (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-22	1,564.00	0.00	1,719.93	67.46
J-6	1,562.00	146.60	1,719.53	68.16
J-8	1,561.00	146.60	1,719.63	68.63
J-29	1,561.00	0.00	1,720.01	68.79
J-23	1,560.00	0.00	1,720.12	69.28
J-36	1,560.00	0.00	1,720.21	69.31
J-31	1,560.00	0.00	1,720.21	69.31
J-9	1,559.00	0.00	1,720.14	69.72
J-26	1,558.00	0.00	1,719.79	70.00
J-7 (Comm)	1,556.00	83.40	1,719.86	70.89
J-20 (School)	1,555.00	41.60	1,720.01	71.39
J-4	1,552.00	146.60	1,719.87	72.63
J-3	1,552.00	146.60	1,719.87	72.63
J-2	1,552.00	146.60	1,720.13	72.74
J-5	1,550.00	0.00	1,720.11	73.60
J-24	1,550.00	0.00	1,720.26	73.67
J-1	1,545.00	0.00	1,720.95	76.12
J-35	1,545.00	0.00	1,721.15	76.21
J-17	1,541.00	146.60	1,721.08	77.91
J-28	1,541.00	0.00	1,721.22	77.97
J-16	1,541.00	146.60	1,721.41	78.05
J-10	1,539.00	0.00	1,722.48	79.38
J-11	1,538.00	146.60	1,722.05	79.63
J-19 (School)	1,535.00	41.60	1,721.82	80.83
J-14	1,530.00	146.60	1,721.84	83.00
J-27	1,530.00	0.00	1,721.85	83.00
J-15	1,530.00	0.00	1,721.96	83.05
J-12	1,529.00	146.60	1,722.86	83.88
J-21	1,528.00	0.00	1,722.82	84.29
J-13	1,528.00	0.00	1,723.59	84.62
J-32	1,528.00	0.00	1,724.39	84.97
J-30	1,528.00	0.00	1,724.39	84.97
J-18 (Comm)	1,528.00	83.40	1,724.77	85.13
J-25	1,528.00	0.00	1,725.95	85.65

**Scenario: Max Day Demand  
Steady State Analysis  
Pipe Report**

Label	From Node	To Node	Length (ft)	Diameter (in)	Hazen-Williams C	Discharge (gpm)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)	Control Status
P-2	J-2	J-3	926.00	8.0	130.0	106.11	0.29	0.68	Open
P-3	J-3	J-4	1,086.00	8.0	130.0	7.66	0.00	0.05	Open
P-4	J-4	J-5	1,144.00	12.0	130.0	-261.40	0.21	0.74	Open
P-6	J-8	J-6	585.00	10.0	130.0	146.60	0.18	0.60	Open
P-9	J-10	J-11	742.00	8.0	130.0	155.27	0.58	0.99	Open
P-10	J-11	J-12	1,836.00	8.0	130.0	-134.32	0.44	0.86	Open
P-11	J-12	J-13	529.00	10.0	130.0	-443.96	1.37	1.81	Open
P-12	J-12	J-14	1,608.00	8.0	130.0	163.04	0.64	1.04	Open
P-15	J-11	J-17	1,942.00	8.0	130.0	142.99	0.50	0.91	Open
P-23	J-14	J-19 (School)	392.00	8.0	130.0	41.60	0.05	0.27	Open
P-25	J-3	J-20 (School)	2,103.00	8.0	130.0	-48.15	0.07	0.31	Open
P-26	J-20 (School)	J-9	2,118.00	10.0	130.0	-84.65	0.06	0.35	Open
P-29	J-10	J-1	1,887.00	12.0	130.0	540.36	0.81	1.53	Open
P-30	J-5	J-7 (Comm)	4,010.00	12.0	130.0	134.55	0.06	0.38	Open
P-32	J-18 (Comm)	J-10	1,771.00	12.0	130.0	695.64	1.29	1.97	Open
P-34	J-1	J-17	858.00	12.0	130.0	-220.25	0.15	0.62	Open
P-35	J-16	J-15	1,757.00	12.0	130.0	-323.54	0.31	0.92	Open
P-36	J-15	J-21	1,886.00	12.0	130.0	-395.62	0.46	1.12	Open
P-37	J-21	J-13	1,691.00	12.0	130.0	-395.62	0.46	1.12	Open
P-38	J-7 (Comm)	J-22	1,462.00	12.0	130.0	-119.59	0.05	0.34	Open
P-40	J-23	J-9	1,016.00	12.0	130.0	-81.35	0.02	0.23	Open
P-41	J-1	J-24	1,355.00	12.0	130.0	418.71	0.51	1.19	Open
P-42	J-24	J-2	271.00	10.0	130.0	252.71	0.48	1.03	Open
P-43	J-24	J-9	1,338.00	12.0	130.0	166.00	0.09	0.47	Open
P-45	J-25	J-18 (Comm)	596.00	12.0	130.0	876.42	1.99	2.49	Open
P-47	J-4	J-26	1,490.00	12.0	130.0	122.46	0.05	0.35	Open
P-48	J-26	J-8	587.00	12.0	130.0	293.20	0.26	0.83	Open
P-49	J-7 (Comm)	J-26	743.00	12.0	130.0	170.74	0.10	0.48	Open
P-50	J-14	J-27	285.00	8.0	130.0	-25.16	0.02	0.16	Open
P-51	J-27	J-15	800.00	8.0	130.0	-72.08	0.14	0.46	Open
P-52	J-16	J-28	1,811.00	12.0	130.0	176.94	0.10	0.50	Open
P-53	J-28	J-17	894.00	12.0	130.0	223.86	0.16	0.64	Open
P-54	J-27	J-28	2,432.00	6.0	130.0	46.92	0.26	0.53	Open
P-55	J-22	J-29	1,521.00	12.0	130.0	-119.59	0.05	0.34	Open
P-57	J-20 (School)	J-29	596.00	10.0	130.0	-5.10	0.00	0.02	Open
P-58	J-30	J-32	20.00	6.0	130.0	0.00	0.00	0.00	Open
P-65	J-32	J-35	3,262.00	6.0	130.0	97.39	0.99	1.11	Open
P-66	J-35	J-36	4,237.00	6.0	130.0	43.34	0.22	0.49	Open
P-68	J-36	J-31	287.00	6.0	130.0	0.00	0.00	0.00	Open
P-71	J-29	J-23	2,048.00	12.0	130.0	-124.69	0.05	0.35	Open
P-73	PMP-1(MD&PH)	J-25	50.00	24.0	130.0	1,716.00	0.23	1.22	Open
P-74	Well#1	PMP-1(MD&PH)	50.00	24.0	130.0	1,716.00	0.23	1.22	Open
P-75	Well#1	PMP-2 (Fire PM)	50.00	24.0	130.0	0.00	0.00	0.00	Open
P-76	PMP-2 (Fire PM)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-77	J-25	J-13	1,291.00	12.0	130.0	839.58	1.83	2.38	Open
P-78	Well#1	PMP-3 (AD)	50.00	24.0	130.0	0.00	0.00	0.00	Open
P-79	PMP-3 (AD)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-90	J-18 (Comm)	J-32	386.00	6.0	130.0	97.39	0.99	1.11	Open
P-91	Res (Johnson)	J-30	5,280.00	6.0	130.0	0.00	0.00	0.00	Closed
P-92	J-35	J-1	598.00	6.0	130.0	54.05	0.33	0.61	Open
P-93	J-23	J-36	414.00	6.0	130.0	-43.34	0.22	0.49	Open
P-94	J-1	J-5	1,847.00	12.0	130.0	395.95	0.46	1.12	Open

Title: Bella Vista

n:\047021enviro\water\water5-14-04-3prmpswcd.wcd

05/13/04 09:50:59 AM

© Haestad Methods, Inc.

