ORIGINAL

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
BOB STUMP, Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – TOWN DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	Docket No. W-01212A-12-0309
IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – PALO VERDE UTILITIES COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. SW-20445A-12-0310
IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF NORTHERN SCOTTSDALE, INC. FOR A RATE INCREASE	Docket Nos. W-03720A-12-0311
IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF GREATER TONOPAH FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-02450A-12-0312
IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – GREATER BUCKEYE DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-02451A-12-0313

NOTICE OF FILING SETTLEMENT TESTIMONY

IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – SANTA CRUZ WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-20446A-12-0314
IN THE MATTER OF THE APPLICATION OF WILLOW VALLEY WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-01732A-12-0315 **NOTICE OF FILIGN SETTLEMENT TESTIMONY**

Global Water – Palo Verde Utilities Company, Global Water – Santa Cruz Water Company, Valencia Water Company – Town Division, Valencia Water Company – Greater Buckeye Division, Water Utility of Greater Tonopah, Willow Valley Water Co. and Water Utility of Northern Scottsdale (collectively, the "Global Utilities") and Global Water Resources, Inc., Hassayampa Utility Company, Inc., Global Water – Picacho Cove Utilities Company and Global Water – Picacho Cove Water Company (collectively, the "Global Intervenors", and with the Global Utilities, "Global") provide notice of filing the attached testimony in support of the August 13, 2013 Settlement Agreement, and regarding the proposed System Improvement Benefits (SIB) Mechanism:

Witness	**Topics**
Ron Fleming	Settlement Process Settlement Principles and Overview System Improvement Benefits ("SIB") Mechanism for Willow Valley Willow Valley Engineering Report and infrastructure issues Water loss report
Paul Walker	Infrastructure Coordination and Finance Agreements (ICFAs) System Improvement Benefits ("SIB") Mechanism Global Code of Conduct
Matt Rowell	Settlement Revenue Requirement Settlement Schedules Rate Base and Expenses under the Settlement Rate of Return under the Settlement

RESPECTFULLY SUBMITTED this 21th day of August, 2013.

ROSHKA DEWULF & PATTEN, PLC

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IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – SANTA CRUZ WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-20446A-12-0314
IN THE MATTER OF THE APPLICATION OF WILLOW VALLEY WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-01732A-12-0315 **NOTICE OF FILING TESTIMONY OF RON FLEMING**

Testimony

of

Ron Fleming

In Support of Settlement Agreement

August 21, 2013

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I. Introduction.

Q. Please state your name and business address.

A. My name is Ron Fleming. My business address is 21410 North 19th Avenue, Suite 201, Phoenix, Arizona 85027.

Q. By whom are you employed and what is your position?

A. I was recently promoted to President and Chief Operating Officer of Global Water Resources, Inc. ("Global Parent"). I am also the President of each of our regulated Arizona utilities (Applicants in this case are marked with an * and intervenors with a ◊):

Full legal name	**Shorter name used in testimony**	**General Location**	**Number of customers[1]**
Global Water – Palo Verde Utilities Company *	Palo Verde	Maricopa, AZ	16,324
Global Water – Santa Cruz Water Company *	Santa Cruz	Maricopa, AZ	16,504
Valencia Water Company – Town Division *	Valencia Town	Buckeye, AZ	5,615
Valencia Water Company – Greater Buckeye Division *	Greater Buckeye	Buckeye, AZ area	632
Willow Valley Water Co., Inc. *	Willow Valley	Mohave County (South of Bullhead City)	1,495
Water Utility of Greater Tonopah, Inc. *	Greater Tonopah	Tonopah, AZ	329
Hassayampa Utility Company, Inc. ◊	Hassayampa	Tonopah, AZ	0

[1] Per 2012 ACC Annual Reports; data for December 2012.

Full legal name	Shorter name used in testimony	General Location	Number of customers[1]
Water Utility of Northern Scottsdale, Inc. *	Northern Scottsdale	North of Scottsdale, AZ	74
Global Water – Picacho Cove Utilities Company ◊	Picacho Utilities	Eloy, AZ	0
Global Water – Picacho Cove Water Company ◊	Picacho Water	Eloy, AZ	0
Balterra Sewer Corp.	Balterra	Tonopah, AZ	0

I will refer to all of these regulated utilities as the "Global Utilities" and the Global Utilities and Global Parent together as "Global."

Q. Please describe your background and qualifications.

A. I earned my Bachelor of Science degree in Construction Management from School of Engineering at Northern Arizona University in 2003. My emphasis was on Heavy Civil Construction, with a minor in Business Administration. From 2002 to 2004, I worked as a project manager and project engineer for general contractors, supervising a number of significant projects. I joined Global as Senior Project Manager (2004 – 2007), where I provided project management for Global's Maricopa region. During this time, I directly oversaw Global's Capital Improvement Program for Santa Cruz and Palo Verde while they were some of the fastest growing utilities in the nation. In 2007, I was promoted to General Manager of the West Valley Region, where I had direct responsibility for the five utilities Global acquired from the former owners of West Maricopa Combine. In 2010, I was promoted to General Manager, Arizona, with direct responsibility for the operations of all of Global's utilities in Arizona. I was subsequently promoted to Vice President, and in

August 2013, I was promoted to President and Chief Operating Officer of Global Water Resources, Inc.

I am a member of the boards of the Maricopa Economic Development Alliance, Pinal Partnership, and WESTMARC. I am also a Co-Chair of WESTMARC's Water & Energy Committee and Pinal Partnership's Water Resources Committee.

Q. What is the purpose of your testimony?

A. I testify in support of the Settlement Agreement filed with the Commission on August 13, 2013.

Q. Are any other Global witnesses providing testimony in support of the settlement?

A. Yes. Paul Walker is submitting testimony regarding how the Settlement Agreement deals with Infrastructure Coordination and Finance Agreements ("ICFA"), about the details of how the proposed Hook-Up Fees will work, Global's requested System Improvement Benefits ("SIB") Mechanism, and the proposed Code of Conduct for Global. Matt Rowell is submitting testimony describing revenue requirements, cost of capital, rate design, and the settlement schedules.

II. <u>Settlement Process</u>.

Q. Why did Global Utilities request that the parties engage in settlement discussions?

A. This case presents a number of challenging and complex issues. We were hopeful that if the parties met and discussed the issues, that a fair and reasonable Settlement Agreement could be reached.

Q. Were all intervenors invited to participate in the settlement discussions?

A. Yes. Letters were sent to each intervenor inviting them to participate.

Q. Which parties participated in the settlement discussions?

A. Global, the Commission's Utilities Division ("Staff"), the Residential Utility Consumer Office ("RUCO"), the City of Maricopa, the Maricopa Area Homeowners Associations, the Willow Valley Club Association, Sierra Negra Ranch, LLC and New World Properties, Inc. Of these, Global, Staff, RUCO, the City, and at least nine of the homeowner's associations have signed the Settlement Agreement, and only New World Properties, Inc. has said it will oppose the Settlement Agreement.

Q. Did all the participants have an opportunity to express their views?

A. Yes. There was a vigorous discussion on many points and a full and frank exchange of views.

Q. When were the settlement meetings?

A. In person settlement meetings were held on July 18 and 19, 2013. During the meetings, agreement in concept was reached with a number of the parties. Later, a draft Settlement Agreement and settlement schedules were circulated to all parties who attended the settlement meetings for comments, and then there were a number of email discussions of a number of drafting points.

Q. Was the settlement process fair and open to all parties?

A. Yes.

III. <u>Settlement Principles and Overview</u>.

Q. What settlement principles did Global propose?

A. We suggested that the following principles should be the basis of a settlement:

1. **Restoring Global's balance sheet**. For the year 2010, the Company reported an $85 million net loss on its income statement, $79 million of which was attributable to the

decision in the last rate case to impute all ICFA funds as Contributions in Aid of Construction ("CIAC") and inclusive of a goodwill impairment charge that was partially triggered by reduced expected revenues from Greater Tonopah. This was a major blow to Global's consolidated balance sheet, and caused Global Parent to move into an accumulated deficit within the equity section of the balance sheet. Thus, restoring a healthy balance sheet was very important to Global. It also benefits all our customers, including residential customers, HOAs, and the communities in which we serve. Having a financially healthy utility is important to everyone, including the ACC.

2. **Protecting customers.** While fixing Global's balance sheet is very important, Global believes that any fix must be done in a way that protects customers.

Q. Does the Settlement Agreement satisfy these principles?

A. Yes. The Settlement Agreement will help restore some (but not all) of the negative balance sheet impacts of the last rate case. It does this by "de-imputing" the CIAC imputed in the last case.

Q. What about the second principle; how are customers protected?

A. Customers are protected because:

1. The Settlement Agreement is phased-in over eight years in Maricopa (Santa Cruz and Palo Verde). Moreover, the annual increase over the 8-year (2014-2021) phase-in period for Santa Cruz and Palo Verde median residential customers will be less than approximately 1.5%.
2. The rate increases for the other systems will be phased-in over three years, with the exception of Northern Scottsdale, whose revenue requirement is not increased.
3. There is no rate increase for customers in the first year (2014).
4. Only 28% of the de-imputed CIAC is applied to active rate base.
5. The Global Utilities' current low income program is continued, and extended to

include Northern Scottsdale.

6. Santa Cruz and Palo Verde may not file a new rate application until May 31, 2017, and the other utilities may not file until May 31, 2016.

7. Water customers using less than the conservation rebate threshold amount earn a rebate.

8. The non-potable and recycled water rate is reduced from the proposed $2.00 per 1,000 gallons, to $1.638 per 1,000 gallons. In Maricopa, the new rate will be phased in over 8 years, taking it from the current $0.57 per 1,000 gallons to $1.638 per 1,000 gallons.

Q. How are ICFAs addressed in the agreement?

A. First, Global agrees to not enter into any new ICFAs, and Hook-Up Fees will be established for each of the Global Utilities.[2]

Existing ICFAs will remain in place, and future ICFA payments will be used to pay the hook-up fees for those properties that have ICFAs. Under Section 6.4.4, 70% of future ICFA payments will be treated as Hook-Up Fee payments, but in any case, the full Hook-Up Fee must be paid in full on or before its due date as indicated within the approved tariffs. The portion of ICFA funds used to pay Hook-Up Fees will be treated as CIAC once expended on plant.

As discussed above, the CIAC imputation associated with past ICFA payments will be reversed. This will partly restore Global's consolidated balance sheet. Not all of the balance sheet can be restored because some of the financial impacts related to the last rate order —such as the goodwill impairment charge—are irreversible.

[2] Except Baltera, which Global intends to merge into Hassaympa at some point.

Q. Does Global support the settlement?

A. Yes, Global supports the settlement and requests that the Commission approve it.

IV. System Improvement Benefits Mechanism.

Q. Are there any issues not resolved by the Settlement Agreement?

A. Yes, the System Improvement Benefits ("SIB") mechanism. Paul Walker is testifying about the SIB mechanisms in general, and Global's request for a SIB mechanism for Willow Valley. My testimony discusses the characteristics of the Willow Valley system, and to sponsor the SIB schedules and report.

Q. Please describe the Willow Valley system.

A. Willow Valley serves approximately 1,500 customers in Mohave County. It is located along the Colorado River north of Lake Havasu City and south of Bullhead City. It is one of the systems Global acquired in 2006 as part of the West Maricopa Combine acquisition. As with the other West Maricopa Combine systems, Willow Valley was in a poor and dilapidated state. Essentially, nearly the entire distribution system must be replaced.

Q. What was the most urgent problem in Willow Valley?

A. The most alarming issue was the discovery that Willow Valley was providing non-chlorinated drinking water in a system that had past coliform events. Global immediately began chlorinating the water to ensure the public health and safety of its customers.

Q. What occurred when Global began chlorinating the water in Willow Valley?

A. The chlorine reacted with the naturally occurring high levels of iron and manganese in the water and deposits of these minerals that had built up overtime within the distribution system due to lack of proper treatment—the result was the drinking water turned brown, literally the color of Coca Cola.

Q. What other issues did Global encounter in Willow Valley?

A. The distribution system was in poor condition. Global realized that the distribution system emplaced by earlier owners was primarily substandard pipe not typically used in domestic water systems. Because of the high iron and manganese concentrations in the area's source water (that was not properly removed with beneficial treatment techniques by prior owners), those pipes had become highly congested with iron and manganese deposits.

Q. How has Global been dealing with that issue?

A. The first step is to start at the source to eliminate the continued introduction of the minerals into the distribution system. So in 2007 and 2008, Global built new or upgraded the existing iron and manganese removal systems at the production facilities. This was part of a multi-year, multi-faceted approach to eliminate the water aesthetic and quality issues. Here is an outline of the plan that was executed:

- Installed new chlorine injection systems that help ensure water is properly disinfected.
- Installed auto-dialer alarm systems that notify our staff in the event there are operational issues at our facilities. This helps prevent service outages.
- Identified all existing water lines and performed Hydraulic Modeling to establish distribution system performance. This assists in planning system improvements to maximize benefits to the system as a whole.
- Installed automatic flushing devices and operate an active flushing program to reduce the built up iron and manganese accretion in the water pipelines.
- Completed the Unit 17 Water Distribution Center (WDC) Improvement Project. The project included a new iron and manganese removal system along with a new water source (well), and complete electrical/mechanical upgrades. These new facilities have improved water clarity and reliability of service.
- Completed the King Street WDC Improvement Project. The project included general site improvements and upgrades to the existing iron and manganese removal system

and electrical/mechanical systems. The site will be used as support for the Unit 17 WDC in the King Street area and has also improved water clarity and reliability of service.

- Completed the Cimmaron WDC Improvement Project. The project included complete site improvements and upgrades to the existing iron and manganese removal systems and electrical/mechanical systems. These rehabilitated facilities will improve water clarity and service reliability for the Cimmaron Development.
- Installed new control valves in strategic areas as to improve our ability to re-direct water, isolate line breaks, and reduce the number of customers affected by failures.

Finally, recently we completed additional treatment upgrades to address the remaining water aesthetic and compliance issues. Further information on the water treatment improvements are described on pages 25 to 31 of my Direct Testimony submitted on July 9, 2012. Beyond these improvements that were required immediately, it remains clear that most of the remaining pipeline system must be replaced. Willow Valley will need to install new water mains, water line loops, and install new valves where needed to eliminate frequent line failures and to improve water quality and service reliability.

Q. Can you provide more specific detail on the amount and type of mains that still need to be replaced in Willow Valley?

A. Global has prepared an engineering study to evaluate the distribution system issues. Overall, the study determined most pipelines needed to be replaced through an ongoing replacement program. Global estimates the cost of a main replacement program over 20 years could reach $5 million. Global prepared a study entitled "Willow Valley Water Company Water System Master Plan & Preliminary Engineering Report" that was attached to my Direct Testimony as Attachment 3. In addition, the Staff has requested and we have completed a SIB-specific engineering report, which is s Fleming Settlement Attachment 1. The report includes detailed project and cost information related to our recommended

pipeline replacement program. The report presents a five year plan to address the first six projects. The estimated cost of these six projects is $1.2 million.

Q. What is the first project?

A. The main line replacement for Gordon Drive. This is the most urgent project. This line has had eight line breaks in the last four years. The SIB schedules for this project are attached as Fleming Settlement Attachment 2.

V. Water Loss.

Q. Does the settlement address water loss?

A. Yes, under Section 9.1, the Applicants will be required to file water loss reports as recommended by Staff witness Mr. Liu.

Q. Why do some systems have higher water loss?

A. The systems with higher water loss are the systems acquired from West Maricopa Combine. These are older systems that were in poor condition when acquired. Global has undertaken numerous projects to improve these systems. However, in many cases, main lines will need to be replaced, and until this occurs, water loss will be higher than normal for these systems.

