ORIGINAL

28DR

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February 2, 2007

Via hand delivery

Ms. Linda A. Jaress
Executive Consultant III
Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Re: **Response to 2nd Insufficiency Letter**
Water Utility of Greater Tonopah CC&N Extension
Docket No. W-02450A-06-0626

Dear Ms. Jaress:

Attached, please find Water Utility of Greater Tonopah's Response to your Insufficiency Letter dated January 17, 2007. Please let me know if you have any questions.

Very truly yours,

Timothy J. Sabo

TJS:mi
Enclosures

cc: Docket Control

Water Utility of Greater Tonopah's Responses to
Engineering 2nd List of Deficiencies
Docket No. W-02450A-06-0626
February 2, 2007

1. The submitted Master Plan includes the Hassayampa Ranch development. Please provide a Request for Water Service.

RESPONSE: Please find the Request for Water Service attached.

RESPONDENT: Graham S. Symmonds, SVP
Operations and Compliance

HARVARD INVESTMENTS
A HILL COMPANY

January 25, 2007

Ms. Cindy Liles, Senior Vice President
Global Water Resources, Inc.
21410 N. 19th Avenue
Suite 201
Phoenix, AZ 85027

Re: Water Utility of Greater Tonopah CC&N Extension, Request for Service

Dear Ms. Liles:

We understand that Global Water Resources, Inc. (Global) is in the process of filing an application for an extension to the Certificate of Convenience and Necessity (CC&N) issued by the Arizona Corporation Commission, for its subsidiary, Water Utility of Greater Tonopah (WUGT). If approved, this extension will allow WUGT to provide water service in Hassayampa Ranch, a new planned development in the West Valley.

We support the filing by Global and/or WUGT to expand their CC&N and request from WUGT to provide water service to our development. The legal description of our subject property is enclosed as Exhibit A.

Hassayampa Ranch Ventures, LLC

By: Hassayampa Ranch Partners, L.L.C.
By: Harvard Investments, Inc.

By: _____
Christopher J. Cacheris
Vice President

Enclosure

17700 North Pacesetter Way • Scottsdale, Arizona 85255 • 480.348.1118 • Fax 480.348.8976

EXHIBIT "A"

PARCEL NO. 1:

ALL OF SECTION 15, TOWNSHIP 2 NORTH, RANGE 5 WEST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, RECORDS OF MARICOPA COUNTY, ARIZONA.

PARCEL NO. 2:

THE EAST HALF OF THE NORTHEAST QUARTER, THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER, THE WEST HALF AND THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 2 NORTH, RANGE 5 WEST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, RECORDS OF MARICOPA COUNTY, ARIZONA.

PARCEL NO. 3

ALL OF SECTION 16, TOWNSHIP 2 NORTH, RANGE 5 WEST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, RECORDS OF MARICOPA COUNTY, ARIZONA;

EXCEPT THE NORTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION; AND

EXCEPT ALL THE MINERAL INTEREST RESERVED TO THE STATE OF ARIZONA IN AND TO THE FOLLOWING LAND BY THE FOLLOWING INSTRUMENT;

AS TO THE SOUTH HALF OF SECTION 16, TOWNSHIP 2 NORTH, RANGE 5 WEST BY DEED DATED NOVEMBER 12, 1941 AND RECORDED AT BOOK 366 OF DEEDS, PAGE 563, RECORDS OF MARICOPA COUNTY, ARIZONA; AND

EXCEPT ALL THE MINERAL INTEREST RESERVED TO THE STATE OF ARIZONA IN AND TO THE FOLLOWING LAND BY THE FOLLOWING INSTRUMENT;

AS TO THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 2 NORTH, RANGE 5 WEST BY DEED DATED MARCH 3, 1939 AND RECORDED AT BOOK 331 OF DEEDS, PAGE 569, RECORDS OF MARICOPA COUNTY, ARIZONA; AND

EXCEPT ALL THE MINERAL INTEREST RESERVED TO THE STATE OF ARIZONA IN AND TO THE FOLLOWING LAND BY THE FOLLOWING INSTRUMENT;

AS TO THE NORTHWEST QUARTER OF SECTION 16, TOWNSHIP 2 NORTH, RANGE 5 WEST, BY DEED DATED MAY 11, 1949 AND RECORDED AT DOCKET 401, PAGE 326, RECORDS OF MARICOPA COUNTY, ARIZONA.

PARCEL NO. 4:

THE EAST HALF OF SECTION 17, TOWNSHIP 2 NORTH, RANGE 5 WEST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, RECORDS OF MARICOPA COUNTY, ARIZONA.