Coe & Van Loo Consultants Inc

37 Brookside Road Waterbury, CT 06708 USA

+1-203-755-1666

Project Engineer: Asha D'Souza, EIT

WaterCAD v6.5 [6.5120]

Page 1 of 1

**Scenario: Max Day Demand**  
**Steady State Analysis**  
**Pump Report**

Label	Control Status	Elevation (ft)	Discharge (gpm)	Discharge Pump Grade (ft)	Pump Head (ft)
PMP-1(MD&PH)	On	1,530.00	1,716.00	1,725.97	195.98
PMP-2 (Fire PMP)	Off	1,530.00	0.00	1,725.95	0.00
PMP-3 (AD)	Off	1,530.00	0.00	1,725.95	0.00

**Scenario: Max Day Demand  
Steady State Analysis  
Reservoir Report**

Label	Elevation (ft)	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Res (Johnson)	1,689.70	0.00	0.00	1,689.70
Well#1	1,530.00	-1,716.00	1,716.00	1,530.00

**Scenario: Peak Hour Demand  
Steady State Analysis  
Junction Report**

Label	Elevation (ft)	Base Flow (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-22	1,564.00	0.00	1,669.15	45.49
J-6	1,562.00	219.90	1,668.30	45.99
J-8	1,561.00	219.90	1,668.52	46.52
J-29	1,561.00	0.00	1,669.31	46.86
J-23	1,560.00	0.00	1,669.54	47.39
J-36	1,560.00	0.00	1,669.74	47.48
J-31	1,560.00	0.00	1,669.74	47.48
J-9	1,559.00	0.00	1,669.59	47.85
J-26	1,558.00	0.00	1,668.84	47.96
J-7 (Comm)	1,556.00	125.10	1,668.99	48.89
J-20 (School)	1,555.00	62.40	1,669.31	49.45
J-4	1,552.00	219.90	1,669.00	50.62
J-3	1,552.00	219.90	1,669.01	50.62
J-2	1,552.00	219.90	1,669.57	50.87
J-5	1,550.00	0.00	1,669.52	51.71
J-24	1,550.00	0.00	1,669.85	51.85
J-1	1,545.00	0.00	1,671.30	54.64
J-35	1,545.00	0.00	1,671.80	54.86
J-17	1,541.00	219.90	1,671.56	56.49
J-28	1,541.00	0.00	1,671.84	56.61
J-16	1,541.00	219.90	1,672.21	56.77
J-10	1,539.00	0.00	1,674.56	58.65
J-11	1,538.00	219.90	1,673.60	58.67
J-19 (School)	1,535.00	62.40	1,673.04	59.72
J-14	1,530.00	219.90	1,673.09	61.91
J-27	1,530.00	0.00	1,673.10	61.91
J-15	1,530.00	0.00	1,673.34	62.02
J-12	1,529.00	219.90	1,675.21	63.26
J-21	1,528.00	0.00	1,675.11	63.65
J-13	1,528.00	0.00	1,676.70	64.34
J-32	1,528.00	0.00	1,679.48	65.54
J-18 (Comm)	1,528.00	125.10	1,679.49	65.54
J-30	1,528.00	0.00	1,679.51	65.55
J-25	1,528.00	0.00	1,681.58	66.45

**Scenario: Peak Hour Demand**  
**Steady State Analysis**  
**Pipe Report**

Label	From Node	To Node	Length (ft)	Diameter (in)	Hazen-Williams C	Discharge (gpm)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)	Control Status
P-2	J-2	J-3	926.00	8.0	130.0	159.17	0.61	1.02	Open
P-3	J-3	J-4	1,086.00	8.0	130.0	11.63	0.00	0.07	Open
P-4	J-4	J-5	1,144.00	12.0	130.0	-391.84	0.45	1.11	Open
P-6	J-8	J-6	585.00	10.0	130.0	219.90	0.37	0.90	Open
P-9	J-10	J-11	742.00	8.0	130.0	239.45	1.29	1.53	Open
P-10	J-11	J-12	1,836.00	8.0	130.0	-194.22	0.88	1.24	Open
P-11	J-12	J-13	529.00	10.0	130.0	-656.12	2.82	2.68	Open
P-12	J-12	J-14	1,608.00	8.0	130.0	242.00	1.32	1.54	Open
P-15	J-11	J-17	1,942.00	8.0	130.0	213.76	1.05	1.36	Open
P-23	J-14	J-19 (School)	392.00	8.0	130.0	62.40	0.11	0.40	Open
P-25	J-3	J-20 (School)	2,103.00	8.0	130.0	-72.37	0.14	0.46	Open
P-26	J-20 (School)	J-9	2,118.00	10.0	130.0	-127.04	0.13	0.52	Open
P-29	J-10	J-1	1,887.00	12.0	130.0	812.90	1.73	2.31	Open
P-30	J-5	J-7 (Comm)	4,010.00	12.0	130.0	201.64	0.13	0.57	Open
P-32	J-18 (Comm)	J-10	1,771.00	12.0	130.0	1,052.34	2.79	2.99	Open
P-34	J-1	J-17	858.00	12.0	130.0	-318.92	0.31	0.90	Open
P-35	J-16	J-15	1,757.00	12.0	130.0	-476.48	0.64	1.35	Open
P-36	J-15	J-21	1,886.00	12.0	130.0	-585.25	0.94	1.66	Open
P-37	J-21	J-13	1,691.00	12.0	130.0	-585.25	0.94	1.66	Open
P-38	J-7 (Comm)	J-22	1,462.00	12.0	130.0	-179.68	0.11	0.51	Open
P-40	J-23	J-9	1,016.00	12.0	130.0	-121.22	0.05	0.34	Open
P-41	J-1	J-24	1,355.00	12.0	130.0	627.32	1.07	1.78	Open
P-42	J-24	J-2	271.00	10.0	130.0	379.07	1.02	1.55	Open
P-43	J-24	J-9	1,338.00	12.0	130.0	248.26	0.19	0.70	Open
P-45	J-25	J-18 (Comm)	596.00	12.0	130.0	1,193.24	3.52	3.38	Open
P-47	J-4	J-26	1,490.00	12.0	130.0	183.58	0.11	0.52	Open
P-48	J-26	J-8	587.00	12.0	130.0	439.80	0.55	1.25	Open
P-49	J-7 (Comm)	J-26	743.00	12.0	130.0	256.22	0.20	0.73	Open
P-50	J-14	J-27	285.00	8.0	130.0	-40.30	0.05	0.26	Open
P-51	J-27	J-15	800.00	8.0	130.0	-108.77	0.30	0.69	Open
P-52	J-16	J-28	1,811.00	12.0	130.0	256.58	0.20	0.73	Open
P-53	J-28	J-17	894.00	12.0	130.0	325.05	0.32	0.92	Open
P-54	J-27	J-28	2,432.00	6.0	130.0	68.48	0.52	0.78	Open
P-55	J-22	J-29	1,521.00	12.0	130.0	-179.68	0.11	0.51	Open
P-57	J-20 (School)	J-29	596.00	10.0	130.0	-7.73	0.00	0.03	Open
P-58	J-30	J-32	20.00	6.0	130.0	139.39	1.93	1.58	Open
P-65	J-32	J-35	3,262.00	6.0	130.0	155.19	2.35	1.76	Open
P-66	J-35	J-36	4,237.00	6.0	130.0	66.20	0.49	0.75	Open
P-68	J-36	J-31	287.00	6.0	130.0	0.00	0.00	0.00	Open
P-71	J-29	J-23	2,048.00	12.0	130.0	-187.42	0.11	0.53	Open
P-73	PMP-1(MD&PH)	J-25	50.00	24.0	130.0	2,434.61	0.45	1.73	Open
P-74	Well#1	PMP-1(MD&PH)	50.00	24.0	130.0	2,434.61	0.45	1.73	Open
P-75	Well#1	PMP-2 (Fire PM)	50.00	24.0	130.0	0.00	0.00	0.00	Open
P-76	PMP-2 (Fire PM)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-77	J-25	J-13	1,291.00	12.0	130.0	1,241.37	3.78	3.52	Open
P-78	Well#1	PMP-3 (AD)	50.00	24.0	130.0	0.00	0.00	0.00	Open
P-79	PMP-3 (AD)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-90	J-18 (Comm)	J-32	386.00	6.0	130.0	15.80	0.03	0.18	Open
P-91	Res (Johnson)	J-30	5,280.00	6.0	130.0	139.39	1.93	1.58	Open
P-92	J-35	J-1	598.00	6.0	130.0	88.99	0.84	1.01	Open
P-93	J-23	J-36	414.00	6.0	130.0	-66.20	0.49	0.75	Open
P-94	J-1	J-5	1,847.00	12.0	130.0	593.48	0.96	1.68	Open