Q. Have the Global Utilities reduced their water loss compared to the data used by Mr. Liu?

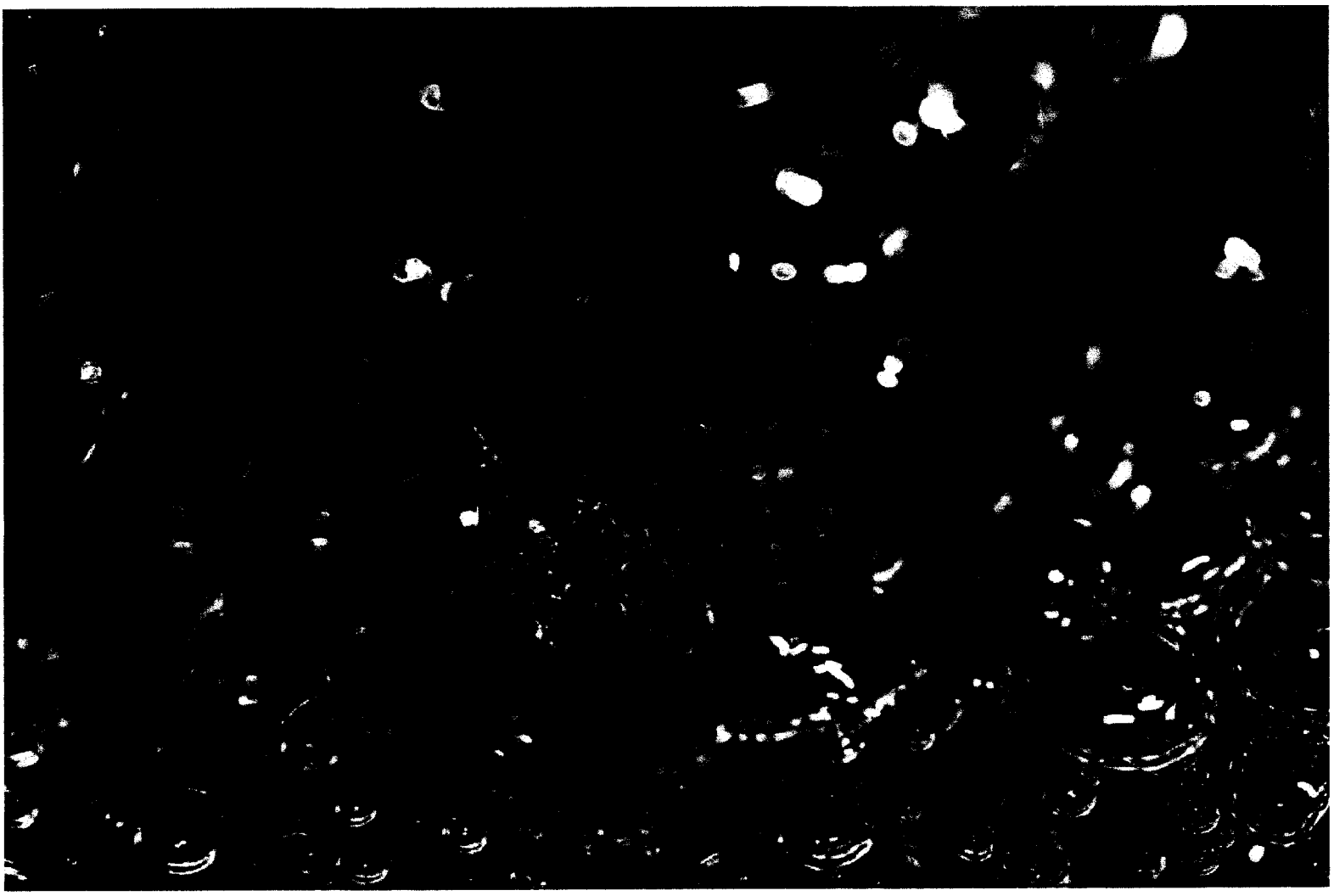
A. Yes. Mr. Liu used test year (2011) data. Since then, Global has devoted considerable effort and attention to water loss, and Global has reduced water loss in a number of systems. Global has prepared a report that describes projects we undertook to reduce water loss. The report also provides updated data on water loss for each of the systems. The report is attached as Fleming Settlement Attachment 3.

Q. Does this conclude your testimony?

A. Yes.

Attachment

"1"



Willow Valley Water Company
Water System Engineering Report for System Improvement Benefit (SIB)

August 2013

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FIGURES

1.0 EXECUTIVE SUMMARY

The analysis performed herein will focus primarily on the existing physical conditions of waterline pipeline infrastructure for the Willow Valley Water Company, and provide the necessary detail and requirements to obtain approval for the System Improvement Benefit (SIB).

The information provided in this analysis includes the following main components:

1. **Distribution System Characterization and Assessment**

   - Distribution System overview
   - Distribution System Maps
   - Plant material types, size, age,
   - Identified System Issues
   - Leak, break and repair history, and areas where replacement is most critical
   - Water Loss
   - Company measures to identify and reduce water losses
   - Company meter maintenance program
   - Criticality Analysis and Recommendations

2. **Five-Year CIP Plan to Replace Aging Infrastructure**

   - Recommended project description
   - Justification for prioritization
   - Project preliminary cost estimates
   - CIP Project location Map

3. **Conclusion**

   - Conclusion and Recommendations for action

2.0 DISTRIBUTION SYSTEM CHARACTERIZATION AND ASSESSMENT

2.1 Project Location

Willow Valley is located in Mohave County, Arizona. The service area of the Willow Valley Water Company includes water services located within sections 21, 23, 27, and 35 of Township 18N Range 22W. The vicinity map below provides a graphical representation of the location of the service area of the Willow Valley Water Company.

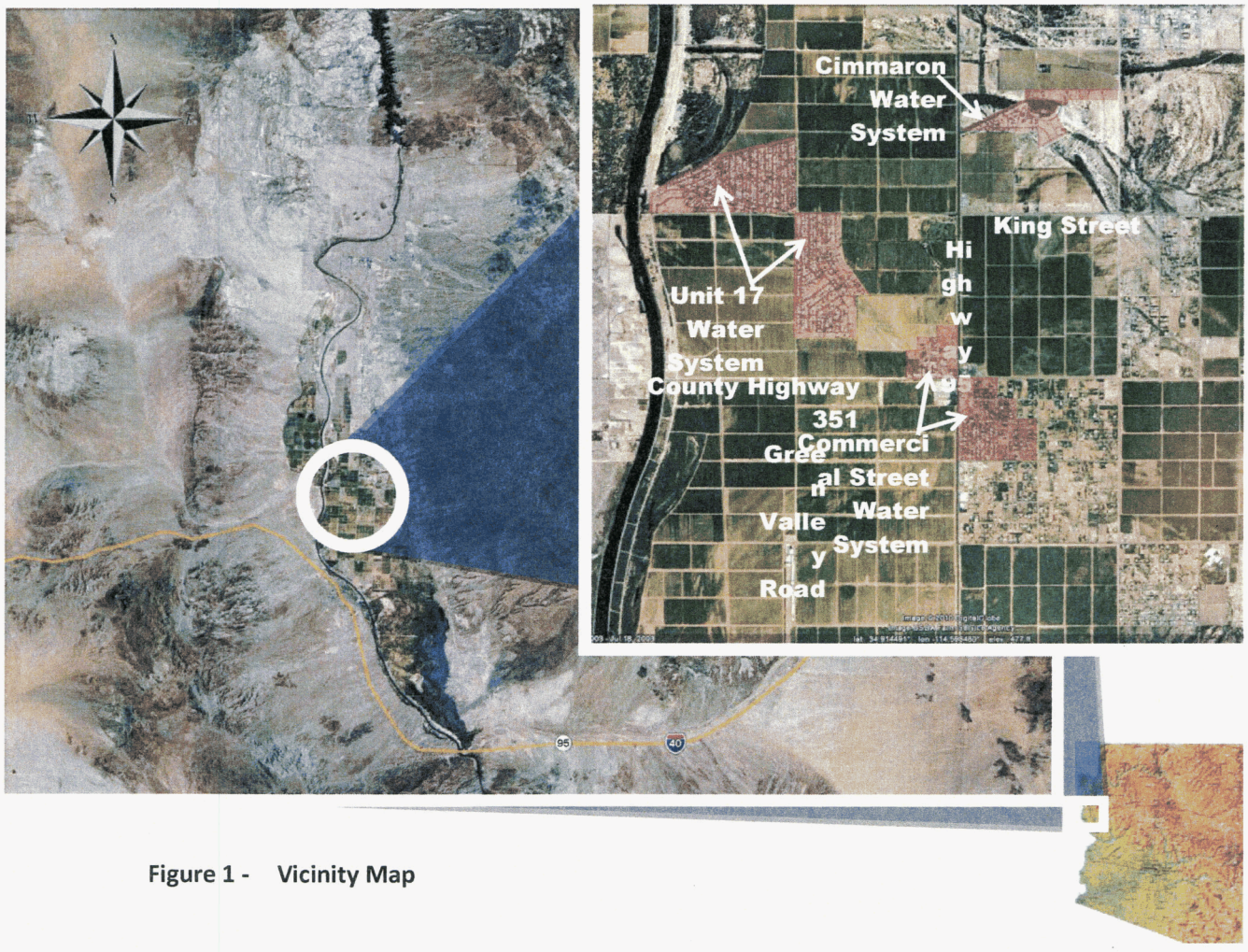


Figure 1 - Vicinity Map

2.2 Water Treatment Distribution Systems:

The service area of the Willow Valley Water Company is comprised of two water systems. These water systems are as follows:

1. Cimarron Water System

2. King Street & Commercial Street Water System (supplied by a production facility known as Unit 17)

These water systems are generally for residential use only, except that the Commercial Street Water System has approximately 23 service connections for commercial/industrial users. The Commercial Street Water system was originally constructed in the early 1960's, though a centralized water supply facility was constructed in the late 1990's. The Commercial Street water system does not currently have an independent water supply, but is provided water from the Unit 17 water system through a 6-inch PVC transmission line installed in approximately 1998.

Development of the King Street Water system also began in the early 1960's, and steadily increased into the early 1980's. Development of one small area at the eastern boundary of this area was begun in recent years, but was not completed, presumably due to economic conditions.

Development of the Cimarron Water system was initiated in 1990. Development has occurred steadily in this area, with improvements as recent as 2007. This service area is built out based on existing planning, though additional capacity in the system exists for potential expansion in the future.

2.3 Population

There are approximately 280 residential service connections in the Cimarron Water System, 1,419 residential service connections in the King Street Water System, and 137 residential service connections for the Commercial Street Water System. The Commercial Street Water System also has approximately 23 non-residential service connections.

2.4 Demand

Demands for residential users in the Cimarron Water System are approximately 131.8 gpd per home. Demands for residential users in the King Street and Commercial water systems are approximately 186.8 gpd. Demands for the commercial users are approximately 554.2 gpd per meter. These demands also include the water losses. As infrastructure is replaced, demands may become less due to a reduction in water loss in the system.

2.5 Service Area

Though the service area for the Willow Valley Water Company is spread out over an area approximately 9 square miles, the elevation only varies from 467 ft amsl to 491 ft amsl, a difference of 24 feet. The service area is comprised primarily of residential users, though there is a small area of commercial/industrial development that is also included.

Potable water system maps have been created to depict the distribution system throughout the Willow Valley water company- please see the following Figures 2-4:

2.6 Distribution Waterlines: Material, Age, Size, Conditions:

The distribution waterlines for King Street and Commercial Street water systems vary from 3" to 8" in diameter, and include pipe materials of varying types of iron or black steel, certain types of plastic or PVC, and asbestos cement. In general, the oldest water lines in the system are 4-inch plastic and asbestos cement. The newer pipes (Newer than 1970) have a minimum diameter of 6-inches and are PVC. The majority of the system is comprised of pipes older than 40 years. Field evaluation of the system by the operations staff has revealed that approximately 90% of valves are not operable. The inoperable valves are primarily located within the older pipe network.

The distribution water lines for Cimmaron water system vary from 6" to 10" in diameter, and are all PVC. In general, the oldest water lines in the system are 4-inch PVC and asbestos. The majority of the system, including the wells and WDC were installed between 1990 and 1996. Two small developments to the north of Cimmarron Boulevard were added to the system from 2004 to 2007.

During the line breaks that have occurred over the last several years, Willow Valley Operations Staff conducted a series of inspections of interior and exterior conditions of the existing infrastructure. The inspections have concluded that the infrastructure is fragile, severely corroded, and sub standard in specifications. Even repairing the line when it breaks is a very difficult task because the existing infrastructure is so fragile in nature.

2.7 Distribution Waterlines: Known Systematic Issues:

It has been identified that the potable water distribution systems do not currently provide proper looping capabilities as to adequately support an alternative method to supply customer's water during the event of a line break, and also result in water quality and water aesthetic issues. Several locations currently reside within the distribution system that creates a dead end point; therefore these customers are subject to frequent uncontrollable service interruptions when a line needs to be shut down during the event of a line break.

It has also been identified that the water distribution lines for the residential properties in the King Street Water System are installed in the back yards of the property. Beyond the accessibility issues that often results in greater costs and time required to complete repairs to this infrastructure, this presents a potential public health situation in the event of a line break, as this is also where the septic fields are located for the residential properties. Given this exact condition which exists on the Gordon Street waterline, this waterline has been identified as the top priority project to be executed in year 1 of the 5 year CIP program.

A critical system issue also noted is the age of the water distribution system valves, and their inability to operate. Inoperable valves and/or lack of valves leaves large segments of the system exposed in the event of a water main break, or other service shut down. Due to the age and condition of the system, the areas of primary concern are within the older parts of the King Street and Commercial Street systems. In these areas, few of the valves installed are operable. It is recommended that replacement of these valves be initiated within the 5 year CIP program to minimize the number of services impacted by shutdowns in the system.

Another known system defect is the lack of fire hydrants in the system, as well as the sub standard installation and outdated models of the existing fire hydrants. The CIP plan takes into consideration the full replacement and installation of all new fire hydrants.

2.8 Leak, Break and Repair History:

A total of 21 line breaks have been documented and recorded with the Unit 17 water distribution system since 2010. These leaks are contributed directly from the aging infrastructure and their composition of substandard industrial materials. The information below describes how many line breaks have occurred each year since 2010:

Year	# Line Breaks:
2010	5
2011	4
2012	9
2013	3
Total	**21**

Two figures have been created to depict the locations of line breaks that have been recorded since 2010, as well as indicate the years the line breaks occurred. The King Street water distribution system has been split into two sections- the East side and the West side as to provide enhanced details of the schematic. This system represents the areas in the system where most leaks (line breaks) have been recorded, and the area has been identified as the top priority for the 5 year CIP replacement program. In the exhibit you will also notice the identification of the five year CIP plan, and specifically detailing the sections of line to be replaced in priority:

2.9 Water Loss:

Water loss has been documented in the annual ACC report, and is represented by the following tables per each water distribution system for the previous five years:

Company Name: Willow Valley Water Company Inc
Name of System: King Street and Commercial Street

Year	Total Gallon Sold	Total Gallon Pumped	System Water Leakage
2008	91,995	115,312	20.2%
2009	101,495	121,812	16.7%
2010	83,227	104,209	20.1%
2011	68,712	89,824	23.5%
2012	66,696	87,516	23.8%

Source: 2008-2012 Willow Valley Water Company Annual Report

Company Name: Willow Valley Water Company Inc
Name of System: Lake Cimmaron

Year	Total Gallon Sold	Total Gallon Pumped	System Water Leakage
2008	10,379	13,543	23.4%
2009	10,244	11,917	14.0%
2010	10,559	12,306	14.2%
2011	8,301	10,806	23.2%
2012	8,204	9,941	17.5%

Source: 2008-2012 Willow Valley Water Company Annual Report

Comparing water consumption to water production reveals a large disparity. The average total water loss for the Unit 17 for the previous five years is in excess of 20%, and the average total water loss for the Cimarron system is 18.5% for the previous five years. It is expected that these losses are largely due to leakage and line breaks in an aging water system.

Global Water has established a set of design criteria for water systems to ensure that adequate pressures and flows are available to consumers without causing excessive wear in the system. These criteria are summarized below.

Table 1 - Global Water Design Criteria	
Parameter	**Value**
Minimum System Pressure (Peak Hour Demand)	40 psi
Maximum System Pressure[1] (Static)	80 psi
Minimum System Pressure (Max Day Plus Fire Flow Demand)	20 psi
Maximum Pipe Velocity (Max Day Demand)	5 fps
Maximum Pipe Head Loss Gradient (Max Day Demand)	6 ft/1,000 ft
Maximum Pipe Velocity (Peak Hour Demand)	6 fps
Maximum Pipe Head Loss Gradient (Peak Hour Demand)	8 ft/1,000 ft
Maximum Pipe Velocity (Max Day Plus Fire Flow Demand)	8 fps

1. Static pressures in excess of 80 psi may be permitted if individual PRVs are installed on all homes that may experience these pressures.

2.10 Meter Replacement Program

As to attempt to mitigate water loss in the system, Willow Valley Water Company embarked on a complete water meter replacement program for all water meter connections in the Willow Valley Water system. The replacement program consisted of the installation of a brand new water meters outfitted with an electronic endpoint at each service location and implemented into an automated meter reading system. The replacement program was completed in 2010, so the entire meter population is sufficiently new as to not require a current ongoing replacement program. The Company will begin testing and as necessary maintaining, the few larger diameter meters in the coming year, and return the utility to a standard meter replacement program in the future..