PARCEL NO. 5:

THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 2 NORTH RANGE 5 WEST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

Water Utility of Greater Tonopah's Responses to
Engineering 2nd List of Deficiencies
Docket No. W-02450A-06-0626
February 2, 2007

2. According to the Application, Desert Whisper has not requested wastewater service from Hassayampa.

Please state which utility will provide wastewater service.

RESPONSE: To the best of our knowledge, Desert Whisper has requested wastewater service from Balterra Sewer Corporation.

RESPONDENT: Graham S. Symmonds, SVP
Operations and Compliance

3. Please coordinate engineering matters discussed in Engineering Memorandum ("E.M.")- Exhibits 7&8 and the Master Report (M.R.).

E.M. water demands design criteria based on 245 GPD / DU. However, M.P. water demands based on 480 GPD / DU. Furthermore , Hassayampa Utilities Company's estimated wastewater flow is based on 187 GPD /DU.

Revise the Backbone Water Infrastructure capacities and costs in all documents accordingly (including Exhibit 8).

RESPONSE: The Arizona Corporation Commission has historically been sensitive about overbuilding facilities which are reflected in rate base but not used. This has caused us to look carefully at sizing water facilities correctly. This average water use estimate came about as a result of our experience with the Santa Cruz Water Company (SCWC) which operates in and around the incorporated City of Maricopa. Because of our desert environment and limited water resources, Global Water Resources ("Global"), the owner of WUGT and the SCWC, has put extensive thought and effort into reducing the amount of potable water needed to service its communities.

Source and Justification of 245 gpd/du average water demand in the Engineering Memorandum and Cost Tables

The Santa Cruz experience has shown that by using A+ reclaimed water for community landscaping and irrigation needs, truly non-potable uses, the potable water demand has been reduced from approximately 300 gpd/du to approximately 242 gpd/du. These numbers are averages based on SCWC 2006 actual water demands/production. In other words, of the 3.74 MGD average demand, 0.72 MGD was met with reclaimed water delivery, a 19% reduction in potable water demand.

The production capacity required for the design of our facilities is based on 0.17 gpm/du, derived from our average daily flow demand of 242 gpd/du divided by 1,440 minutes, which equals 0.168 gpm/du, rounded to 0.17 gpm/du. This is the rate used in the cost calculations for this application, as shown in Exhibit 8 of the initial application filing. Global has been consistent its CC&N extension applications for its water utilities, utilizing between 245 – 256 gpd/du, where the range of 11 gpd/du developed from rounding interpretations, which is insignificant when

calculating infrastructure requirements for the purposes of then developing cost estimates.

Source and justification of 480 gpd/du in Conceptual Master Plan
Wes Shonerd, Program Manager, Subdivision Infrastructure & Planning Program, MCESD has directed the developers in the West Valley to use planning number of 150 gpcd and 3.2 persons/du, or 480 gpd/du, for their Master Plans. Since we are formally preparing the backbone Master Plans for WUGT in the extension area, we instructed our engineers to use the demand numbers that have been approved by MCESD. By requiring planning at this 480 gpd/du rate, MCESD is able to ensure sufficient pipe, booster and storage capacity is considered for all peak flows. This rate, however, more realistically represents worst case scenario – approximately maximum day continuously for all time – when in fact both maximum day (1.8 times average daily flow) and peak hourly demands, (1.7 times max day flow), are fully considered in the modeling used for design. Thus for Approval To Construct permits in Maricopa and Pinal County, Global uses the demand of 250 gpd/du Avg Daily Flow, and a 495 gpd/du maximum day flow, and a peak hour flow of 0.58 GPM/DU which meet needs for steady state and instantaneous demand in the water infrastructure. This approach is based on several years of operating experience, and more recently on the actual potable demand reductions seen by using reclaimed water in its place.

We respectfully do not believe the infrastructure cost estimates need to be recalculated, and represent that the costs submitted are more realistic.

Source of HUC wastewater production rate
Wes Shonerd has directed to the utility and development community that a rate of 320-350 gpd/du be used in the 208 Plan Amendments ("Amendments"), i.e., 100 gpcd and 3.2 -3.5 persons per du.. Typically the smaller Amendments are from developer-owned utilities and only serve one development. In these cases, for planning purposes, MCESD assumes that there is potential to include other lands to be served by the wastewater

treatment facility proposed in the Amendment, so that there is sufficient land available as well as thought given to the disposition of the effluent. In large-scale 208s, as is the case of the pending HUC Amendments in the West Valley, a majority of the proposed service area is under development by multiple developers who have requested wastewater service from HUC, and thus the wastewater plants are planned as regional facilities from day one.