**Scenario: Peak Hour Demand  
Steady State Analysis  
Pump Report**

Label	Control Status	Elevation (ft)	Discharge (gpm)	Discharge Pump Grade (ft)	Pump Head (ft)
PMP-1 (MD&PH)	On	1,530.00	2,434.61	1,681.61	151.63
PMP-2 (Fire PMP)	Off	1,530.00	0.00	1,681.58	0.00
PMP-3 (AD)	Off	1,530.00	0.00	1,681.58	0.00

**Scenario: Peak Hour Demand  
Steady State Analysis  
Reservoir Report**

Label	Elevation (ft)	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Res (Johnson)	1,689.70	-139.39	139.39	1,689.70
Well#1	1,530.00	-2,434.61	2,434.61	1,530.00

**Scenario: Max Day + FF (Residential)**

**Fire Flow Analysis**

**Fire Flow Report**

Label	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Base Flow (gpm)	Needed Fire Flow (gpm)	Total Flow Needed (gpm)	Available Fire Flow (gpm)	Total Flow Available (gpm)	Residual Pressure (psi)	Calculated Residual Pressure (psi)	Calculated Minimum Zone Pressure (psi)
J-31	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	41.99	51.22
J-36	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	51.22	51.22
J-6	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	54.37	56.81
J-22	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	56.75	57.85
J-8	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	56.81	56.33
J-29	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	58.34	57.20
J-23	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	58.78	57.45
J-26	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	59.15	57.29
J-9	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	59.48	57.51
J-7 (Comm)	true	true	83.40	1,000.00	1,083.40	1,001.00	1,084.40	20.00	60.25	57.17
J-3	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	61.16	57.62
J-35	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	61.57	59.09
J-4	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	62.11	57.49
J-2	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	62.34	57.82
J-5	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	63.44	57.64
J-24	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	63.84	57.84
J-1	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	67.58	58.93
J-17	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	69.51	59.21
J-16	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	69.54	59.68
J-28	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	69.54	59.39
J-30	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	70.42	61.06
J-11	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	70.87	60.11
J-32	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	71.06	61.06
J-10	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	71.76	60.24
J-14	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	72.51	60.31
J-27	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	73.12	60.23
J-15	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	74.94	60.05
J-12	true	true	146.60	1,000.00	1,146.60	1,001.00	1,147.60	20.00	76.20	60.81
J-21	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	76.41	60.50
J-20 (School)	true	true	41.60	1.00	42.60	2.00	43.60	20.00	77.11	73.19
J-13	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	77.72	61.22
J-25	true	true	0.00	1,000.00	1,000.00	1,001.00	1,001.00	20.00	80.89	62.71
J-19 (School)	true	true	41.60	1.00	42.60	2.00	43.60	20.00	86.55	73.19
J-18 (Comm)	true	true	83.40	1.00	84.40	2.00	85.40	20.00	90.86	73.19

**Scenario: Max Day+FF @ Comm parcels**  
**Steady State Analysis**  
**Junction Report**

Label	Elevation (ft)	Base Flow (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-6	1,562.00	146.60	1,622.33	26.10
J-22	1,564.00	0.00	1,625.06	26.42
J-8	1,561.00	146.60	1,622.43	26.58
J-26	1,558.00	0.00	1,622.59	27.94
J-7 (Comm)	1,556.00	2,583.40	1,621.47	28.32
J-29	1,561.00	0.00	1,628.79	29.33
J-23	1,560.00	0.00	1,631.02	30.73
J-36	1,560.00	0.00	1,632.06	31.18
J-31	1,560.00	0.00	1,632.06	31.18
J-9	1,559.00	0.00	1,631.67	31.44
J-20 (School)	1,555.00	41.60	1,629.32	32.15
J-4	1,552.00	146.60	1,626.71	32.32
J-3	1,552.00	146.60	1,629.32	33.45
J-5	1,550.00	0.00	1,628.90	34.14
J-2	1,552.00	146.60	1,633.59	35.30
J-24	1,550.00	0.00	1,634.28	36.47
J-1	1,545.00	0.00	1,641.49	41.75
J-35	1,545.00	0.00	1,642.66	42.25
J-17	1,541.00	146.60	1,645.25	45.10
J-28	1,541.00	0.00	1,647.63	46.13
J-16	1,541.00	146.60	1,650.97	47.58
J-10	1,539.00	0.00	1,654.45	49.95
J-11	1,538.00	146.60	1,653.86	50.13
J-19 (School)	1,535.00	41.60	1,655.61	52.18
J-15	1,530.00	0.00	1,655.34	54.23
J-27	1,530.00	0.00	1,655.35	54.23
J-14	1,530.00	146.60	1,655.63	54.35
J-12	1,529.00	146.60	1,660.82	57.03
J-21	1,528.00	0.00	1,659.84	57.04
J-13	1,528.00	0.00	1,663.88	58.79
J-32	1,528.00	0.00	1,668.78	60.91
J-30	1,528.00	0.00	1,668.85	60.94
J-18 (Comm)	1,528.00	83.40	1,669.14	61.07
J-25	1,528.00	0.00	1,674.99	63.59