2.11 Criticality Analysis and Recommendations

Major system deficiencies have been identified in this analysis, as well as proof supporting the substantial amount of line breaks that have occurred and contributed to the hefty water losses that have been recorded over the past 5 years. In preparing the 5 year CIP plan to replace the pipelines, the critical projects have been identified on the basis of this analysis.

The next section outlines the details in the 5 year CIP plan, and we make the full recommendation that the utility initiate the first project beginning 2014.

3.0 5-YEAR CIP PLAN

3.1 Project Description and Justification for Prioritization

The main goal of the 5-year capital improvement plan (CIP) will be to replace the aging infrastructure within the King Street system. This will consist primarily of replacing all of 4-inch and 6-inch water mains as well as some service lines. A phasing plan will be developed to address repairs of the system identified with the highest criticality. Due to the size of the King Street area, it will be divided into two projects. Because of the age of the system, and the large

number of services affected, the King Street areas will be completed according to the 5-year CIP followed by the Commercial Street area, and finally the Unit 17 area in subsequent years.

- **Year 1 (2014) - Gordon Drive Line Replacement**- Constructed in the 1960s, this line replacement project was identified based on four critical criteria. First, the site accessibility to the water lines runs through the backyards of residential homes and at times under private property, which complicates accessibly for maintenance of equipment and emergency repair services (See Figure –E1). Secondly, sections of this main are known to be made of asbestos materials. As have other utilities, Global Water has strived to phase out asbestos-cement (ACP) from all its utilities due to lack of availability of repair parts and health concerns. Third, this main has experienced seven line breaks in the past two years, making this line a costly asset to maintain, while increasing disruption of service to customers served. And lastly, this line is known to be in contact vicinity of existing septic systems located in the back yards of homes served. Coupled with the extreme number of line breaks over the past two years, the inherent risk of cross contamination with septic systems in the vicinity has elevated the urgency of this project to the highest priority, and therefore will be completed in year one. The cost estimate for this line replacement is estimated at $211,491 and is detailed in Figure 7.

- **Year 2 (2015) - Clearwater Drive Line Replacement**- Constructed in 1960s, this line replacement project was identified based on three critical criteria. First, the site accessibility to the water lines runs through the backyards of residential homes and at times under private property, which complicates accessibly for maintenance of equipment and emergency repair services and exposes a higher risk of property damage comparable to the other projects due to the fact that this water line services two rows of homes (See Figure –E1). Secondly, sections of this main are known to be made of asbestos materials. As have other utilities, Global Water has strived to phase out ACP from all its utilities due to lack of availability of repair parts and safety concerns. Third, this main has been subject to a recent line break this year. Making this line a costly asset to maintain, while increasing disruption of service to customers serve. The cost estimate for this line replacement is estimated at $171,022 and s detailed in Figure 7.

- **Year 3 (2016) - A-Street Line Replacement**- Constructed in 1960s, this line replacement project was identified based on three critical criteria. First, the site accessibility to the water lines runs through the backyards of residential homes and at times under private property, which complicates accessibly for maintenance of equipment and emergency repair services and exposes a higher risk of property damage comparable to the other projects due to the fact that this water line services two rows of homes (See Figure –E1). Second, this main has been subject to three line brakes over the past two years. Making this line a costly asset to maintain, while increasing disruption of service to customers serve. The cost estimate for this line replacement is estimated at $145,040 and is detailed in Figure 7.

- **Year 4 (2017) - Wells Street Line Replacement**- Constructed in 1960s, this line replacement project was identified based on three critical criteria. First, the site accessibility to the water lines runs through the backyards of residential homes and at times under private property, which complicates accessibly for maintenance of equipment and emergency

repair services and exposes a higher risk of property damage comparable to the other projects due to the fact that this water line services two rows of homes (See Figure –E1). Second, this main has been subject to three line brakes over the past three years. Making this line a costly asset to maintain, while increasing disruption of service to customers serve. The cost estimate for this line replacement is estimated at $133,701 and is detailed in Figure 7.

- Year 5 (2018) - Kingsway/Lark Lane/Border Lane Line Replacement- Constructed in 1960s, this line replacement project was identified based on four critical criteria. First, the site accessibility to the water lines runs through the backyards of residential homes and at times under private property, which complicates accessibly for maintenance of equipment and emergency repair services and exposes a higher risk of property damage comparable to the other projects due to the fact that this water line services two rows of homes (See Figure –E1). Secondly, sections of this main are known to be made of a combination of ACP and PVC materials. As have other utilities, Global Water has strived to phase out asbestos piping from all its utilities due to lack of availability of repair parts and safety concerns. Third, this main has been subject to one line brake over the past three years. The cost estimate for this line replacement is estimated at $214,979 and is detailed in Figure 7.

3.2 Detailed Cost Estimates and Summary

The cost estimates were obtained using and accredited industry standard estimating source (RS Means) with an appropriate inflation factor to bring the costs to current value. Also, the fees for Contingency and internal staff's time was adjusted as per the discussion on 20 August 2013. We believe these numbers are conservative, but hold an accurate value for what should be estimated for each particular project.

Multiple contractors were contacted and provided budgetary numbers for the projects identified in the 5 year CIP plan, and all costs were in excess of 15%-25% higher than the costs projected in our original cost estimates. We can add the contractor's cost to our estimates if preferred.

Please see the attached Figure 7 for the detailed cost estimates for the 5 year CIP project, and see Figure 8 for the summary table.

3.3 CIP Water Main Replacement Map

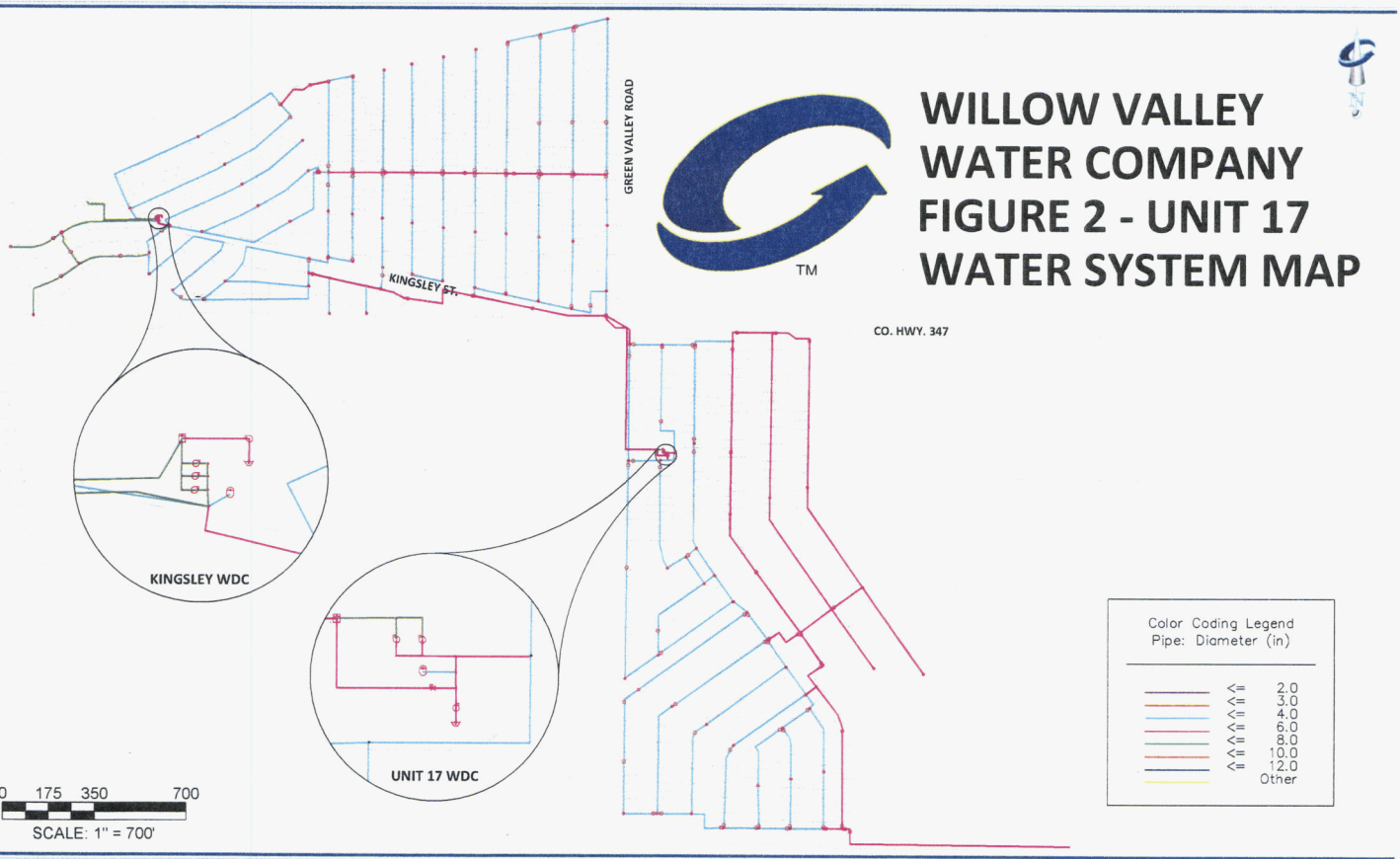
Please see Figure 9 as it is defined on the map for the locations specified within the 5 Year CIP Plan:

Figure 9- **CIP Project Location Map**

4.0 CONCLUSION

The analysis performed herein provided an audit of the existing system infrastructure. The audit revealed that the existing water production and treatment facilities constructed by Global in prior years, currently offer a compliant and high level of service. The service and water quality issues that remain are specific to the pipeline infrastructure, as it also revealed that much of the system piping is in poor condition due to system age and substandard material. The condition of the piping is resulting in frequent line breaks and unacceptable water loss. Additionally, valve failures throughout the system result in wide impact to customers when line breaks occur. Further, these deficiencies are all magnified based on the location of the waterlines in customer's backyards and proximity to septic systems.

The 5 Year CIP plan was developed to provide for strategic replacement of certain failing distribution infrastructure. Ultimately, this will be expanded to a 20 year program to replace all pipelines as determined necessary. Water modeling was also performed. The water modeling showed that the system is capable of delivering adequate pressures and flows to the system. It also demonstrates that water ages within the system are within a reasonable level.



WILLOW VALLEY WATER COMPANY FIGURE 2 - UNIT 17 WATER SYSTEM MAP

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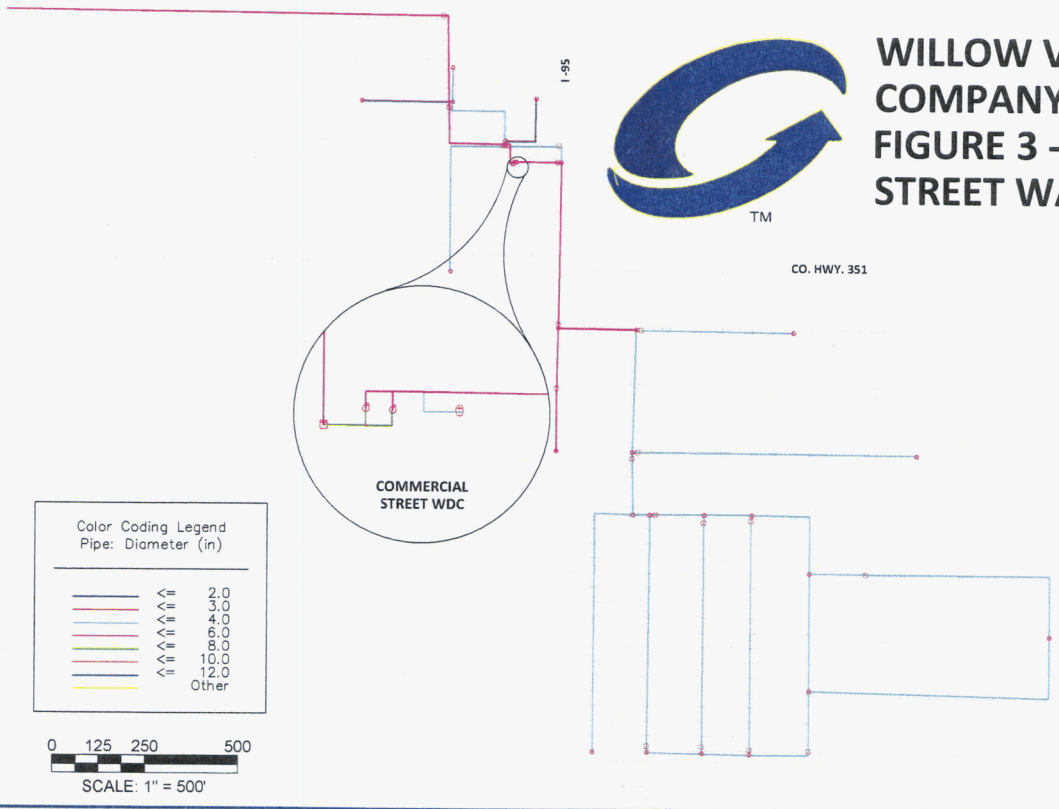
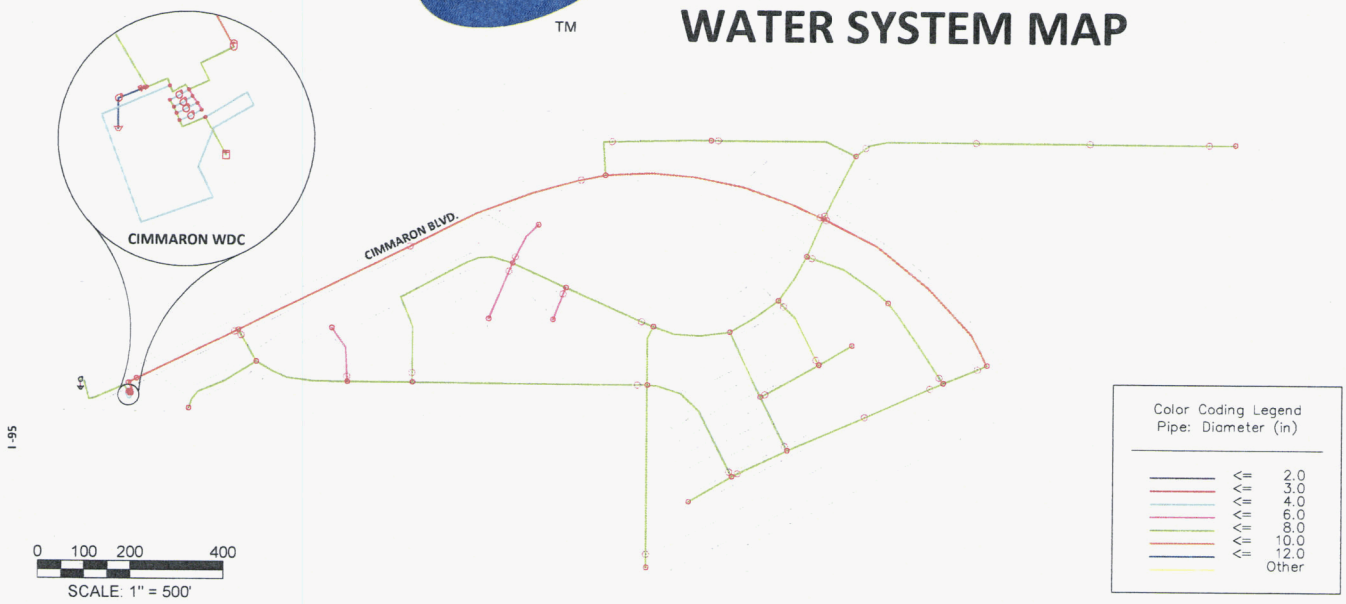
WILLOW VALLEY WATER COMPANY
FIGURE 3 - COMMERCIAL STREET WATER SYSTEM MAP

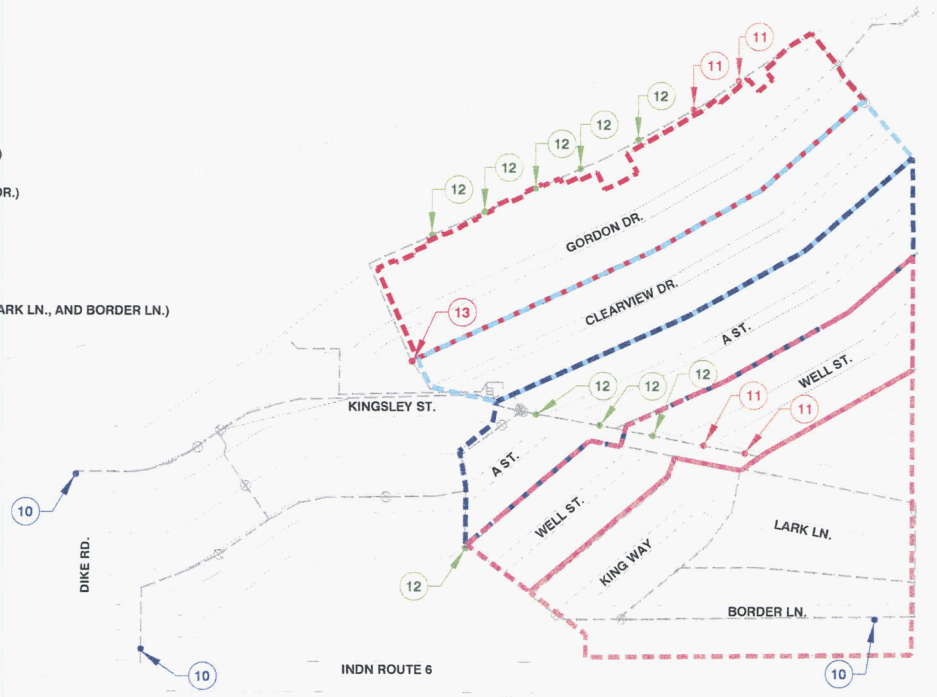


WILLOW VALLEY WATER COMPANY
FIGURE 4 - CIMMARON WATER SYSTEM MAP



LEGEND

- 13 — MAIN BREAK IN 2013
- 12 — MAIN BREAK IN 2012
- 11 — MAIN BREAK IN 2011
- 10 — MAIN BREAK IN 2010
- EXISTING WATER MAIN
- EXISTING WATER VALVE
- CIP YEAR 1 (GORDON DR.)
- CIP YEAR 2 (CLEARVIEW DR.)
- CIP YEAR 3 (A ST.)
- CIP YEAR 4 (WELL ST.)
- CIP YEAR 5 (KING WAY, LARK LN., AND BORDER LN.)