Scenario: Max Day+FF @ Comm parcels

Steady State Analysis

Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Hazen-Williams C	Discharge (gpm)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)	Control Status
P-2	J-2	J-3	926.00	8.0	130.0	475.86	4.62	3.04	Open
P-3	J-3	J-4	1,086.00	8.0	130.0	334.30	2.40	2.13	Open
P-4	J-4	J-5	1,144.00	12.0	130.0	-860.76	1.92	2.44	Open
P-6	J-8	J-6	585.00	10.0	130.0	146.60	0.18	0.60	Open
P-9	J-10	J-11	742.00	8.0	130.0	184.23	0.80	1.18	Open
P-10	J-11	J-12	1,836.00	8.0	130.0	-427.82	3.79	2.73	Open
P-11	J-12	J-13	529.00	10.0	130.0	-966.69	5.79	3.95	Open
P-12	J-12	J-14	1,608.00	8.0	130.0	392.27	3.23	2.50	Open
P-15	J-11	J-17	1,942.00	8.0	130.0	465.46	4.43	2.97	Open
P-23	J-14	J-19 (School)	392.00	8.0	130.0	41.60	0.05	0.27	Open
P-25	J-3	J-20 (School)	2,103.00	8.0	130.0	-5.04	0.00	0.03	Open
P-26	J-20 (School)	J-9	2,118.00	10.0	130.0	-396.25	1.11	1.62	Open
P-29	J-10	J-1	1,887.00	12.0	130.0	1,712.96	6.87	4.86	Open
P-30	J-5	J-7 (Comm)	4,010.00	12.0	130.0	844.91	1.86	2.40	Open
P-32	J-18 (Comm)	J-10	1,771.00	12.0	130.0	1,897.20	8.30	5.38	Open
P-34	J-1	J-17	858.00	12.0	130.0	-1,344.43	4.38	3.81	Open
P-35	J-16	J-15	1,757.00	12.0	130.0	-989.68	2.49	2.81	Open
P-36	J-15	J-21	1,886.00	12.0	130.0	-968.10	2.39	2.75	Open
P-37	J-21	J-13	1,691.00	12.0	130.0	-968.10	2.39	2.75	Open
P-38	J-7 (Comm)	J-22	1,462.00	12.0	130.0	-983.22	2.46	2.79	Open
P-40	J-23	J-9	1,016.00	12.0	130.0	-473.23	0.63	1.34	Open
P-41	J-1	J-24	1,355.00	12.0	130.0	1,491.95	5.32	4.23	Open
P-42	J-24	J-2	271.00	10.0	130.0	622.46	2.56	2.54	Open
P-43	J-24	J-9	1,338.00	12.0	130.0	869.48	1.96	2.47	Open
P-45	J-25	J-18 (Comm)	596.00	12.0	130.0	2,076.00	9.80	5.89	Open
P-47	J-4	J-26	1,490.00	12.0	130.0	1,048.47	2.77	2.97	Open
P-48	J-26	J-8	587.00	12.0	130.0	293.20	0.26	0.83	Open
P-49	J-7 (Comm)	J-26	743.00	12.0	130.0	-755.27	1.51	2.14	Open
P-50	J-14	J-27	285.00	8.0	130.0	204.07	0.96	1.30	Open
P-51	J-27	J-15	800.00	8.0	130.0	21.58	0.01	0.14	Open
P-52	J-16	J-28	1,811.00	12.0	130.0	843.08	1.85	2.39	Open
P-53	J-28	J-17	894.00	12.0	130.0	1,025.57	2.66	2.91	Open
P-54	J-27	J-28	2,432.00	6.0	130.0	182.49	3.18	2.07	Open
P-55	J-22	J-29	1,521.00	12.0	130.0	-983.22	2.46	2.79	Open
P-57	J-20 (School)	J-29	596.00	10.0	130.0	349.61	0.88	1.43	Open
P-58	J-30	J-32	20.00	6.0	130.0	205.21	3.95	2.33	Open
P-65	J-32	J-35	3,262.00	6.0	130.0	300.61	8.01	3.41	Open
P-66	J-35	J-36	4,237.00	6.0	130.0	160.38	2.50	1.82	Open
P-68	J-36	J-31	287.00	6.0	130.0	0.00	0.00	0.00	Open
P-71	J-29	J-23	2,048.00	12.0	130.0	-633.61	1.09	1.80	Open
P-73	PMP-1(MD&PH)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-74	Well#1	PMP-1(MD&PH)	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-75	Well#1	PMP-2 (Fire PM)	50.00	24.0	130.0	4,010.80	1.14	2.84	Open
P-76	PMP-2 (Fire PM)	J-25	50.00	24.0	130.0	4,010.80	1.13	2.84	Open
P-77	J-25	J-13	1,291.00	12.0	130.0	1,934.79	8.61	5.49	Open
P-78	Well#1	PMP-3 (AD)	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-79	PMP-3 (AD)	J-25	50.00	24.0	130.0	-0.00	0.00	0.00	Open
P-90	J-18 (Comm)	J-32	386.00	6.0	130.0	95.40	0.96	1.08	Open
P-91	Res (Johnson)	J-30	5,280.00	6.0	130.0	205.21	3.95	2.33	Open
P-92	J-35	J-1	598.00	6.0	130.0	140.23	1.95	1.59	Open
P-93	J-23	J-36	414.00	6.0	130.0	-160.38	2.50	1.82	Open
P-94	J-1	J-5	1,847.00	12.0	130.0	1,705.68	6.81	4.84	Open

**Scenario: Max Day+FF @ Comm parcels**  
**Steady State Analysis**  
**Pump Report**

Label	Control Status	Elevation (ft)	Discharge (gpm)	Discharge Pump Grade (ft)	Pump Head (ft)
PMP-1(MD&PH)	Off	1,530.00	0.00	1,674.99	0.00
PMP-2 (Fire PMP)	On	1,530.00	4,010.80	1,675.04	145.10
PMP-3 (AD)	Off	1,530.00	0.00	1,674.99	0.00

**Scenario: Max Day+FF @ Comm parcels**  
**Steady State Analysis**  
**Reservoir Report**

Label	Elevation (ft)	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Res (Johnson)	1,689.70	-205.21	205.21	1,689.70
Well#1	1,530.00	-4,010.79	4,010.79	1,530.00

# **EXHIBIT 7**

**ARIZONA CORPORATION COMMISSION**  
**UTILITIES DIVISION**

ANNUAL REPORT MAILING LABEL - MAKE CHANGES AS NECESSARY

WS-02987A SEWER  
JOHNSON UTILITIES LLC  
5320 E SHEA BLVD  
SCOTTSDALE, AZ 85254



**ANNUAL REPORT**

FOR YEAR ENDING

12	31	2003
----	----	------

FOR COMMISSION USE

--	--

## COMPANY INFORMATION

**Company Name (Business Name)** JOHNSON UTILITIES, LLC

**Mailing Address** 5320 E. SHEA BLVD #200

(Street)

SCOTTSDALE

(City)

AZ

(State)

85254

(Zip)

480-998-3300

Telephone No. (Include Area Code)

480-483-7908

Fax No. (Include Area Code)

Pager/Cell No. (Include Area Code)

**Email Address** \_\_\_\_\_

**Local Office Mailing Address** SAME

(Street)

(City)

(State)

(Zip)

Local Office Telephone No. (Include Area Code)

Fax No. (Include Area Code)

Pager/Cell No. (Include Area Code)

**Email Address** \_\_\_\_\_

## MANAGEMENT INFORMATION

**Management Contact:** GEORGE JOHNSON

(Name)

(Title)

5320 E. SHEA BLVD #200

(Street)

SCOTTSDALE

(City)

AZ

(State)

85254

(Zip)

480-998-3300

Telephone No. (Include Area Code)

480-483-7908

Fax No. (Include Area Code)

Pager/Cell No. (Include Area Code)

**Email Address** \_\_\_\_\_

**On Site Manager:** BRIAN P TOMPSETT

(Name)

SAME

(Street)

(City)

(State)

(Zip)

SAME

Telephone No. (Include Area Code)

Fax No. (Include Area Code)

Pager/Cell No. (Include Area Code)

**Email Address** \_\_\_\_\_

**Statutory Agent:** RICHARD SALLQUIST  
(Name)

2525 E. AZ BILTMORE CIR #117      PHOENIX      AZ      85016  
(Street)      (City)      (State)      (Zip)

(602)224-9222  
Telephone No. (Include Area Code)      Fax No. (Include Area Code)      Pager/Cell No. (Include Area Code)

**Attorney:** SAME  
(Name)

(Street)      (City)      (State)      (Zip)

Telephone No. (Include Area Code)      Fax No. (Include Area Code)      Pager/Cell No. (Include Area Code)

**OWNERSHIP INFORMATION**

Check the following box that applies to your company:

- |  |   |
|--|---|
| <input type="checkbox"/> Sole Proprietor (S) | <input type="checkbox"/> C Corporation (C) (Other than Association/Co-op) |
| <input type="checkbox"/> Partnership (P)     | <input type="checkbox"/> Subchapter S Corporation (Z)                     |
| <input type="checkbox"/> Bankruptcy (B)      | <input type="checkbox"/> Association/Co op (A)                            |
| <input type="checkbox"/> Receivership (R)    | <input checked="" type="checkbox"/> Limited Liability Company             |
| <input type="checkbox"/> Other (Describe)    |   |

**COUNTIES SERVED**

Check the box below for the county/ies in which you are certificated to provide service:

- |                                     |                                   |   |
|-------------------------------------|-----------------------------------|---|
| <input type="checkbox"/> APACHE     | <input type="checkbox"/> COCHISE  | <input type="checkbox"/> COCONINO         |
| <input type="checkbox"/> GILA       | <input type="checkbox"/> GRAHAM   | <input type="checkbox"/> GREENLEE         |
| <input type="checkbox"/> LA PAZ     | <input type="checkbox"/> MARICOPA | <input type="checkbox"/> MOHAVE           |
| <input type="checkbox"/> NAVAJO     | <input type="checkbox"/> PIMA     | <input checked="" type="checkbox"/> PINAL |
| <input type="checkbox"/> SANTA CRUZ | <input type="checkbox"/> YAVAPAI  | <input type="checkbox"/> YUMA             |
| <input type="checkbox"/> STATEWIDE  |                                   |   |

COMPANY NAME

JOHNSON UTILITIES, LLC

**UTILITY PLANT IN SERVICE**

Acct. No.	DESCRIPTION	Original Cost (OC)	Accumulated Depreciation (AD)	O.C.L.D. (OC less AD)
351	Organization			
352	Franchises			
353	Land and Land Rights	910,000		910,000
354	Structures and Improvements	453,663	38,181	415,482
355	Power Generation Equipment			
360	Collection Sewers - Force			
361	Collection Sewers - Gravity			
362	Special Collecting Structures			
363	Services to Customers			
364	Flow Measuring Devices			
365	Flow Measuring Installations			
370	Receiving Wells			
380	Treatment and Disposal Equip.			
381	Plant Sewers	17,432,240	1,007,341	16,424,899
382	Outfall Sewer Lines			
389	Other Plant and Misc. Equipment	5,455	68	5,387
390	Office Furniture and Equipment			
391	Transportation Equipment			
393	Tools, Shop and Garage Equip.			
394	Laboratory Equipment			
395	Power Operated Equipment			
398	Other Tangible Plant			
	<b>TOTALS</b>	<b>18,801,358</b>	<b>1,045,590</b>	<b>17,755,768</b>

This amount goes on the Balance Sheet Acct. No. 108

COMPANY NAME

JOHNSON UTILITIES, LLC

**CALCULATION OF DEPRECIATION EXPENSE**

Acct. No.	DESCRIPTION	Original Cost (1)	Depreciation Percentage (2)	Depreciation Expense (1x2)
351	Organization			
352	Franchises			
353	Land and Land Rights	910,000		
354	Structures and Improvements	453,663	2.5%	11,342
355	Power Generation Equipment			
360	Collection Sewers - Force			
361	Collection Sewers - Gravity			
362	Special Collecting Structures			
363	Services to Customers			
364	Flow Measuring Devices			
365	Flow Measuring Installations			
370	Receiving Wells			
380	Treatment and Disposal Equip.			
381	Plant Sewers	17,432,240	2.5%	368,911
382	Outfall Sewer Lines			
389	Other Plant and Misc. Equipment	5,455	1.25%	68
390	Office Furniture and Equipment			
391	Transportation Equipment			
393	Tools, Shop and Garage Equip.			
394	Laboratory Equipment			
395	Power Operated Equipment			
398	Other Tangible Plant			
	SUBTOTAL	18,801,358		380,321
	CIAC Amortization			(210,899)
	TOTALS	18,801,358		169,422

This amount goes on Comparative Statement of Income and Expense Acct. 403

 **ULLMANN**  
**& COMPANY P.C.**  
Certified Public Accountants

To the Board of Directors of  
The Sewer Division of Johnson Utilities, L.L.C.  
Scottsdale, Arizona

We have compiled the balance sheets (as restated) of The Sewer Division of Johnson Utilities, L.L.C. as of December 31, 2003 and 2002, and the comparative statements of income and expenses (as restated) for the years then ended included in the accompanying prescribed form in accordance with Statements on Standards for Accounting and Review Services issued by the American Institute of Certified Public Accountants.

Our compilation was limited to presenting in the form prescribed by the Arizona Corporation Commission information that is the representation of management. We have not audited or reviewed the financial statements referred to above and, accordingly, do not express an opinion or any other form of assurance on them.

These financial statements are presented in accordance with the requirements of the Arizona Corporation Commission, which differ from generally accepted accounting principles. Accordingly, these financial statements are not designed for those who are not informed about such differences.

All other information contained in the accompanying prescribed form has not been audited, reviewed, or compiled by us and, accordingly, we assume no responsibility for that information.

*Ullmann & Company*

ULLMANN & COMPANY, P.C.  
Certified Public Accountants

March 31, 2004

<b>COMPANY NAME</b> <b>JOHNSON UTILITIES, LLC</b>
--

**BALANCE SHEET**

<b>Acct. No.</b>	<b>ASSETS</b>	<b>BALANCE AT BEGINNING OF TEST YEAR</b>	<b>BALANCE AT END OF YEAR</b>
	<b>CURRENT AND ACCRUED ASSETS</b>		
131	Cash	\$ 410,535	\$ 164,235
132	Special Deposits		
135	Temporary Cash Investments		
141	Customer Accounts Receivable	136,735	354,247
146	Notes/Receivables from Associated Companies	49,743	9,120
151	Plant Material and Supplies		
162	Prepayments		3,041
174	Miscellaneous Current and Accrued Assets	117,842	132,848
	<b>TOTAL CURRENT AND ACCRUED ASSETS</b>	<b>\$ 714,855</b>	<b>\$ 663,491</b>
	<b>FIXED ASSETS</b>		
101	Utility Plant in Service	13,444,334	18,801,358
103	Property Held for Future Use		70,257
105	Construction Work in Progress		5,502,892
108	Accumulated Depreciation - Utility Plant	665,269	1,045,590
121	Non-Utility Property		
122	Accumulated Depreciation - Non Utility		
	<b>TOTAL FIXED ASSETS</b>	<b>\$ 12,779,065</b>	<b>\$ 23,328,917</b>
	<b>TOTAL ASSETS</b>	<b>\$ 13,493,920</b>	<b>\$ 23,992,408</b>

NOTE: Total Assets on this page should equal Total Liabilities and Capital on the following page.

<b>COMPANY NAME</b> <b>JOHNSON UTILITIES, LLC</b>
--

**BALANCE SHEET (CONTINUED)**

<b>Acct. No.</b>	<b>LIABILITIES</b>	<b>BALANCE AT BEGINNING OF TEST YEAR</b>	<b>BALANCE AT END OF YEAR</b>
	<b>CURRENT LIABILITES</b>		
231	Accounts Payable	\$ 583,407	\$ 101,712
232	Notes Payable (Current Portion)		
234	Notes/Accounts Payable to Associated Companies	28,312	171,798
235	Customer Deposits		
236	Accrued Taxes	110,682	42,234
237	Accrued Interest	50,316	1,690
241	Miscellaneous Current and Accrued Liabilities		
	<b>TOTAL CURRENT LIABILITIES</b>	<b>\$ 772,717</b>	<b>\$ 317,434</b>
	<b>LONG-TERM DEBT (Over 12 Months)</b>		
224	Long-Term Notes and Bonds	\$ 236,585	\$ 220,280
	<b>DEFERRED CREDITS</b>		
252	Advances in Aid of Construction	\$ 5,433,041	\$ 10,242,183
253	Other Deferred Credits		
255	Accumulated Deferred Investment Tax Credits		
271	Contributions in Aid of Construction	5,208,322	11,663,622
272	Less: Amortization of Contributions	167,479	378,378
281	Accumulated Deferred Income Tax		
	<b>TOTAL DEFERRED CREDITS</b>	<b>\$ 10,473,884</b>	<b>\$ 21,527,427</b>
	<b>TOTAL LIABILITIES</b>	<b>\$ 11,483,186</b>	<b>\$ 22,065,141</b>
	<b>CAPITAL ACCOUNTS</b>		
201	Common Stock Issued	\$ -	\$ -
211	Other Paid in Capital		
215	Retained Earnings		
218	Proprietary Capital (Sole Props and Partnerships)	2,010,734	1,927,267
	<b>TOTAL CAPITAL</b>	<b>\$ 2,010,734</b>	<b>\$ 1,927,267</b>
	<b>TOTAL LIABILITIES AND CAPITAL</b>	<b>\$ 13,493,920</b>	<b>\$ 23,992,408</b>

COMPANY NAME <b>JOHNSON UTILITIES, LLC</b>
---

**COMPARATIVE STATEMENT OF INCOME AND EXPENSE**

	<b>OPERATING REVENUES</b>	<b>PRIOR YEAR</b>	<b>TEST YEAR</b>
521	Flat Rate Revenues	\$ 576,672	\$ 1,237,464
522	Measured Revenues		
536	Other Wastewater Revenues	39,700	
	<b>TOTAL REVENUES</b>	\$ 616,372	\$ 1,237,464
	<b>OPERATING EXPENSES</b>		
701	Salaries and Wages	\$ -	\$ -
710	Purchased Wastewater Treatment		
711	Sludge Removal Expense	851	2,685
715	Purchased Power	67,036	69,935
716	Fuel for Power Production		
718	Chemicals	661	
720	Materials and Supplies	8,400	2,904
731	Contractual Services - Professional	177,894	288,797
735	Contractual Services - Testing		
736	Contractual Services - Other		
740	Rents		28,236
750	Transportation Expense		134
755	Insurance Expense		6,951
765	Regulatory Commission Expense		
775	Miscellaneous Expense	3,911	9,994
403	Depreciation Expense	192,300	16,422
408	Taxes Other Than Income		501
408.11	Property Taxes	30,692	17,215
409	Income Taxes		
	<b>TOTAL OPERATING EXPENSES</b>	\$ 481,745	\$ 443,774
	<b>OTHER INCOME/EXPENSE</b>		
419	Interest and Dividend Income	\$ 3,492	\$ 4,479
421	Non-Utility Income		
426	Miscellaneous Non-Utility Expenses		
427	Interest Expense	29,502	19,011
	<b>TOTAL OTHER INCOME/EXP</b>	\$ (26,010)	\$ (14,532)
	<b>NET INCOME/(LOSS)</b>	\$ 108,617	\$ 779,158

COMPANY NAME JOHNSON UTILITIES, LLC

**SUPPLEMENTAL FINANCIAL DATA**

**Long-Term Debt**

	LOAN #1	LOAN #2	LOAN #3	LOAN #4
Date Issued	Various	4/9/03		
Source of Loan	Member	Grissom		
ACC Decision No.				
Reason for Loan	Capital Impr.	Land Purchase		
Dollar Amount Issued	\$233,280	\$35,000	\$	\$
Amount Outstanding	\$185,280	\$35,000	\$	\$
Date of Maturity	Demand	4/15/05		
Interest Rate	8%	8%	%	%
Current Year Interest	\$18,589	\$0	\$	\$
Current Year Principle	\$48,000	\$0	\$	\$

COMPANY NAME JOHNSON UTILITIES, LLC

**WASTEWATER COMPANY PLANT DESCRIPTION**

**TREATMENT FACILITY**

<b>TYPE OF TREATMENT</b> (Extended Aeration, Step Aeration, Oxidation Ditch, Aerobic Lagoon, Anaerobic Lagoon, Trickling Filter, Septic Tank, Wetland, Etc.)	EXTENDED AERATION, AEROBIC LAGOONS
<b>DESIGN CAPACITY OF PLANT</b> (Gallons Per Day)	1.6 MGD

**LIFT STATION FACILITIES**

Location	Quantity of Pumps	Horsepower Per Pump	Capacity Per Pump (GPM)	Wet Well Capacity (gals)
MAIN PUMP STATION	2	30	325	7500
REUSE PUMP STATION	2	30	420	1879
UNIT 4A PUMP	2	75	400	380
UNIT 4D/4F PUMP STATION	2	18	656	1184
UNIT 6 PUMP STATION	2	3	100	440
OASIS @ MAGIC RANCH PUMP STATION	2	7.5	593	887
SUPERSTITION VIEWS	2	7.5	90	440
OASIS SUNRISE	2	15	500	2162
SAN TAN PUMP STATION	2	75	500	7500
COPPER BASIN PUMP STATION	2	30	380	7780
CIRCLE CROSS PUMP STATION	2	50	500	2256
PECAN RANCH PUMP STATION	2	75	500	2162
AD & AF	2	45	440	1879
COPPER BASIN #2	2	88	500	1879
RANCHO BELLA VISTA	2	47	500	1879
RANCHO BELLA VISTA #2	2	45	500	1879

**FORCE MAINS**

Size	Material	Length (Feet)
4-inch	PVC	2,704
6-inch	PVC	6,610
8-inch	PVC	100,042
15-inch	PVC	1,126
12-inch	PVC	4,770
10-inch	PVC	1,973

**MANHOLES**

Type	Quantity
Standard	1183
Drop	5

**CLEANOUTS**

Quantity
256

COMPANY NAME      JOHNSON UTILITIES, LLC

**WASTEWATER COMPANY PLANT DESCRIPTION CONTINUED**

**COLLECTION MAINS**

**SERVICES**

Size (in inches)	Material	Length (in feet)
4		
6		9467
8		251061
10		19309
12		22620
15		1126
18		2800
21		
24		
30		

Size (in inches)	Material	Quantity
4		6006
6		2
8		
12		
15		

**FOR THE FOLLOWING FIVE ITEMS, LIST THE UTILITY OWNED ASSETS IN EACH CATEGORY**

<b>SOLIDS PROCESSING AND HANDLING FACILITIES</b>	NONE
<b>DISINFECTION EQUIPMENT</b> (Chlorinator, Ultra-Violet, Etc.)	6 CHLORINATORS
<b>FILTRATION EQUIPMENT</b> (Rapid Sand, Slow Sand, Activated Carbon, Etc.)	NONE
<b>STRUCTURES</b> (Buildings, Fences, Etc.)	FENCES – 12 WELL SITES, 6 WATER PLANTS, 11 LIFT STATIONS. 1 WWTP.
<b>OTHER</b> (Laboratory Equipment, Tools, Vehicles, Standby Power Generators, Etc.)	3 GENERATORS, 1 BACKHOE, 1 BULL DOZER

COMPANY NAME JOHNSON UTILITIES, LLC

**WASTEWATER FLOWS**

<b>MONTH/YEAR (Most Recent 12 Months)</b>	<b>NUMBER OF SERVICES</b>	<b>TOTAL MONTHLY SEWAGE FLOW</b>	<b>SEWAGE FLOW ON PEAK DAY</b>
January 2003	1769	4,528,000	160,000
February 2003	1900	4,645,000	167,000
March 2003	2054	4,977,000	196,000
April 2003	2226	4,655,000	170,000
May 2003	2384	4,908,000	196,000
June 2003	2595	5,262,000	192,000
July 2003	2699	5,806,000	195,000
August 2003	2960	10,200,000	350,000
September 2003	3140	10,717,000	360,000
October 2003	3400	11,408,000	408,000
November 2003	3461	11,526,000	603,000
December 2003	3719	12,199,000	597,000

**PROVIDE THE FOLLOWING INFORMATION AS APPLICABLE**

<b>Method Of Effluent Disposal</b> (leach field, surface water discharge, reuse, injection wells, groundwater recharge, evaporation ponds, etc.)	Recharge Evaporation
<b>Wastewater Inventory Number</b> (all wastewater systems are assigned an inventory number)	103081
<b>Groundwater Permit Number</b>	58-106857.0005, 58-113322.0004
<b>ADEQ Aquifer Protection Permit Number</b>	P103081
<b>ADEQ Reuse Permit Number</b>	R103081
<b>EPA NPDES Permit Number</b>	N/A