GLOBAL WATER

KING ST. 5 YEAR CIP

WILLOW VALLEY WATER COMPANY

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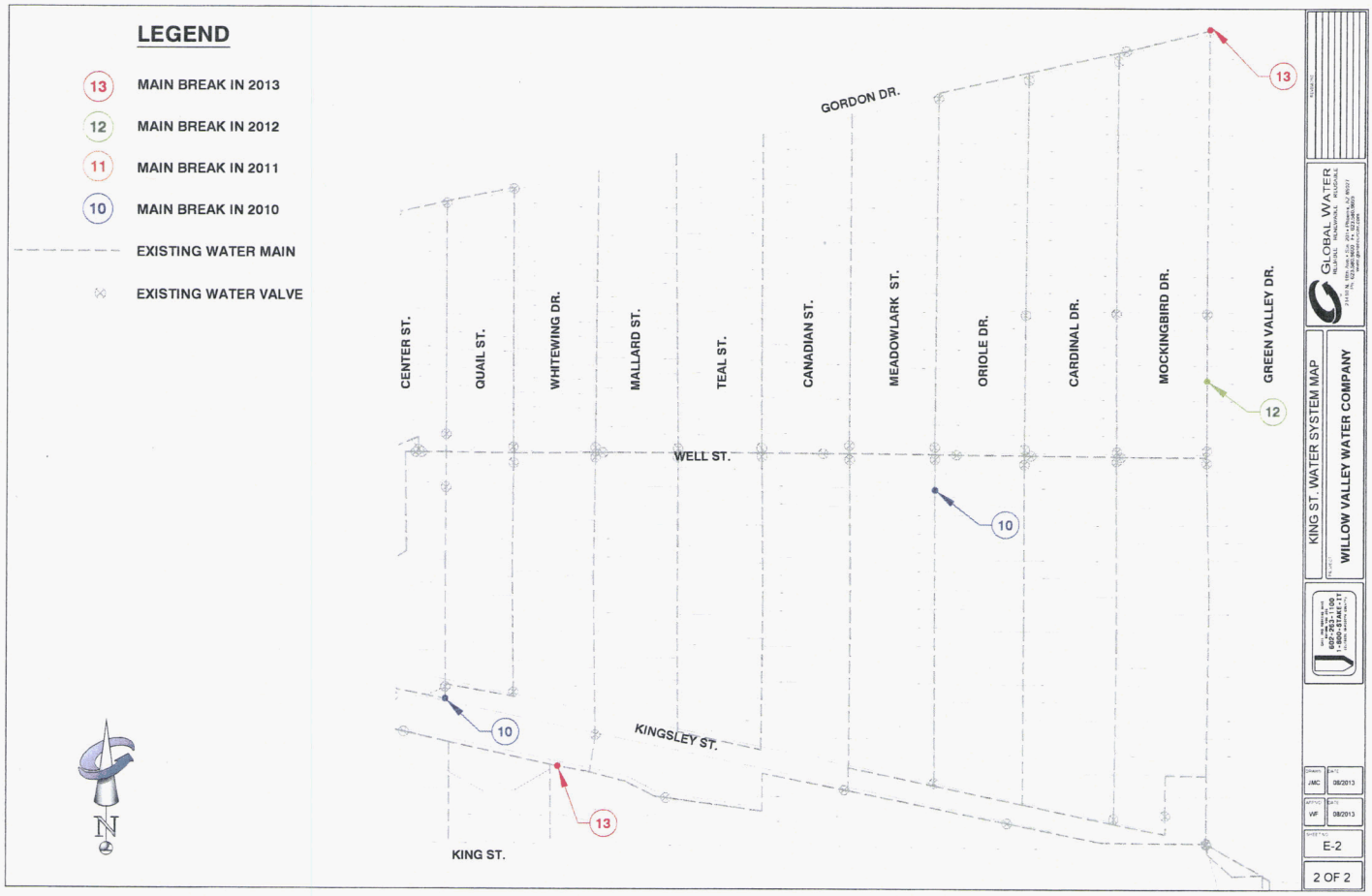
SHEET NO. E-1

1 OF 2

LEGEND

- 13 — MAIN BREAK IN 2013
- 12 — MAIN BREAK IN 2012
- 11 — MAIN BREAK IN 2011
- 10 — MAIN BREAK IN 2010
- EXISTING WATER MAIN
- EXISTING WATER VALVE



KING ST. WATER SYSTEM MAP

WILLOW VALLEY WATER COMPANY

GLOBAL WATER

DRAWN: JMC 08/2013

REVISED: WF 08/2013

SHEET NO: E-2

2 OF 2

Water Mains and Valve Replacement Costs

Williow Valley Kingsley 5-Year Capital Improvements Plan

CIP Year 1-Project #1 King Street (Gordon Dr.)					
Line	**Item**	**QTY**	**Unit**	**Cost/Unit**	**Total Replacement Cost**
	6" PVC, AWWA C900, Class 160, SDR 26 (Not Including Excavation or Backfill)	1,626	LF	$40	$65,028
G1030-805-1340	2' Wide 6' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	1,626	LF	$8	$12,996
02510-820-4100	1" to 2" Water Service Installation, Drill and Tap Pressurized Main (labor only)	47	EA	$255	$11,989
02510-920-2200	1" Copper Pipe Water Service Installation (Not Including Excavation or Backfill)	6,078	LF	$5	$31,786
G1030-805-1330	2' Wide 4' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	6,078	LF	$6	$38,454
15110-700-3770	6" Globe Valve, 150 lb., Flanged	4	EA	$3,176	$12,705
	5-1/4" Fire Hydrants	2	EA	$1,642	$3,284
	Subtotal				*$176,243*
	Engineering., Surveying, Permitting (10%)				**$17,624**
	Contingency (10%)				**$17,624**
	Total				**$211,491**
CIP Year 2-Project # 2 King Street (Clearview Dr.)					
Line	**Item**	**QTY**	**Unit**	**Cost/Unit**	**Total Replacement Cost**
	6" PVC, AWWA C900, Class 160, SDR 26 (Not Including Excavation or Backfill)	1,805	LF	$40	$72,194
02510-820-4100	1" to 2" Water Service Installation, Drill and Tap Pressurized Main (labor only)	48	EA	$255	$12,244
02510-920-2200	1" Copper Pipe Water Service Installation (Not Including Excavation or Backfill)	4,647	LF	$5	$24,302
15110-700-3770	6" Globe Valve, 150 lb., Flanged	3	EA	$3,176	$9,529
G1030-805-1330	2' Wide 4' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	4,647	LF	$3	$14,220
G1030-805-1340	2' Wide 6' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	1,805	LF	$6	$10,030
	Subtotal				*$142,519*
	Engineering, Surveying, Permitting (10%)				**$14,252**
	Contingency (20%)				**$14,252**
	Total				**$171,022**
CIP Year 3-Project # 3 King Street (A St.)					
Line	**Item**	**QTY**	**Unit**	**Cost/Unit**	**Total Replacement Cost**
	6" PVC, AWWA C900, Class 160, SDR 26 (Not Including Excavation or Backfill)	1,447	LF	$40	$57,893
02510-820-4100	1" to 2" Water Service Installation, Drill and Tap Pressurized Main (labor only)	39	EA	$255	$9,948
02510-920-2200	1" Copper Pipe Water Service Installation (Not Including Excavation or Backfill)	3,894	LF	$5	$20,362
15110-700-3770	6" Globe Valve, 150 lb., Flanged	4	EA	$3,176	$12,705
G1030-805-1330	2' Wide 4' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	3,894	LF	$3	$11,914
G1030-805-1340	2' Wide 6' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	1,447	LF	$6	$8,043
	Subtotal				*$120,866*
	Engineering, Surveying and Permitting (10%)				**$12,087**
	Contingency (10%)				**$12,087**
	Total				**$145,040**
CIP Year 4- Project #4King Street (Well St.)					

Line Number	Item	QTY	Unit	Cost Per Foot	Total Replacement Cost
	6" PVC, AWWA C900, Class 160, SDR 26 (Not Including Excavation or Backfill)	1,328	LF	$40	$53,110
02510-820-4100	1" to 2" Water Service Installation, Drill and Tap Pressurized Main (labor only)	35	EA	$255	$8,928
02510-920-2200	1" Copper Pipe Water Service Installation (Not Including Excavation or Backfill)	3909	LF	$5	$20,442
15110-700-3770	6" Globe Valve, 150 lb., Flanged	3	EA	$3,176	$9,529
G1030-805-1330	2' Wide 4' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	3909	LF	$3	$11,961
G1030-805-1340	2' Wide 6' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	1,328	LF	$6	$7,379
02510-840-8600	Install 4" Plug End (Not Including Excavation or Backfill)	2	EA	$34	$68
	Subtotal				*$111,417*
	Engineering, Surveying, Permitting (10%)				**$11,142**
	Contingency (10%)				**$11,142**
	Total				**$133,701**

CIP Year 5-Project # 5 King Street (King Way)

Line Number	Item	QTY	Unit	Cost Per Foot	Total Replacement Cost
	6" PVC, AWWA C900, Class 160, SDR 26 (Not Including Excavation or Backfill)	643	LF	$40	$25,707
02510-820-4100	1" to 2" Water Service Installation, Drill and Tap Pressurized Main (labor only)	17	EA	$255	$4,336
02510-920-2200	1" Copper Pipe Water Service Installation (Not Including Excavation or Backfill)	1,712	LF	$5	$8,955
15110-700-3770	6" Globe Valve, 150 lb., Flanged	1	EA	$3,176	$3,176
G1030-805-1330	2' Wide 4' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	1,712	LF	$3	$5,240
G1030-805-1340	2' Wide 6' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	643	LF	$6	$3,572
02510-840-8600	Install 4" Plug End (Not Including Excavation or Backfill)	2	EA	$34	$68
	Subtotal				*$51,054*
	Engineering, Surveying, Permitting (10%)				**$5,105**
	Contingency (10%)				**$5,105**
	Total				**$61,265**

CIP Year 5-Project # 5 King Street (Border Ln.)

Line Number	Item	QTY	Unit	Cost Per Foot	Total Replacement Cost
	6" PVC, AWWA C900, Class 160, SDR 26 (Not Including Excavation or Backfill)	918	LF	$40	$36,705
02510-820-4100	1" to 2" Water Service Installation, Drill and Tap Pressurized Main (labor only)	22	EA	$255	$5,612
02510-920-2200	1" Copper Pipe Water Service Installation (Not Including Excavation or Backfill)	1,232	LF	$5	$6,441
15110-700-3770	6" Globe Valve, 150 lb., Flanged	2	EA	$3,176	$6,353
G1030-805-1330	2' Wide 4' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	1,232	LF	$3	$3,769
G1030-805-1340	2' Wide 6' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	918	LF	$6	$5,100
02510-840-8600	Install 4" Plug End (Not Including Excavation or Backfill)	2	EA	$34	$68
	Subtotal				*$64,048*
	Engineering, Surveying, Permitting (10%)				**$6,405**
	Contingency (10%)				**$6,405**
	Total				**$76,857**

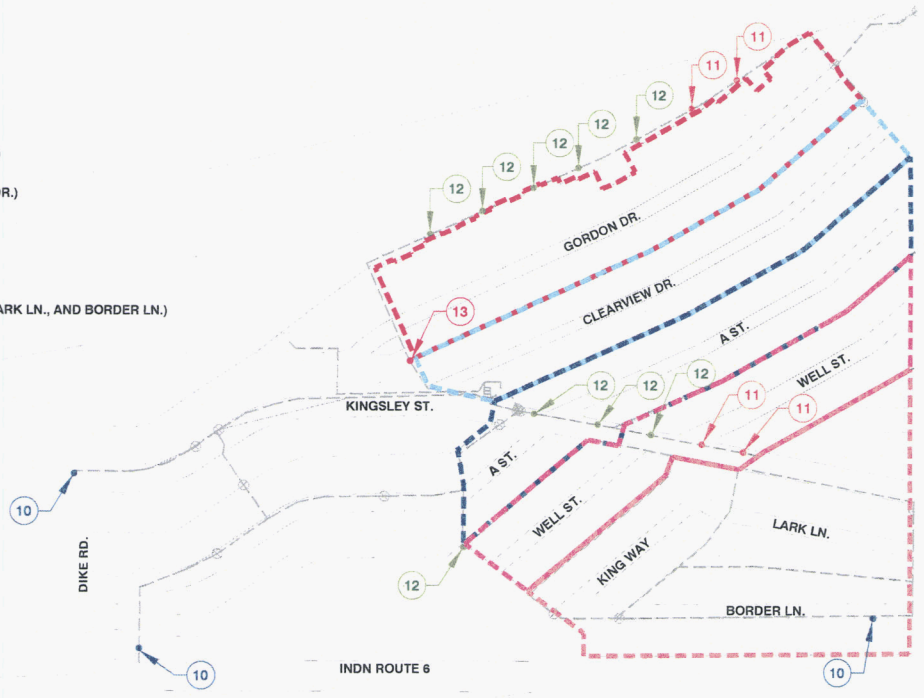
CIP Year 5-Project # 5 King Street (Lark Ln.)					
Line Number	**Item**	**QTY**	**Unit**	**Cost Per Foot**	**Total Replacement Cost**
	6" PVC, AWWA C900, Class 160, SDR 26 (Not Including Excavation or Backfill)	918	LF	$40	$36,705
02510-820-4100	1" to 2" Water Service Installation, Drill and Tap Pressurized Main (labor only)	22	EA	$255	$5,612
02510-920-2200	1" Copper Pipe Water Service Installation (Not Including Excavation or Backfill)	1,232	LF	$5	$6,441
15110-700-3770	6" Globe Valve, 150 lb., Flanged	2	EA	$3,176	$6,353
G1030-805-1330	2' Wide 4' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	1,232	LF	$3	$3,769
G1030-805-1340	2' Wide 6' Deep, 3/8 C. Y. Bucket (Includes: Excavation, backfill and removal of spoil, and compaction)	918	LF	$6	$5,100
02510-840-8600	Install 4" Plug End (Not Including Excavation or Backfill)	2	EA	$34	$68
	Subtotal				*$64,048*
	Engineering, Surveying, Permitting (10%)				**$6,405**
	Contingency (10%)				**$6,405**
	Total				**$76,857**

5 YEAR CIP SUMMARY DETAIL

Year	Jul-05		Jul-05		Jul-05		Jul-05		Jul-05		5-Year Total	
Plant	units	cost	units	cost	units	cost	units	cost	units	cost	units	cost
Pipelines	1,626	$ 139,775	1,805	$ 98,669	1,447	$ 79,124	1,328	$ 72,668	2,478	$ 135,711		$ 525,947
Services	6,078	$ 52,529	48	$ 60,919	39	$ 50,670	35	$ 49,598	61	$ 60,210		$ 273,925
Meters	-	$ -	-	$ -	-		-	$ -	-	$ -	-	$ -
Hydrants	2	$ 3,941	-	$ -	-			$ -	-	$ -		$ 3,941
Valves	4	$ 15,246	3	$ 11,435	4	$ 15,246	3	$ 11,435	5	$ 19,058		$ 72,420
Total		$ 211,491		$171,022		$145,040		$133,701		$ 214,979		**$ 876,233**

LEGEND

- 13 — MAIN BREAK IN 2013
- 12 — MAIN BREAK IN 2012
- 11 — MAIN BREAK IN 2011
- 10 — MAIN BREAK IN 2010
- EXISTING WATER MAIN
- EXISTING WATER VALVE
- CIP YEAR 1 (GORDON DR.)
- CIP YEAR 2 (CLEARVIEW DR.)
- CIP YEAR 3 (A ST.)
- CIP YEAR 4 (WELL ST.)
- CIP YEAR 5 (KING WAY, LARK LN., AND BORDER LN.)