## STATISTICAL INFORMATION

Total number of customers 3719

Total number of gallons treated 90,831,000 gallons

**JOHNSON UTILITIES COMPANY  
PLANT INVENTORY  
WASTEWATER**

**BACKBONE MAINS**

Project	18" Mains	15" Mains	12" Mains	10" Mains	8" Main	6" Main	3" F/M	8" F.M	4" F/M	Total Mains	4' M.H. 5' M.H.	C.O	30" SIV
Main Pump Station							25,500						
Main WWTP		990	1,120		505	1,670	3,300				4	2	
JR Trunk Sewer		136	3,680								13		
4A Station						4 R461						6	
San Tan Force Lift Sta & Force Mn							18,477				3		
Section 11 Reuse							6,750						
Sec 11 WWTP					510	60							
Pecan Ranch Pump Sta & Force Mn							29,200		298		2		285
Superstition Views Pump Sta & F. M.					22		5,104						
Circle Cross Pump Sta and force Mn							3,071						
Copper Basin Pump Sta and force Mn							5733						
Oasis at Magic Pump sta & Force Mn							2807						
Oasis Sunrise Pump Sta & Force Mn													
4DMAF Pump Station & Force Main				1973									
JR Unit 29 pump sta and Force Main													
Total		1,126	4,770	1,373	1,137	6,610	100,042		1,547 Miles		22	11	285
										0.00			

**JOHNSON UTILITIES COMPANY  
PLANT INVENTORY  
WASTEWATER**

**TREATMENT PLANTS**

Name	GPD	Lot Size	Horsepower	GFIM each	Wet Well Capacity	Decided to JUC?	Tax Parcel
Johnson Ranch Main WWTP	1.6M	87 Acres				Gen Hunt	200-24-003D5 (?? 287 Ac ??)
Precision	3M	37 AC				2.10000 to CAC	240 00 004K
Marwood	Retired	N/A					

**LIFT STATIONS**

Name	Location	Number Pumps	Horsepower	GFIM each	Wet Well Capacity	Decided to JUC?	Tax Parcel
Main Station	Water Plant #1	2	30	325	7500		
Station 4A	JR Unit 4	2	7.5	156	380		
Station B	JR Unit 6	2	3	100	440		
San Tan Station	San Tan Unit XX	2	25	500	7500		
Pecan Station	Pecan Ranch Unit XX	2	75	500	1879		
Reuse Station	Main WWTP	2	30	420			
Superstation Views	Superstation Views	2	7.5	90	440		
4D/4F	JR Unit 4D/4F	2	3				
Copper Basin	Copper Basin Devel	2	30	380	1688		
Copper Basin	Copper Basin Devel	2	88	380	3750		
Circle Cross	Circle Cross Devel	2	50	500	1879		
Magic Ranch Phase 1	Magic Ranch Phase 1	2	7.5	593			
Oasis Sunrise	Oasis Sunrise Devel	2	15	500	1879		
Morning Sun Farms	Morning Sun Farms	2	47				

JOHNSON UTILITY COMPANY PLANT INVENTORY - WASTEWATER

Subdivision	18" Mains	16" Mains	12" Mains	10" Mains	8" DP	8" Mains	4" Mains	Tot. Mins	4" M.H.	5" M.H.	C.O.	30" Srv
JR Unit 1			1,200			5,135			26		6	
JR Unit 2			465			4,120			18			
JR Unit 3A			2,484			4,035			20			
JR Unit 3B			710			1,568			8		1	
JR Unit 4A						9,283			95		8	
JR Unit 4B						5,639	639		19		9	
JR Unit 6						3,569	551		11		3	
JR Unit 7			1,065			8,447	1,041		65		10	
JR Unit 8			1,034			4,800	765		22		6	
JR Unit 12			1,212			8,370	1,092		35		10	
JR Unit 13						8,887	706		33		6	
Lakeview Gardens						2,273			14			
JR Units 4D & F						14,419	1,708		47		13	
JR Unit 15						8,148			21		5	
JR Unit 16 1, 2, 3			61	45		8,148			21		5	
JR Unit 1452 1, 2					1,936	6,378			25		6	
JR Unit 2021						7,544			38		8	
JR Unit 22A						3,327			13			
JR Unit 22B						5,025			16			
JR Unit 23A						3,982			15		1	
JR Unit 29					137	2,839			13		3	
JR Unit 35 & 38						5,076			14		8	
JR Unit 41 & 47						3,400			20		5	
JR Unit 40A, 48 & 48						4,500			20			
JR Unit 34						2,548			7		1	
JR Golf Course												
San Tan OS Mn Parcels A & B	1,220		620	1,640		6,543			10		21	
San Tan Parcel A					160	3,780			9		4	
San Tan Parcel B					180	4,220			14		2	
San Tan OS Mn Parcels C, D, & E	1,580					1,140			15		2	
San Tan Parcel C					133	4,386			11		5	
San Tan Parcel D					165	3,400			10		1	
San Tan Parcel E					242	4,207			17		17	
San Tan Parcel F				920		2,120	270		9		4	
San Tan Parcel I						4,840			9		8	
San Tan Parcel J						4,900			9		4	
San Tan Parcel K						4,360			9		4	
San Tan Parcel L						4,484			21			
Johanson Holdings/ Tesco						634			3			
Circle Cross Parcel 2			159	1,412		2,344			10		1	
Circle Cross Parcel 3			361	2,554		3,708			26		1	
Circle Cross Parcel 5			155			2,789			14		1	
Circle Cross Parcel 6				2,615		3,900			18			
Circle Cross Parcel 1			1,471	615		2,814			11		5	
Circle Cross Parcel 2			202	3,007		1,658			17		1	
Circle Cross Parcel 4			361	2,211		4,489			19		8	
Circle Cross Parcel 5			208			3,802			15		1	
Copper Basin Unit 2						3,775			19			
Circle at Magic Ranch				1,459	326	7,704			22		5	
Circle Sunrise				392		5,485	888		28		6	
Mirage at Magic				1,829	3,548				22			
School			728						1			
Circle Cross Golf Rd			1,752	340		740			7		3	
Morning Sun Farms MC						841			4		1	
Morning Sun Farms Ph 1	290				46	13,594			45		25	
Trunk Sewer		167	3,634						13			
Superstition Views						1,890	2,006		6		4	
Total	3,080	167	17,850	19,308	6,790	251,061	9,467		1,044	170	194	2

COMPANY NAME JOHNSON UTILITIES, LLC

YEAR ENDING 12/31/2003

INCOME TAXES

For this reporting period, provide the following:

Federal Taxable Income Reported N/A (LLC)  
Estimated or Actual Federal Tax Liability N/A (LLC)

State Taxable Income Reported N/A (LLC)  
Estimated or Actual State Tax Liability N/A (LLC)

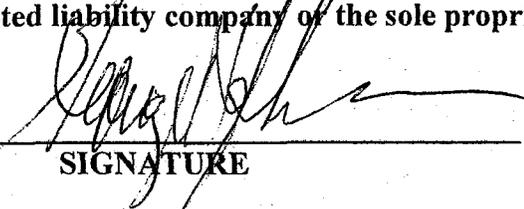
Amount of Grossed-Up Contributions/Advances:

Amount of Contributions/Advances 0  
Amount of Gross-Up Tax Collected 0  
Total Grossed-Up Contributions/Advances 0

Decision No. 55774 states, in part, that the utility will refund any excess gross-up funds collected at the close of the tax year when tax returns are completed. Pursuant to this Decision, if gross-up tax refunds are due to any Payer or if any gross-up tax refunds have already been made, attach the following information by Payer: name and amount of contribution/advance, the amount of gross-up tax collected, the amount of refund due to each Payer, and the date the Utility expects to make or has made the refund to the Payer.