GLOBAL WATER

KING ST. 5 YEAR CIP

WILLOW VALLEY WATER COMPANY

DRAWN JMC 08/2013

APPVD WF 08/2013

E-1

1 OF 2

Attachment

"2"

Water System Name and PWS ID No.

SIB PLANT TABLE I

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provide reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance and repair/replacement program.
Project No.	**309 Supply Mains**	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
1										
2										
3										
4										
5										
6										
7										
8										
9										
Estimated Total Cost										

Water System Name and PWS ID No.

SIB PLANT TABLE I

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provide reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance and repair/replacement program.
Project No.	**331 T&D Mains**	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Cost (by project)	
1	331	1,626	6	PVC	$66.96	Gordon Drive	2014		$108,876	Install approximately 1,626 LF of 6-inch replacement pipe, replace 47 service connection and add 2 fire hydrants on Gordon St between Center St and Kingsley Street. This project will replace approximately 1,354 LF of 4-inch Asbestos Cement (AC) Pipe water main installed prior to 1970. The existing water main and service connections to be replaced have 8 recorded leaks over the last 4 years. This replacement project is not being constructed to serve new customers.
Estimated Total Cost									$108,876	

Water System Name and PWS ID No.

SIB PLANT TABLE I

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provide reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance and repair/replacement program.
Project No.	**333 Service**	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
1	333	47	1-inch	Copper	$2,099	Gordon Drive	2014		$98,674	Install approximately 1,626 LF of 6-inch replacement pipe, replace 47 service connection and add 2 fire hydrants on Gordon St between Center St and Kingsley Street. This project will replace approximately 1,354 LF of 4-inch Asbestos Cement (AC) Pipe water main installed prior to 1970. The existing water main and service connections to be replaced have 8 recorded leaks over the last 4 years. This replacement project is not being constructed to serve new customers.
2										
3										
4										
5										
6										
7										
8										
9										
Estimated Total Cost									$98,674	

Water System Name and PWS ID No.

SIB PLANT TABLE I

Information to be included with SIB-Eligible Project Notification

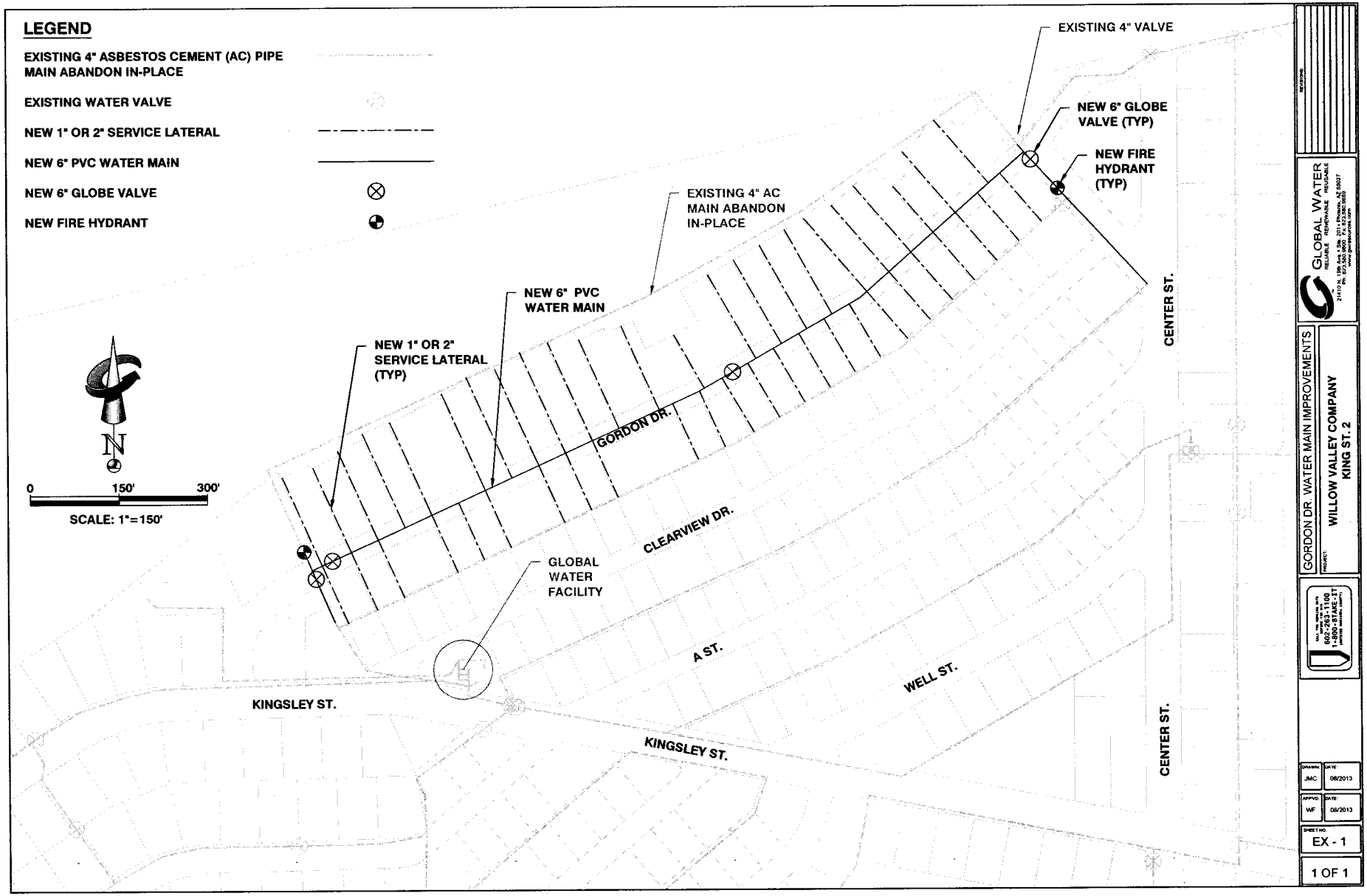
	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provide reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance and repair/replacement program.
Project No.	**334 Meters**	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
1										
2										
3										
4										
5										
6										
7										
8										
9										
Estimated Total Cost										

Water System Name and PWS ID No.

SIB PLANT TABLE I

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)				Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provide reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance and repair/replacement program.
Project No.	**335 Hydrants**	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
1	335	2	5-1/4 inch	Cast Iron	$1,970	Gordon Drive	2014		$3,941	Install approximately 1,626 LF of 6-inch replacement pipe, replace 47 service connection and add 2 fire hydrants on Gordon St between Center St and Kingsley Street. This project will replace approximately 1,354 LF of 4-inch Asbestos Cement (AC) Pipe water main installed prior to 1970. The existing water main and service connections to be replaced have 8 recorded leaks over the last 4 years. This replacement project is not being constructed to serve new customers.
2										
3										
4										
5										
6										
7										
8										
9										
Estimated Total Cost									$3,941	


LEGEND
EXISTING 4" ASBESTOS CEMENT (AC) PIPE MAIN ABANDON IN-PLACE
EXISTING WATER VALVE
NEW 1" OR 2" SERVICE LATERAL
NEW 6" PVC WATER MAIN
NEW 6" GLOBE VALVE
NEW FIRE HYDRANT
EXISTING 4" VALVE
NEW 6" GLOBE VALVE (TYP)
NEW FIRE HYDRANT (TYP)
EXISTING 4" AC MAIN ABANDON IN-PLACE
NEW 6" PVC WATER MAIN
NEW 1" OR 2" SERVICE LATERAL (TYP)
GORDON DR.
CLEARVIEW DR.
GLOBAL WATER FACILITY
A ST.
WELL ST.
KINGSLEY ST.
KINGSLEY ST.
CENTER ST.
CENTER ST.
N
0
150'
300'
SCALE: 1"=150'
GLOBAL WATER
RELIABLE RENEWABLE REUSABLE
GORDON DR. WATER MAIN IMPROVEMENTS
PROJECT:
WILLOW VALLEY COMPANY
KING ST. 2
602-263-1100
1-800-STAKE-IT
DRAWN: JMC
DATE: 08/2013
APPVD: WF
DATE: 08/2013
SHEET NO.
EX - 1
1 OF 1

Attachment

"3"

GLOBAL WATER
RELIABLE • RENEWABLE • REUSABLE

MEMORANDUM

TO: **Ron Fleming**

FROM: **Jon Corwin**

SUBJECT: **Water Loss Summary**

DATE: **19 March 2013**

BACKGROUND

As a water resources company Global Water is acutely aware of the importance of water conservation, specifically through the elimination of water loss. Global Water has made a concerted effort to eliminate water loss in all of its water utilities. This document describes the level of effort and resources expended by Global Water to minimize water loss dating back to 2008. These efforts have resulted in significant water loss reduction as of December 2012.

PAN GLOBAL WATER LOSS REDUCTION ACTIVITIES

- Billing and pumped data accuracy was an initial focus and remains a primary focus of the water loss task force. The following on-going activities that have been established over the past four years to ensure data accuracy:
    - Exception Reporting – Abnormal consumption is flagged and investigated. Field verification is conducted if necessary to identify the cause of abnormal consumption data.
    - Zero Consumption – Active accounts with more than one month of zero consumption are flagged and field verified to ensure accurate consumption is recognized.
    - Network Operations Center (NOC) – This function was established to proactively monitor Global Water's meter population and Automated Meter Infrastructure ("AMI") systems and to create service orders to investigate/repair meters that are faulty, have tamper alarms, and to notify residents that have high consumption or leaks.
    - Monthly consumption reports are reviewed for quality assurance and quality control prior to preparing the final consolidated consumption report.

- Improved tracking of water used by the utility to measure water consumption that is known but not billed. Water may be used in utility operations for activities such as hydrant flushing and backwashing. Tracking these uses increases the accuracy of water consumption accounting.

- Theft Deterrence – Global Water's technology identifies vacant account usage. These accounts are investigated and if theft has occurred the meter is pulled. Additionally, vacant accounts in which the meter has been pulled are monitored to ensure a jumper is not installed.

WEST VALLEY REGION UTILITIES

The West Valley Region includes Valencia Water Company – Town Division ("VWC-TD"); Valencia Water Company – Greater Buckeye Division ("VWC-GB"); Willow Valley Water Company ("WVWC"); Water Utility of Greater Tonopah ("WUGT"); and Water Utility of Northern Scottsdale ("WUNS"). The following actions have been taken since 2008 to reduce water loss in these utilities.

2008

- Following the acquisition of VWC-TD all meters were replaced the exception of meters that had been installed in developments within the prior 2-3 years
- Replaced all meters in WUGT and VWC-GB.

2009

- Global Water operators discovered the meter registers in VWC-TD were not providing accurate data to the AMI system. The pulsing mechanism on the register was determined to have a manufacture defect, and due to the pulsing defect water loss was incurred. Through a collaborative effort with the register manufacture the faulty registers were identified and replaced.

2010

- Replaced the meters in WVWC with leak detection capable meters. In conjunction with the new meters, AMI was also installed to provide more granular data to track not only consumption, but to identify water loss.
- Global Water's operations personnel physically walked the waterline routes for the WUGT and VWC-GB systems. The line walks were to inspect for visual indications of leaks such as wet soil, small sink holes, and vegetation that might indicate a leak. At all locations where visible leakage was evident, the pipeline was repaired.

2011

- Global Water operators again discovered that the registers in VWC-TD were once again malfunctioning. A second register audit was commissioned and it was determined that 20% of the Elster-AMCO meter population had failed due to a defect in the pulsing mechanism in the register. Elster-AMCO agreed to pay for Global Water's expenses along with new equipment to replace all Elster-AMCO digital pulse meters. The replacement of nearly 2500 registers was completed in July of 2012.
- Implemented testing and replacement program in VWC-TD for one-and-one-half inch and larger meters. Of forty meters tested, fourteen meters were identified as under- or over-registering and were replaced. Estimated net of 2.9 million gallons of water loss eliminated annually as a result.
- A billing system audit was initiated to scrubbed accounts to identify meter billing multiplier errors. A handful of accounts were identified as having an incorrect billing multiplier meaning the accounts were off by a factor, and thus the customer was only billed 10 percent or in some cases 1% of actual usage. Customer bills were adjusted as necessary. These errors have been corrected and this type of "billing system" audit has become part of our best practices and occurs monthly as part of our month end water loss reduction activities.

2012

- Global Water conducted an audit on 100% of meters in the Sonoran Ridge and Buckeye Ranch distribution systems in VWC-GB and WUGT respectively to identify potential sources of water loss. No issues were discovered and the audit confirmed the meters did not have an issue with register inaccuracy.
- Continued testing of and replacement program for one-and-one-half inch and larger meters in VWC-TD. Of the twelve meters tested, three meters were identified as under- or over-registering and were replaced. Estimated net of 1.6 million gallons of water loss eliminated annually resulted from this program
- Conducted a line leak detection audit in the oldest part of the distribution system in the VWC-TD service territory. No leaks were found.
- Pressure testing was conducted in the West Phoenix Estates I, distribution system in WUGT, to identify leaks. Operators discovered a leak and capped off an abandoned line to eliminate the leak.
- Replaced the well meter at the Primrose / Bulfer well site in VWC-GB due to age the age of the meter and the volume of water that had passed through the meter.
- Replaced storage tank at West Phoenix Estates VI due to operational need and also due to water leakage.
- In December 2012, Global Water audited 15% of all Elster-AMCO meters in the Valencia Water Company service territory. The audit revealed over 20% of the meter registers were defective despite the registers being less than a year old. Elster-AMCO once again confirmed through product testing that there was a manufacturing error that resulted in the registers being defective. Negotiations are on-going with Elster-AMCO in regards to rectifying this issue.
- Operational personnel discovered an unauthorized connection to the distribution system by the largest user by volume in the VWC-TD distribution system. A meter has since been installed.

SANTA CRUZ WATER COMPANY

2010

- Widespread Automated Meter Infrastructure (AMI) failure was discovered and determined to be due to a manufacturer's defect that could potentially affect 100% of the AMI end-point population. At that time, we were experiencing rapid failures of the AMI end-points, at a rate of around 20% per year (however it is important to note that while the AMI end-points were failing, the mechanical registers on the meters were and are accurately

measuring the amount of usage) The AMI supplier agreed to replace 100% of AMI end-points to ensure accuracy of meter reads.

2011

- Replacement of nearly 17,000 AMI end-points was completed. As the end-points were replaced, the current and correct meter reading was taken from the mechanical register at the meter.
- Global Water engaged Industrial Automation Services to calibrate all production meters to ensure production meters are accurate. We will continue to do this as necessary if water loss begins to increase again.
- Testing of 62 one-and-one-half-inch and larger meters was conducted. Thirty-three meters were identified as under- or over-registering. These meters were replaced. The estimated annual water loss elimination due to meter repair and replacement was 39 million gallons.
- Monitoring was increased to prevent theft of water during new home construction by construction personnel.

2012

- A residential meter audit on 45 homes was completed to gauge the accuracy of residential meters. Meters tested proved to be highly accurate with nearly all meters recording within 2% of the actual flow. As ACC regulations and meter manufacturer's own specifications state that a variance can occur from 1 to 3%, we must assume that this volume of loss is always attributable and natural in any water system. This indicates how well this system has performed historically with the 3% water loss in the 2008 test year, and today's rolling annual average of 5.6%.
- Ten one-and-one-half-inch and larger meters were tested for accuracy. Two meters were identified as under or over registering. These meters were replaced. This resulted in an estimated annual water loss elimination of 500,000 gallons.
- Field verification on 180 one-and-one-half-inch and larger meters was conducted to validate that the correct meter multiplier was set-up in Global Water billing system. Eleven accounts were found to have the wrong multiplier. These accounts were corrected. This type of "billing systems" audit has become part of our best practices, and continues to occur frequently.

CONCLUSION

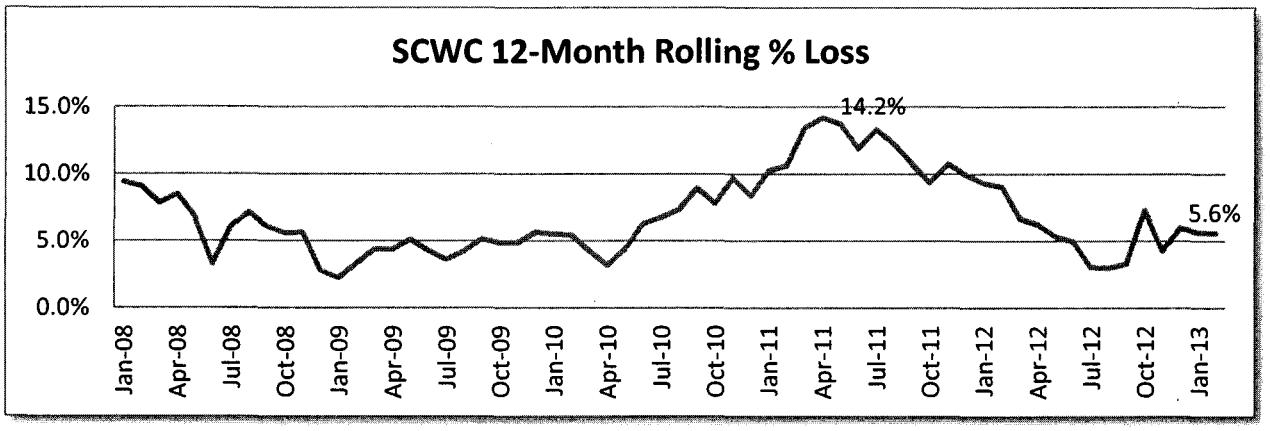
- The Global Water utilities have reduced water loss significantly from the peak in each system:
  - SCWC - Down 8.6%
  - WVWC - Down 12.1%
  - VWC - Down 5.5%
  - WUGT - Down 11.3%
  - WUGB - Down 9.9%

- Water loss reduction has become embedded in the culture of Global Water. Global Water will continue to attack water loss head on. Since the beginning of 2008 when the initial wide scale water loss initiatives were launched, significant progress has been made through the comprehensive program that has been described above.

- The success of this program is particularly evident in Santa Cruz Water Company where water loss peaked at 14.2% however, through the use of Global Water's technologies and comprehensive plan executed by the water loss task force, water loss is at 5.6% as of the end of February 2013.

- Older systems will naturally incur higher water loss due to infrastructure that is more susceptible to leaks and failures. Every water loss touch point in these systems has been address with the exception of large scale capital improvement of distribution systems.

- Following are charts showing the progressive reduction of water loss by company.


SCWC 12-Month Rolling % Loss
15.0%
10.0%
5.0%
0.0%
14.2%
5.6%
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
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Jan-11
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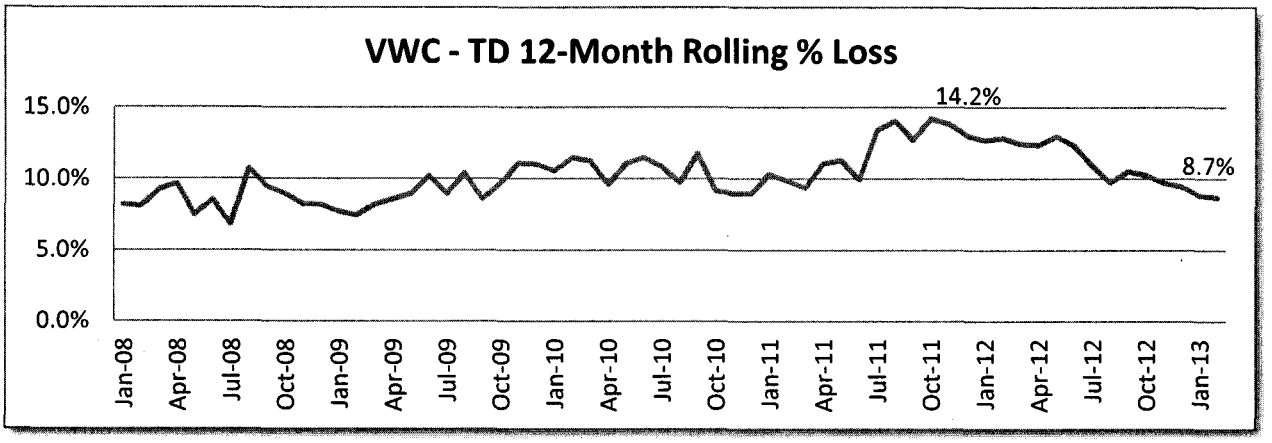
Apr-12
Jul-12
Oct-12
Jan-13


VWC - TD 12-Month Rolling % Loss
15.0%
10.0%
5.0%
0.0%
14.2%
8.7%
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
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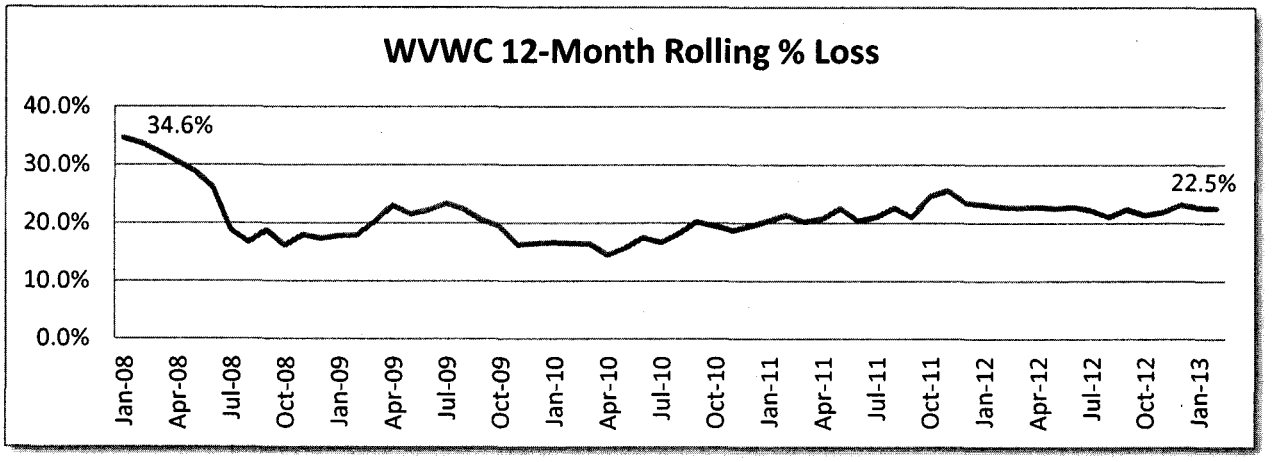
WVWC 12-Month Rolling % Loss
40.0%
30.0%
20.0%
10.0%
0.0%
34.6%
22.5%
Jan-08
Apr-08
Jul-08
Oct-08
Jan-09
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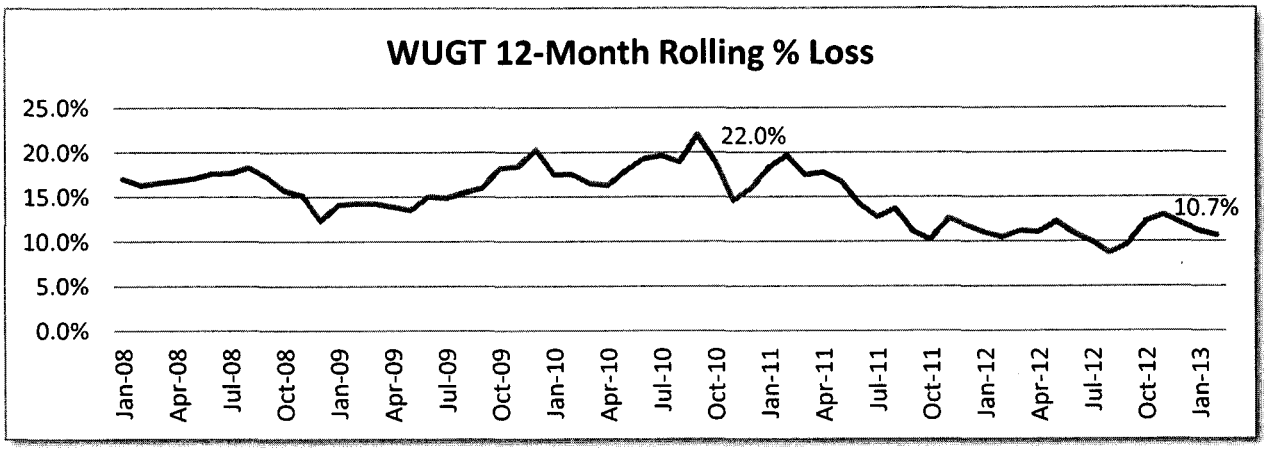
WUGT 12-Month Rolling % Loss
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
22.0%
10.7%
Jan-08
Apr-08
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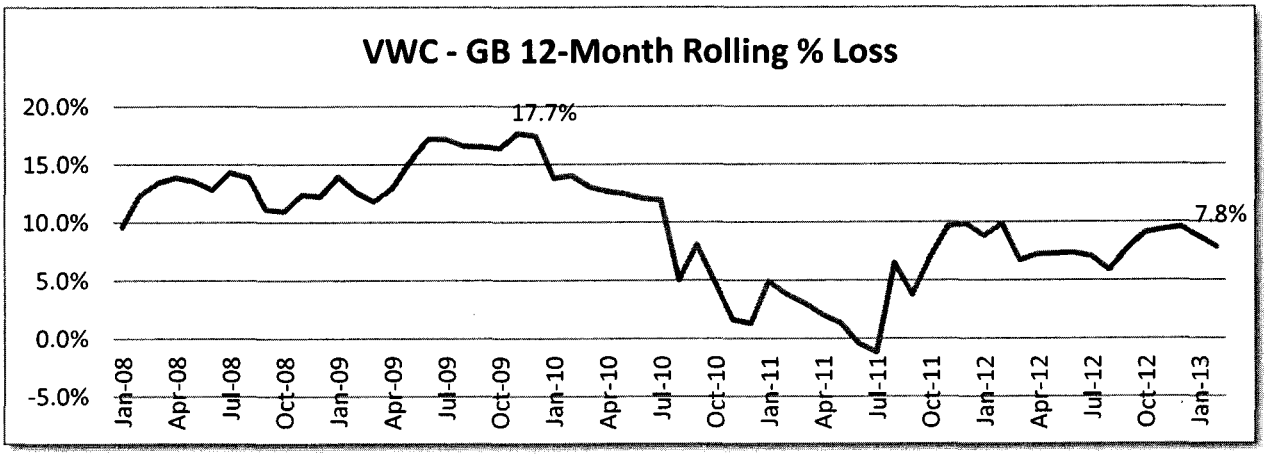
VWC - GB 12-Month Rolling % Loss
20.0%
15.0%
10.0%
5.0%
0.0%
-5.0%
17.7%
7.8%
Jan-08
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Jul-12
Oct-12
Jan-13

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
BOB STUMP, Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – TOWN DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	Docket No. W-01212A-12-0309
IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – PALO VERDE UTILITIES COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. SW-20445A-12-0310
IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF NORTHERN SCOTTSDALE, INC. FOR A RATE INCREASE	Docket Nos. W-03720A-12-0311
IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF GREATER TONOPAH FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-02450A-12-0312
IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – GREATER BUCKEYE DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-02451A-12-0313 **NOTICE OF FILING TESTIMONY OF MATTHEW ROWELL**

IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – SANTA CRUZ WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-20446A-12-0314
IN THE MATTER OF THE APPLICATION OF WILLOW VALLEY WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-1732A-12-0315

Testimony

of

Matthew Rowell

in Support of Settlement Agreement

August 21, 2013

TABLE OF CONTENTS

I. Introduction.

Q. Please state your name.

A. My name is Matthew Rowell.

Q. By whom are you employed and what is your position?

A. I am a managing member of Desert Mountain Analytical Services ("DMAS"), a consulting firm specializing in utility regulatory matters. In that capacity I have provided testimony regarding various utility regulatory issues before the Arizona Corporation Commission ("Commission").

Q. Please describe your background and qualifications.

A. A statement of my qualifications is included as Attachment Rowell-1 to this testimony.

Q. Are you the same Matthew Rowell that provided Direct Testimony in the above listed dockets?

A. Yes.

Q. What is the purpose of your testimony?

A. I am testifying in support of the Settlement Agreement filed on August 13, 2013 ("Settlement Agreement"). This testimony describes the revenue requirements, cost of capital, rate base adjustments, expense adjustments, rate designs and rate phase-ins agreed to through the Settlement Agreement and detailed in the schedules attached to the Settlement Agreement.

Q. Please describe how the schedules attached to the Settlement Agreement are organized.

A. The Settlement Schedules take the amounts in Global's initial applications as the starting

point for rate base, revenue and expenses. Adjustments are made to Global's filed positions to come to the Settlement positions.

For each company: Schedule A-1 shows the development of the revenue requirement and required revenue increase. Schedule A-1a details the agreed upon phase-in of the revenue increase. Schedule B-1 shows the development of the rate base and Schedules B-2 show the detail of the rate base adjustments. Schedule C-1 provides an income statement and Schedule C-2 details the agreed to expense and revenue adjustments. The schedules labeled "Settlement ADJ 1" thru "Settlement ADJ 7" provide detail on each individual expense/revenue adjustment. Schedule D-1 shows the development of the required rate of return. Schedule H-3 shows each company's current rates compared to the rates proposed in the settlement agreement. The H-4 schedules show, for each meter size, the impact on the median customer and on customers at various usage levels of the proposed increase at each step of the phase in.

Q. Are you sponsoring the settlement schedules?

A. Yes.

II. Revenue Requirements

Q. Please describe the revenue requirements agreed to in the Settlement Agreement.

A. The table below shows the test year (2011) revenues, the revenue requirements agreed to in the Settlement Agreement and the amount of the agreed to revenue increase for each of the seven utilities involved in this case.

Table 1, Summary of Revenue Requirements

Utility	Test Year (2011) Revenue	Settlement Revenue Requirement	Settlement Revenue Increase	Settlement Revenue Increase as Percent of Test Year Revenue
Palo Verde	$13,107,528	$14,996,467	$1,888,939	14.4%
Santa Cruz	10,463,460	12,019,506	1,556,046	14.9%
Valencia-Town Division	4,940,316	5,192,870	252,554	5.1%
Valencia-Greater Buckeye Division	462,043	471,331	9,289	2%
WUGT	207,705	407,689	199,983	96.3%
Willow Valley	702,652	1,106,922	404,269	57.5%
WUNS	147,513	147,513	0	0%

Q. How do these above listed increases compare with the increases Global requested in its application?

A. The increases agreed to in the settlement are substantially less than those initially requested by Global. Table 2 below compares Global's initially requested rate increases with the rate increases adopted in the Settlement Agreement.

Table 2. Initial Revenue Increase Request and Settlement Revenue Increase

Utility	Revenue Increase Requested in Global's July 9, 2012 Application	Settlement Revenue Increase
Palo Verde	$3,662,560	$1,888,939
Santa Cruz	2,730,367	1,556,046
Valencia-Town Division	823,424	252,554
Valencia-Greater Buckeye Division	36,423	9,289
Water Utility of Greater Tonopah	677,458	199,983
Willow Valley	507,537	404,269
Water Utility of Northern Scottsdale	0	0
TOTAL	8,437,769	4,311,080

III. Rate Base Adjustments

Q. Please describe the rate base adjustments made for each company.

A. I will discuss the rate base adjustments for each company in turn:

Palo Verde: For Palo Verde there are no rate base adjustments. The Company's rate base as filed is accepted by the settling parties.

Santa Cruz: There are two rate base adjustments for Santa Cruz. First, $139,161 of equipment is removed from the plant balance because it is not in service. That equipment is associated with $43,488 of accumulated depreciation which is removed from the accumulated depreciation balance. Second, plant Global classified as Distribution Reservoirs and Standpipes and Water Treatment Equipment is reclassified as Water Treatment Plant, Solution Chemical Feeders, Storage Tanks and Pressure Tanks.

Valencia Town: There are two rate base adjustments for Valencia Town. First, $71,526 of post-test-year plant was removed from plant in service. Second, plant classified as Water Treatment Equipment and Distribution Reservoirs and Standpipes was reclassified as Water Treatment Plant, Storage Tanks and Pressure Tanks.

Valencia Greater Buckeye: For Greater Buckeye, plant classified as Water Treatment Equipment and Distribution Reservoirs and Standpipes was reclassified as Water Treatment Plant, Storage Tanks and Pressure Tanks.