**CERTIFICATION**

The undersigned hereby certifies that the Utility has refunded to Payers all gross-up tax refunds reported in the prior year's annual report. This certification is to be signed by the President or Chief Executive Officer, if a corporation; the managing general partner, if a partnership; the managing member, if a limited liability company or the sole proprietor, if a sole proprietorship.

  
\_\_\_\_\_  
SIGNATURE

4.15.2004  
\_\_\_\_\_  
DATE

GEORGE H. JOHNSON  
\_\_\_\_\_  
PRINTED NAME

MANAGER  
\_\_\_\_\_  
TITLE

COMPANY NAME JOHNSON UTILITIES, LLC YEAR ENDING 12/31/2003

**PROPERTY TAXES**

Amount of actual property taxes paid during Calendar Year 2003 was: \$ 251,456

Attach to this annual report proof (e.g. property tax bills stamped "paid in full" or copies of cancelled checks for property tax payments) of any and all property taxes paid during the calendar year.

If no property taxes paid, explain why. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**VERIFICATION  
AND  
SWORN STATEMENT  
Intrastate Revenues Only**

**VERIFICATION  
STATE OF ARIZONA  
I, THE UNDERSIGNED  
OF THE**

COUNTY OF (COUNTY NAME) <b>MARICOPA</b>
NAME (OWNER OR OFFICIAL) TITLE <b>GEORGE H. JOHNSON</b>
COMPANY NAME <b>JOHNSON UTILITIES L.L.C. - SEWER DIVISION</b>

**DO SAY THAT THIS ANNUAL UTILITY REPORT TO THE ARIZONA COPORATION COMMISSION**

**FOR THE YEAR ENDING**

MONTH	DAY	YEAR
12	31	2003

**HAS BEEN PREPARED UNDER MY DIRECTION, FROM THE ORIGINAL BOOKS, PAPERS AND RECORDS OF SAID UTILITY; THAT I HAVE CAREFULLY EXAMINED THE SAME, AND DECLARE THE SAME TO BE A COMPLETE AND CORRECT STATEMENT OF BUSINESS AND AFFAIRS OF SAID UTILITY FOR THE PERIOD COVERED BY THIS REPORT IN RESPECT TO EACH AND EVERY MATTER AND THING SET FORTH, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.**

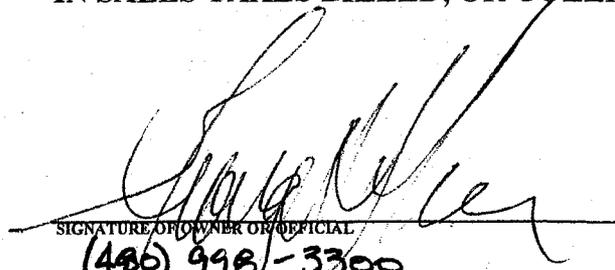
**SWORN STATEMENT**

**IN ACCORDANCE WITH THE REQUIREMENT OF TITLE 40, ARTICLE 8, SECTION 40-401, ARIZONA REVISED STATUTES, IT IS HEREIN REPORTED THAT THE GROSS OPERATING REVENUE OF SAID UTILITY DERIVED FROM ARIZONA INTRASTATE UTILITY OPERATIONS DURING CALENDAR YEAR 2003 WAS:**

Arizona IntraState Gross Operating Revenues Only (\$)
\$ <u>1,324,012</u>

**(THE AMOUNT IN BOX ABOVE  
INCLUDES \$ 86,548  
IN SALES TAXES BILLED, OR COLLECTED**

**\*\*REVENUE REPORTED ON THIS PAGE MUST INCLUDE SALES TAXES BILLED OR COLLECTED. IF FOR ANY OTHER REASON, THE REVENUE REPORTED ABOVE DOES NOT AGREE WITH TOTAL OPERATING REVENUES ELSEWHERE REPORTED, ATTACH THOSE STATEMENTS THAT RECONCILE THE DIFFERENCE. (EXPLAIN IN DETAIL)**

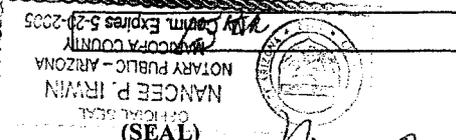
  
 \_\_\_\_\_  
 SIGNATURE OF OWNER OR OFFICIAL  
 (480) 998-3300  
 \_\_\_\_\_  
 TELEPHONE NUMBER

**SUBSCRIBED AND SWORN TO BEFORE ME**

**A NOTARY PUBLIC IN AND FOR THE COUNTY OF**

**THIS** \_\_\_\_\_ **DAY OF**

COUNTY NAME <b>MARICOPA</b>	
MONTH <b>APRIL</b>	20 <b>04</b>



  
 \_\_\_\_\_  
 SIGNATURE OF NOTARY PUBLIC

**MY COMMISSION EXPIRES** May 20, 2005

**VERIFICATION  
AND  
SWORN STATEMENT  
RESIDENTIAL REVENUE  
INTRASTATE REVENUES ONLY**

VERIFICATION

STATE OF ARIZONA

I, THE UNDERSIGNED

OF THE

<b>(COUNTY NAME)</b>	MARICOPA	
<b>NAME (OWNER OR OFFICIAL)</b>	GEORGE H. JOHNSON	<b>TITLE</b> PRESIDENT
<b>COMPANY NAME</b>	JOHNSON UTILITIES L.L.C. - SEWER DIVISION	

DO SAY THAT THIS ANNUAL UTILITY REPORT TO THE ARIZONA CORPORATION COMMISSION

FOR THE YEAR ENDING

<b>MONTH</b>	<b>DAY</b>	<b>YEAR</b>
12	31	2003

HAS BEEN PREPARED UNDER MY DIRECTION, FROM THE ORIGINAL BOOKS, PAPERS AND RECORDS OF SAID UTILITY; THAT I HAVE CAREFULLY EXAMINED THE SAME, AND DECLARE THE SAME TO BE A COMPLETE AND CORRECT STATEMENT OF BUSINESS AND AFFAIRS OF SAID UTILITY FOR THE PERIOD COVERED BY THIS REPORT IN RESPECT TO EACH AND EVERY MATTER AND THING SET FORTH, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

**SWORN STATEMENT**

IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 40, ARTICLE 8, SECTION 40-401.01, ARIZONA REVISED STATUTES, IT IS HEREIN REPORTED THAT THE GROSS OPERATING REVENUE OF SAID UTILITY DERIVED FROM ARIZONA INTRASTATE UTILITY OPERATIONS RECEIVED FROM RESIDENTIAL CUSTOMERS DURING CALENDAR YEAR 2003 WAS:

ARIZONA INTRASTATE GROSS OPERATING REVENUES
\$ <u>1,312,740</u>

(THE AMOUNT IN BOX AT LEFT INCLUDES \$ 85,811 IN SALES TAXES BILLED, OR COLLECTED)

\*RESIDENTIAL REVENUE REPORTED ON THIS PAGE MUST INCLUDE SALES TAXES BILLED.

X

*[Handwritten Signature]*  
\_\_\_\_\_  
SIGNATURE OF OWNER OR OFFICIAL

SUBSCRIBED AND SWORN TO BEFORE ME

A NOTARY PUBLIC IN AND FOR THE COUNTY OF

THIS 15<sup>th</sup> DAY OF

<b>NOTARY PUBLIC NAME</b> NANCEE P. IRWIN	
<b>COUNTY NAME</b> MARICOPA	
<b>MONTH</b> April	<b>YEAR</b> 20 04

**OFFICIAL SEAL**  
NANCEE P. IRWIN  
NOTARY PUBLIC - ARIZONA  
(SEAL) MARICOPA COUNTY  
My Comm. Expires 5-20-2005

MY COMMISSION EXPIRES

*May 20, 2005*

X *[Handwritten Signature]*  
\_\_\_\_\_  
SIGNATURE OF NOTARY PUBLIC  
17