WUGT: For WUGT plant Global classified as Distribution Reservoirs and Standpipes and Water Treatment Equipment is reclassified as Water Treatment Plant, Solution Chemical Feeders, Storage Tanks and Pressure Tanks.

Willow Valley: For Willow plant Global classified as Distribution Reservoirs and Standpipes and Water Treatment Equipment is reclassified as Water Treatment Plant, Solution Chemical Feeders, Storage Tanks and Pressure Tanks.

WUNS: For WUNS there are no rate base adjustments.

Q. The treatment of ICFA funds imputed as CIAC is a major issue in this case for Palo Verde, Santa Cruz and WUGT. Why are there no rate base adjustments associated with the resolution of the ICFA issue?

A. The settlement schedules take as their starting point Global's positions as filed in the initial applications. In those applications Global took the position that the parent level ICFA revenue imputed as CIAC should no longer be treated as CIAC. The schedules filed with the initial applications reflect the reversal of the CIAC imputation. The settling parties agreed to accept the reversal of the CIAC imputation. Since Global's positions as filed in the initial applications already reflected the reversal of the CIAC imputation there was no need for an adjustment in the Settlement schedules to reflect the reversal of the CIAC imputation.

IV. Income Statement Adjustments

Q. Please describe the income statement adjustments made for each company.

A. For each company the settling parties agreed to accept Staff's recommended amounts for Bad Debt Expense, Rate Case Expense, and income Taxes. Adjustments for each of these expenses are included on the C-2 schedule for all of the utilities involved in this case. Additionally, Staff's recommended depreciation expense was adopted by the Settling Parties with one change. Staff had originally recommended a depreciation rate of 5% for Other Tangible Plant (account 348 for water and 398 for wastewater); the Settling Parties agreed that a 10% depreciation rate was more appropriate for this account due to the nature

of plant included in it.

In addition to the above adjustments for Palo Verde, Santa Cruz, Valencia Town and Willow Valley Staff recommended that the Salary and Wages, Materials and Supplies, and Outside/Contractual Services accounts be "normalized." Staff's recommended expense normalizations for these companies and accounts were accepted by the settling parties.

V. Cost of Capital

Q. Please discuss the cost of capital used to develop the Settlement Agreement's revenue requirements.

A. The Settling Parties agreed to use the same capital structure, cost of debt and required return on equity for Palo Verde, Santa Cruz, Valencia Town, Valencia Greater Buckeye and Willow Valley. The agreed on capital structure is 57.8% debt and 42.2% equity. The agreed to cost of debt is 6.1%. The agreed to required return on equity is 9.5%. These numbers taken together produce a required rate of return of 7.5%.

Q. What about WUGT and WUNS?

A. The Settling Parties agreed that rates for WUGT and WUNS would be set on an operating margin basis. This was necessary for WUNS because it has a negative rate base. While the resolution of the ICFA issues leaves WUGT with a positive rate base, the Settling Parties agreed that an operating margin was an appropriate way to set rates for WUGT in this case.

VI. Rate Design.

Q. Please discuss the wastewater rate design for Palo Verde.

A. The rate design agreed to by the Settling Parties includes no increase in rates in 2014 and an incremental increase in each year thereafter until 2021. The typical residential customer

will see their basic Service Charge rate change as follows:

Table 3: Palo Verde Typical Residential Bill

Present Rate	2014	2015	2016	2017	2018	2019	2020	2021
62.91	62.91	64.34	65.88	66.61	67.34	68.06	68.79	69.53

The phase-in rates for all other meter sizes are included on the H-3 Schedule.

Q. Please discuss Global's water Rate Designs.

A. Since its last rate case Global has employed an innovative rate design for its water utilities. Global's rate design consists of three key elements: six increasing tiers, a conservation rebate for low use customers and basic service charges that collect at least 50% of the revenue requirement. This rate design provides real incentives for conservation and rewards low use customers for their conservation. At the same time this rate design provides the Company with revenue stability. The six tiers, conservation rebate and basic service charges effectively balance the competing goals of water conservation and revenue stability.

Q. Please describe how the conservation rebate works.

A. Under the conservation rebate any customer who uses less than a specified amount of gallons (the conservation rebate threshold or CRT) receives a rebate equal to a specified percentage of the volumetric portion of their bill. In Global's last rate case CRT's and rebate percentages were established for each water company involved in that case. In this case Global proposed to revise the CRT's and rebate percentages.

Q. Please describe the changes to the CRTs.

A. The new CRTs are set such that they equal 90% of the average usage (rounded to the nearest 1,000 gallons.) The idea here is to encourage conservation by rewarding customers who use less than the average amount. Keeping the CRTs at 90% of the average usage required that the CRTs be lowered relative to where they were set in the last rate case. The

one exception to this is Willow Valley: in that utility the CRT was not changed and does not reflect 90% of the average usage. This was done to account for Willow Valley's demographics, it has a very high number of part time residents which artificially pulls down the average usage.

Q. Please describe the changes to the rebate percentages.

A. In the last rate case the rebate percentages were set at various levels. In this case Global proposed setting each of the rebate percentages at 50%. That proposal is adopted in the Settlement Agreement for each of the companies except for Santa Cruz and WUNS. Santa Cruz's current rebate percentage is 65%. Decreasing that to 50% was seen as too drastic of a change and a 60% rebate percentage was agreed to.

WUNS is the only utility in this rate case that does not currently have a conservation rebate rate structure. A 20% rebate for WUNS was agreed to as the initial conservation rebate.

Q. Can you provide an example of how the conservation rebate works?

A. Yes, take for example Santa Cruz. If the Settlement Agreement is approved it will have the following rates in 2014:

Basic Service Charge: 27.68

Volumetric Charges:

Tier	Gallons	Rate per 1,000 Gallons
1	1 - 1,000	$1.30
2	1,001 - 5,000	2.12
3	5,001 – 10,000	2.94
4	10,001 – 18,000	3.76
5	18,001 – 25,000	4.58
6	All gallons over 25,000	5.48

CRT: 7,001 gallons.

Commodity Rebate: 65%.

Consider the median customer who uses 5,000 gallons. Their bill is calculated as follows:

a.	Basic Service Charge:	$27.68
b.	Tier 1 gallons times tier 1 rate	1 X 1.30 = 1.30
c.	Tier 2 gallons times tier 2 rate	4 X 2.12 = 8.48
d.	Conservation Rebate	0.65 X (1.30 + 8.48) = 6.36
e.	Total bill: a. + b. + c. – d.	27.68 + 1.30 + 8.48 – 6.36 =31.10

Q. Please describe the changes to the rate for recycled water and non-potable water.

A. The rate for recycled water from Palo Verde and non-potable water from Santa Cruz are set equal to each other because Santa Cruz's non-potable water is used to replace Palo Verde's recycled water when it is not available. Recycled and non-potable water is used for irrigation and to fill artificial lakes. The rates for recycled and non-potable water for Palo Verde and Santa Cruz will phase in as follows under the terms of the Settlement Agreement:

Table 4: Recycled and Non-Potable rates for Palo Verde and Santa Cruz, rate per 1,000 gallons

Present Rate	2014	2015	2016	2017	2018	2019	2020	2021
$0.57	$0.57	$0.80	$1.04	$1.16	$1.28	$1.40	$1.52	$1.638

Q. Are there any other changes to the utilities rates?

A. Yes, at Staff's request the current rates for Establishment of Service After Hours, Reconnection of Service After Hours and the Per-Hour After Hours Service Charge are being eliminated. These charges are being replaced with a $35 After Hours Service Charge that is applied in addition to the normal charge for a given service.

Q. Does this conclude your testimony?

A. Yes.

Matthew Rowell

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Professional History

- **Desert Mountain Analytical Services, PLLC (DMAS)** 2007 – Present
  Managing Member

  DMAS is a small consulting firm specializing in utility finance, ratemaking and other regulatory issues. DMAS' clients range in size from large multinational corporations to small rural utilities.

- **Arizona Corporation Commission** 1996 to 2007

  Chief Economist (July 2001 to February 2007)
  Analyzed and produced testimony or staff reports on a wide variety of utility issues. Supervised a staff of nine professionals with similar responsibilities.

  Economist (October 1996 to July 2001)
  Analyzed and produced testimony or staff reports on a wide variety of utility issues.

Education

- **Master of Science and ABD** Economics, 1995, Arizona State University.
  Successfully completed all course work and exams necessary for a Ph.D. Course work included an emphasis in industrial organization and extensive experience with statistical analysis, public sector economics, and financial economics.
- **Bachelor of Science** Economics, 1992, Florida State University.
  Minors: Philosophy, Statistics.

Certifications

Certified Rate of Return Analyst designation awarded by the Society of Utility and Regulatory Financial Analysts based on experience and successful completion of a written examination.

List of Specific Projects

Global Water Resources

Provided expert testimony regarding Global's cost of capital and rate consolidation. Created the bill-count data necessary for rate design. Consulted on the totality of schedules and testimony, Docket No. SW-20445A-12-0309.

Provided expert testimony regarding Global's financial viability and regulatory status before an arbitration panel. American Arbitration Association Case Nos. 76 198 Y 0104 11JMLE and 76 198 Y 0105 11 JMLE.

Provided strategic advice and analysis to Global re the ACC's ongoing water workshops.

Rate case testimony: Cost of Capital, Rate Consolidation, treatment of Infrastructure Coordination and Finance Agreements, Docket No. W-20446A-09-0080.

Prepared and sponsored testimony on Global's Notice of Intent to Restructure, Docket No. W-20446A-08-0247.

Provided strategic guidance regarding the Arizona Water complaint against Global, Docket No. W-01445A-06-0200.

East Slope Water Company

Engaged to provide a valuation for East Slope Water Company.

Arizona Coalition for Water Energy and Jobs

Engaged to provide an expert report on the EPA's Best Available Retrofit Technology proposal for the Navajo Generation Station.

Cordes Lakes Water Company

Provided expert testimony regarding all aspects of Cordes Lake's rate case. Participated in the successful negotiation of a settlement with ACC Staff. Docket No. W-02060A-12-0356

Ray Water Company, Inc.

Provided expert testimony regarding Ray Water Company's cost of capital, Docket No. W-01380A-12-0254.

EPCOR Utilities, Inc.

Provided strategic advice on the Arizona regulatory environment as it relates to EPCOR's purchase of Arizona utilities.

Rio Rico Properties

Testimony in the Rio Rico Utilities rate case, Docket No. WS-02676A-09-0257.

Residential Utility Consumer Office

Testimony re affiliate relations in the Litchfield Park Service Company Rate Case, Docket No. SW-01428A-09-0103.

Other

Assisted with financial analysis, rate design and other rate case testimony and schedules for East Slope, Antelope Run, Indiada, Southland, Valle Verde and other small water companies.

ACC Staff

APS Rate Case E-01345A-05-0816: Provided testimony on staff's position on APS' proposed Environmental Improvement Charge. Also acted as the overall case manager and was responsible for coordinating all of staff's testimony.

APS Application to acquire a power plant in the Yuma area E-01345A-06-0464: Provided testimony detailing Staff's position on the application.

Southern California Edison's application to build a high voltage power line linking Arizona to Southern California L-00000A-06-0295-00130: Provided testimony detailing the potential economic effects of SCE's proposed power line.

Managed Staff's case (including negotiating a settlement agreement) in APS' 2003 rate case.

Negotiated (along with other Staff members) the settlement between staff and Qwest regarding three enforcement dockets.

Supervised the "independent monitor" of APS' and Tucson Electric Power's wholesale power procurement.

Staff's lead witness in the Commission's reevaluation of the electric competition rules which resulted in the suspension of APS' and TEP's obligation to divest their generation assets (E-00000A-02-0051.)

Acted as Chairman of the Commission's Water Task Force.

Accipiter's complaint against Cox Communications regarding the Vistancia development T-03471A-05-0064: Provided testimony regarding Accipiter's allegations concerning Cox's dealings with the developers of Vistancia.

Provided testimony on Qwest's noncompliance with the Commission's wholesale rate order.

Managed Staff's case regarding Qwest's alleged noncompliance with the Federal Telecommunications Act.

Supervised the testing of Qwest's operational support systems (OSS) and the development of Qwest's Performance Assurance Plan as part of Qwest's compliance with Section 271 of the Federal Telecommunications Act.

Provided testimony on the geographic de-averaging of Qwest's Unbundled Network Element prices.

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
BOB STUMP, Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – TOWN DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	Docket No. W-01212A-12-0309
IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – PALO VERDE UTILITIES COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. SW-20445A-12-0310
IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF NORTHERN SCOTTSDALE, INC. FOR A RATE INCREASE	Docket Nos. W-03720A-12-0311
IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF GREATER TONOPAH FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-02450A-12-0312
IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – GREATER BUCKEYE DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-02451A-12-0313 **NOTICE OF FILING TESTIMONY OF PAUL WALKER**

IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – SANTA CRUZ WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-20446A-12-0314
IN THE MATTER OF THE APPLICATION OF WILLOW VALLEY WATER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA	DOCKET NO. W-1732A-12-0315

Testimony

of

Paul Walker

in Support of Settlement Agreement

August 21, 2013

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I. Introduction.

Q. Please state your name.

A. My name is Paul Walker.

Q. By whom are you employed and what is your position?

A. I am the founder and owner of Insight Consulting, LLC.

Q. Please describe your background and qualifications.

A. I hold an MBA from Thunderbird, The Garvin School of International Management, and a Bachelor's in Business Management from the University of Phoenix; additionally I have completed numerous military schools and courses. In 2001, I joined the Commission as Policy Advisor to Commissioner Marc Spitzer. Prior to that, I had served on Governor Hull's negotiating team working with Arizona's Indian Tribes to develop Indian gaming compacts, and as Policy & Communications Manager at the Arizona Department of Gaming.

In my current work, I provide regulatory consulting, advice and analysis, as well as testimony drafting, editing, and preparation services to utility clients. In addition, I provide regulatory analysis to utility investors, and chair Arizonans for Responsible Water Policy, a trade group and PAC representing water utilities in Arizona. I have given numerous presentations at regulatory workshops and industry meetings; and I am also a member of the Arizona Power Plant and Line Siting Committee.

Q. What were the key issues in the case?

A. From my perspective, there were two key issues: First, the regulatory treatment of the money received under Global Water Resources, Inc.'s (GWRI) Infrastructure Coordination and Financing Agreements (ICFAs), and second, the rate impact to customers.

II. ICFAs.

Q. Regarding the ICFAs, how long has the Commission been considering and evaluating GWRI's ICFAs?

A. Since 2006 when the Commission opened Docket No. 06-0149 looking at the generic issue of developer financing related to GWRI's ICFAs; and in Docket No. 06-0200, the Arizona Water Company complaint regarding GWRI's use of ICFAs. Since that time, we have had countless meetings and conversations regarding the ICFAs; we settled the Arizona Water Company issues; we had the 2009 rate case resulting in Decision No. 71878's treatment of ICFAs as Contributions in Aid of Construction (CIAC); and the workshops ordered by the Commission in Decision No. 71878 to reconsider and reevaluate whether ICFAs should be treated as CIAC.

Q. So the Commission, Staff, RUCO, and the City of Maricopa are very familiar with ICFAs?

A. Indisputably. Each of those parties was in the last rate case; each of those parties supported the CIAC imputation in Decision No. 71878. In the end, each of those parties agreed to the regulatory treatment proposed in the Settlement.

Q. What are, or were, the public benefits of the ICFAs?

A. In the City of Maricopa, GWRI purchased and improved the Sonoran Utilities / 387 Wastewater District when they were in what the Arizona Department of Environmental Quality, the City of Maricopa, and the Corporation Commission called a "state of emergency." (See, e.g., my Direct Testimony in this case at pages 9 thru 11, citing Dec. Nos. 68498 and 70133).

In the Western Maricopa County area, GWRI purchased the dilapidated systems of West Maricopa Combine (WMC) and is rehabilitating these systems. Mr. Fleming described the

numerous and serious problems faced by the WMC systems in his Direct Testimony in this case, filed on July 9, 2012. He provides additional information regarding one of the WMC systems, Willow Valley, in his settlement testimony. Global has spent millions of dollars and countless hours addressing the WMC problems. The customers and the developers now have a regional water-wastewater provider which has planned and will construct (when growth returns) a regional, reclaimed water solution in an area of grave concern to the Arizona Department of Water Resources and the Arizona Department of Environmental Quality (See, e.g., my Direct Testimony in this case at pages 10 and 111, with excerpts of docketed letters from ADEQ and ADWR to the Commission regarding the area.)

Q. How was the ICFA issue resolved?

A. We broke the ICFA issue into three distinct groups:

- ICFA revenues already earned by GWRI prior to December 31, 2013;
- ICFA revenues not yet received by GWRI, but due to GWRI under existing ICFAs; and
- Future ICFAs.

Q. How does the Settlement Agreement address the ICFA funds already received by GWRI prior to December 31, 2013 ?

A. These funds are treated as revenue to GWRI, and the associated CIAC imputation is reversed.

Q. Why is that appropriate?

A. It is important to recognize that these funds have already been spent by GWRI on ICFA-related purposes. That includes acquiring troubled water companies, such as the 387 District and WMC. It also includes the costs associated with planning, permitting, and

financing "Total Water Management" regional infrastructure.

It is also important to consider the Ullmann & Company report requested by the Commission, which validates the amounts spent on these acquisitions, and which shows that all plant could have been funded by non-ICFA funds.

In light of these facts, it is reasonable to reverse the CIAC imputation in the last rate case.

Further, as explained in Mr. Fleming's testimony, the CIAC imputation had a very negative impact on GWRI's consolidated balance sheet, and the balance sheets of the affected utilities. Regardless of all the technical arguments about ICFAs, ultimately it is in the public interest for pragmatic, practical reasons to restore the balance sheets of GWRI's regulated utilities. Having financially healthy utilities benefits all concerned: GWRI and its utilities, the residential customers who rely on these utilities, the Homeowner's Associations who rely on the utilities for irrigation water, the City who needs a financially healthy utility to serve existing City residents and to allow for growth, and for developers who signed ICFAs and are entitled to receive the services they contracted for.

Q. **Is this treatment consistent with the Memorandum of Understanding between GWRI and the City of Maricopa?**

A. Yes. After the last rate case, the City and GWRI engaged in a series of discussions regarding ICFAs. In 2011, we signed a Memorandum of Understanding with the City that includes recognition of ICFA funds as revenue to GWRI, rather than CIAC, when the ICFA funds have been spent on acquisitions of troubled water companies or for regionalization of infrastructure as part of Total Water Management. The City participated actively in the settlement process, and on August 20, 2013, the City Council voted to sign the Settlement Agreement.

Q. How will the CIAC reversal impact customers?

A. There are several ways the customer impact is limited. First and foremost is the eight year phase in for the Maricopa systems. To my knowledge, a phase-in of this length is unprecedented. In addition, there is no rate increase at all in the first year of the phase-in (2014). Again, to my knowledge this is unprecedented in Arizona.

In the West Valley, customers are protected because the rates for Water Utility of Greater Tonopah will be set on an operating margin basis in this case, so the restoration of rate base will not impact customer rates.

Further, most of the "de-imputation" does not impact active rate base. The CIAC reversals are shown in the chart below, with impacts on active rate base in this case in bold:

De-Imputation	**Amount**
Santa Cruz Rate Base	**$6,105,227**
Palo Verde Rate Base	**$10,323,747**
Southwest Plant (Plant Held for Future Use)	$32,391,318
Water Utility of Greater Tonopah	$6,784,409
Hassayampa Utility Company	$2,140,455
Total	$57,745,156

Only $16.4 million (28%) of the total reversal impacts rates in this case.

Q. What are the bill impacts of the CIAC reversal?

A. Mr. Rowell details the impact on customers further in his testimony but the impacts are summarized here:

Table 3: Santa Cruz Typical Residential Bill

Present Rate2	2014	2015	2016	2017	2018	2019	2020	2021
31.10	31.10	32.64	33.21	33.44	33.68	33.91	34.16	34.18

Table 4: Palo Verde Typical Residential Bill

Present Rate	2014	2015	2016	2017	2018	2019	2020	2021
62.91	62.91	64.34	65.88	66.61	67.34	68.06	68.79	69.53

As is clear in Tables 3 and 4, the rate impacts from this case will be well less than 5 percent per year, and specific to the CIAC reversal will be not much more than 1% per year, and will take until 2021 to be reflected in customer bills in the City of Maricopa.

Q. How will ICFA revenues not yet received by GWRI, but due to GWRI under existing ICFAs be treated under the Settlement?

A. Under the Settlement Agreement, the ICFAs remain in effect as valid contracts, and the developers must continue to pay as they agreed. However, going forward, GWRI will begin using about 70 percent of its ICFA fees to fund Hook-Up Fees at GWRI utilities. Each utility in this case has submitted a Hook-Up Fee tariff that sets the fee at either $1,250 per service in the Pinal County service areas (Maricopa, Casa Grande, Eloy); or $1,750 in the Greater Buckeye and Western Maricopa County area. Those numbers reflect about 70 percent of the already contracted ICFA fees in those regions. Under this plan, ratepayers and developers will be assured that the vast majority of ICFA funds going forward will become CIAC once it is used to build infrastructure. The remaining 30 percent will be available to GWRI to defray the significant costs we have long talked about: the acquisition costs associated with consolidated troubled utilities such as for GWRI's purchase of the Sonoran/387 Districts in the Maricopa area (further payments are still due on this acquisition), the carrying costs for regional infrastructure; and Planning and permitting regional areas; coordinating and engineering regional water solutions.).

Q. How will Future ICFAs be treated?

A. The parties have agreed that there will be no more ICFAs. While I continue to believe that the ICFA was an innovative tool that addressed acquisitions of troubled companies and the need for regional infrastructure, focused on the critical but broad issues of water scarcity and resources efficiency, as part of the Settlement Agreement, GWRI agrees to not enter into any new ICFAs.

Q. Are there any special provisions for ICFA payments that are past due?

A. Yes. For ICFA payments that were due before December 31, 2013, those payments are treated the same as other payments that were received before December 31, 2013: they will be revenue to GWRI, and they are not subject to the hook-up fee requirements described above. By far, the most significant past due ICFA payment is that of intervenor Sierra Negra Ranch, LLC, whose unpaid ICFA payments were due in 2008, but have not been paid. An important consideration is that a developer that breaches its ICFA should not benefit from the breach by having their funds treated differently than those developers that paid on time.

Q. Shifting back to the treatment of ICFA revenues that are due to GWRI under the existing ICFAs; you testified earlier that 70 percent of those revenues will be treated as CIAC. Haven't you been vocal in your opposition to CIAC in the workshops, and in your newsletter, Arizona Regulatory Reports? How does the adoption of this treatment square with your concerns – concerns which Trevor Hill also expressed in the last rate case?

A. My opposition to excessive CIAC is based on my unshakable belief that there is no such thing as a free lunch. When utility plant is funded with CIAC, people call it "cost free capital." That's too simple a view from an economic perspective. The immediate costs of funding plant are not put into rates – so customers pay none of the costs of building the

plant; but they are forever obligated to pay the maintenance and repair costs of that plant and very, very often, the plant utilities receive from developers is built only to serve their own development, we have seen utilities with multiple lines in the same street to serve multiple developments – when lines need to be maintained or repaired the costs are greater because of that multiplicity. Additionally, in GWRI's purchase of the WMC, we saw extraordinary costs arise because developers had built and transferred inefficient plant to WMC under CIAC agreements (see, e.g. the testimony of Matt Rowell in GWRI's 2009 rate case).

Finally, CIAC is non-financeable in the real world. Utilities cannot bond or borrow against that plant, and their investors earn no return from that plant either through depreciation expense or cost of equity returns. So the CIAC companies wind up with precarious balance sheets and income statements.

Nonetheless, in the real world, everyone has a perspective and an opinion. My view on CIAC is mine, and Mr. Hill's as well; but Staff, RUCO, and many other intelligent, informed people have a different view. What we need in the world is more compromise between people of principle. Our agreement to not treat as CIAC the past ICFA money, and to treat as CIAC 70 percent of the future ICFA money is a compromise between rational people who understand the issue and who have studied the issue for seven years. I would strongly urge the Administrative Law Judge and the Commissioners to accept that compromise as a very fair balance between competing perspectives.

Q. What will GWRI do with the 30 percent of future ICFA revenues?

A. GWRI is in a very weak equity position, and it has significant obligations under the existing ICFAs. It must complete its final payment for the Sonoran / 387 assets, it must plan, finance, and emplace infrastructure to support growth in the City of Maricopa area

and in the Western Maricopa County area. GWRI also remains under Commission order to improve its parent-level equity. Under the ICFAs, GWRI faces significant costs and the ICFA revenue available to it under the Settlement will allow it to address those costs and to improve its equity position. That is very clearly in the public interest.

Q. Are customers "paying twice" for plant under the treatment of already received ICFA revenues?

A. They are not. The Commission and GWRI undertook an accounting review by a third party, Ullmann & Company, P.C., which evaluated the question of whether GWRI had sufficient debt and equity to fund its plant; and whether or not GWRI had incurred acquisition costs in excess of book value in its purchase of the West Maricopa Combine and the Sonoran / 387 Utilities. Ullmann & Company, P.C. report speaks for itself: GWRI did have its own debt and equity to finance its investment in plant during the period in question; and GWRI did incur acquisition costs in excess of book value in those purchases. The Settlement Agreement appropriately recognizes that GWRI needed to use ICFA revenues for those acquisition costs in excess of book value. The GWRI utilities have not sought the "acquisition premium" in rate base. In the end then, the customers pay nothing for the acquisition premiums.

III. <u>System Improvement Benefit (SIB) Mechanism</u>.

Q. What is the SIB mechanism?

A. It is a type of Distribution System Improvement Charge (DSIC). The Commission recently approved the SIB mechanism as part of the Settlement with Arizona Water Company in Docket 11-0310.

Q. Did the GWRI utilities participate in the Arizona Water SIB settlement?

A. Yes, the GWRI utilities intervened in that docket and participated in the SIB negotiations,

and ultimately they signed the SIB settlement agreement.

Q. Did the GWRI utilities request a SIB Mechanism in this case?

A. The SIB Mechanism had not yet been agreed when the GWRI utilities filed their application in this case. However, the GWRI utilities did request a standard DSIC mechanism. As a result of the SIB settlement, the GWRI utilities now request that their original DSIC proposal be replaced with the SIB Mechanism as described in Decision No. 73938 (June 27, 2013).

In addition, the Global utilities are limiting the SIB request to only the Willow Valley system, which is in the most dire condition and has the most urgent need for a SIB Mechanism. Mr. Fleming describes the condition of the Willow Valley system in his testimony.

Q. **Have you testified or presented before the Commission on the subject of Distribution Service Improvement Charges (DSICs) before?**

A. Yes, I presented on the topic during the Commission's water workshops in Docket No. W-00000C-06-0140, in in the Arizona Water SIB proceeding in Docket No. 11-0310, and I have provided testimony on DSICs in my direct testimony in this case.

Q. Have you participated in the writing of any white papers on DSICs?

A. Yes, as Chairman of Arizonans for Responsible Water Policy, I co-authored "Moving Beyond Rate Shock and Regulatory Lag" in October of 2012.

Q. What are some of the benefits of a DSIC?

A. A DSIC promotes rate gradualism, that is, smaller, more frequent rate adjustments rather than less frequent, but much larger rate increases. In addition, a DSIC mechanism allows

for the replacement of outdated infrastructure that may be beyond its useful life. And DSICs benefit the utility by reducing "regulatory lag", thus leading to financially stronger utilities.

Q. How does the SIB Mechanism work?

A. The SIB Mechanism is modeled on the Arsenic Cost Recovery Mechanism that the Commission previously approved for a number of utilities. Under the SIB Mechanism, only plant replacement investments to provide adequate and reliable service to existing customers and that "are not designed to serve or promote customer growth" are eligible for the SIB Mechanism. The specific plant accounts eligible for the SIB are specified in Decision No. 73938 (June 27, 2013).

Q. What happens when a utility builds SIB eligible plant?

A. Once the SIB eligible plant is in service, the utility can file a request for a SIB surcharge under the SIB Mechanism, using specific SIB schedules described in Decision No. 73938. After review by Commission Staff and approval by the Commission, the plant is then reflected in rates using the authorized rate of return from the most recent rate case. The utility may only make one SIB filing per year, and it may make no more than five SIB filings between rate cases. In addition, each annual SIB surcharge is capped at a maximum of 5% of the revenue authorized in the utility's most recent rate order.

Q. Please describe the Efficiency Credit.

A. The Efficiency Credit is a proposed 5% reduction in the SIB surcharge.

Q. What is the purpose of the Efficiency Credit?

A. The Efficiency Credit provides a monetary benefit to the customers from the implementation of the SIB. All DSICs provide a number of benefits to customers:

improved service quality, reduced outage risk and reduced costs from repairing and replacing plant after it had failed, and significant downward pressure on future rate hikes by gradually placing repair and replacement costs into rates. In addition, the Efficiency Credit provides customers with a more direct and immediate monetary benefit.

Q. Do other states that use water utility DSIC mechanisms have a monetary benefit?

A. No.

Q. Why didn't the parties in the Arizona Water SIB proceeding propose an ROE reduction instead of an Efficiency Credit?

A. The parties believed that given the Commission's low ROEs relative to the rest of the U.S. water industry, investors would be concerned with such a direct approach. Most parties were concerned that investors would believe that Arizona, with already low ROEs, shouldn't be further reducing the ROE.

Q. Do you believe that a 5 percent reduction to the DSIC revenues is a fair outcome for customers?

A. I believe it is fair because it provides the customers with a direct monetary benefit, and as I pointed out earlier in my testimony, no other state provides any direct monetary benefit to customers, so this is literally an extraordinarily good deal for customers. That said, while the "give back" is very large, it is not a deal-breaker for utilities.

Q. How do you respond to the criticism that the provision of a DSIC can only be fair if the Company's entire ROE is reduced?

A. First of all, I have a Master's in Business Administration, not a Juris Doctorate. So my view is not a lawyer's view but rather the view of someone who worked for a Corporation Commissioner, who worked for Wall Street firms for nine years, and who has worked with

utilities for nearly ten years. When I began working for then-Commissioner Marc Spitzer as his policy advisor, he told me that he had studied regulatory models and concluded that the most appropriate way to regulate utilities was to "find the balance between investor's needs and customer's interests."

When I began working for Wall Street and researching utility and energy cases, legislation, and issues throughout the U.S., my clients told me to look for situations that were "out of balance." I looked for situations in which a regulator was too skewed pro-company because we felt those were unsustainable and the company's share value would fall; and for situations in which a regulator was too skewed anti-company because we felt those situations were also unsustainable because the customers would soon begin demanding better service – and the company would have to increase investment and attain higher earnings, and that would increase share price.

In my work with utilities, I am constantly exposed to the need to explain to investors that they are receiving a fair return and that the regulator is taking the market into consideration.

So the ROE and the fairness of the allowed rate base are issues that wise regulators, Wall Street analysts, and investors are constantly focused upon.

To take the DSIC and its provision of timely recovery on those investments (capped at 5 percent per year) and then conclude that somehow the entire investment in the company should also be reduced is unsupportable on the facts. The invested capital in the traditional rate base does not have annualized changes, the ROE does not change when the market goes into chaos, the return of and on their rate base investment is completely unaffected by the allowance of costs for repairing and replacing broken plant.

Q. What would happen if the Commission decided that the existence of a DSIC required a company-wide ROE reduction?

A. Companies would not use the DSIC because the cost to investors would be too great. So companies would continue to file a rate case immediately upon completion of plant. Repair and replacement costs would accrue between rate cases and we would continue to see rate increases that worry and sometimes alarm customers. Thus, there would be no rate gradualism.

IV. Code of Conduct.

Q. What does the Settlement Agreement state regarding a Code of Conduct?

A. Section 8.7 of the Settlement Agreement provides that:

> The Global Water and Wastewater Utilities will work with Staff to adopt a Code of Conduct to apply to transactions that are between or involve the Applicants and their unregulated affiliates and to assure confidential treatment of customer specific information including water and wastewater usage information. This Code of Conduct shall include, at a minimum, the recommendations of Staff Witness Armstrong on page 34 of his Direct Testimony as well as measures designed to ensure that the Global Utilities are independent and stand-alone entities separate and apart from the Global Parent and its other unregulated affiliates and that all transactions between these entities are on an arms-length basis. The Applicants shall file the agreed upon Code of Conduct by May 2, 2014.

Q. What topics will be addressed in the Code of Conduct?

A. The Code of Conduct will govern the relationship between GWRI and its regulated utilities. It will include provisions regarding GWRI's access to customer information. It will also govern any transactions between GWRI or other unregulated affiliates and the regulated utilities.

Q. Has Global provided a draft Code of Conduct to Staff?

A. Yes. We provided a draft Code of Conduct to Staff on August 8, 2013. We are looking forward to receiving Staff's comments and working with them to come to agreement on a code of conduct.

Q. Does this conclude your testimony?

A. Yes.