Global has 5 years of operating data at its Palo Verde Utilities Company (PVUC) in Maricopa, AZ. In 2006, the production rate averaged 140 gpd/du. Global has been designing its collection systems and receiving approvals from ADEQ based on 187.2 gpd/du, a conservative rate that is a third more than our actuals; ADEQ's standard rate has been 234 gpd/du, a third lower than the planning demand of 320-350 gpd/du. The HUC infrastructure costs in the CC&N application were based on the 187 gpd/du rate, which we believe best represents what will be needed to serve the regional service area. Global estimated the WRF expansion costs based on this rate as well, but as is the case for PVUC, Global closely monitors its flowrates and hook-ups to predict when additional capacity is needed such that design and construction of the added capacity occurs before the flows outpace the existing capacity

RESPONDENT: Graham S. Symmonds, SVP
Operations and Compliance

Water Utility of Greater Tonopah's Responses to
Engineering 2nd List of Deficiencies
Docket No. W-02450A-06-0626
February 2, 2007

4. Pursuant to the Exhibit 8, please provide a justification for estimated Arsenic Treatment Unit Cost of $1,500,000 and Surface Water Treatment Unit Cost of 4,800,000.

RESPONSE: Based on our engineering experience and a review of the current literature, the following breakdown of anticipated costs for treating the groundwater for arsenic is provided as the basis for the costs of infrastructure that was presented in the original submission.

Global Water Resources

Groundwater Filtration/IX Treatment Plant Budgetary Estimate

	Quantity	Unit	Unit Price	Price
2000 gpm system including	1	ea	$ 1,690,000	$1,690,000
As-V Dual media pressure filters (3 at 10 ft diam x 25 ft)				
NO3 selective Anion Exchange (3 at 11 ft diam)				
Brine Make-up System				
Valves, Chem feed systems, control panels				
Equipment Subtotal				$1,690,000
Pre-Engineered Building	600	sf	$ 75	$45,000
Electrical Service	1	ea	$ 30,000	$30,000
Paving	8000	sf	9.13	$73,040
Perimeter Walls	3200	sy	$ 20	$64,000
Generator	1	ea	$ 130,000	$130,000
******Brine Disposal Not Included*****				
Subtotal				$2,032,040
Electrical and Instrumentation	percent of equipment		15%	$253,500
Mechanical Piping and Equip Install	percent of equipment		25%	$422,500
Site Work (equip pads, grading, yard piping)	percent of subtotal		17%	$345,447
Raw Cost				$3,183,487
Engineering Design and Permitting			12%	$382,018
Construction Mark-up			23%	$732,202
Construction Administration			7%	$222,844
Construction & Permitting Cost				$4,297,707
Tax on 65% of construction	8%			$227,671
Total Construction Cost w/tax				$4,525,378
Unit Price	1	$/gpd	$1.50	

Water Utility of Greater Tonopah's Responses to
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Based upon a current design project for constructing a surface water treatment plant for Global's Santa Cruz Water Company and a check of the current literature, the following breakdown of costs form the basis of the costs presented in the original application.

Global Water Resources

Surface Water Treatment Plant Budgetary Estimate

	Quantity	Unit	Unit Price	Price
Intake Trashrack/Headwall, 60 cfs	1	ea	1000000	$1,000,000
Submersible PS in Precast Wetwell	1	ea	500000	$500,000
Pre-sedimentation system	2	ea	1000000	$2,000,000
Pall MF Train (from MGWTP Procurement Contract)	9	ea	780000	$7,020,000
Installation	1	ea	1250000	$1,250,000
Strainer	2	ea	50000	$100,000
CIP System	1	ea	500000	$500,000
Reverse Flush Pumps	8	ea	6900	$55,200
Backwash recovery/equalization	1	ea	400000	$400,000
Granular Activated Carbon	4	ea	500000	$2,000,000
Magnetic Flow Meters, 24 inch	4	ea	12000	$48,000
Chemical dosing systems, coagulant, CO2 and disinfectant	2	ea	750000	$1,500,000
CIP Chemical Transfer Pump Systems	3	ea	5000	$15,000
Chemical Storage Tanks, 5000 gal HDPE	4	ea	30000	$120,000
Generator	2	ea	300000	$600,000
Equipment Subtotal				$17,108,200
Building /Laboratory/Office	12000	sf	180	$2,160,000
Electrical Service	1	ea	300000	$300,000
Paving	40000	sf	9.13	$365,200
Perimeter Walls	22400	sf	20	$448,000
Subtotal				$20,381,400
Design and Permitting	percent of Construction Cost		12%	$2,372,294
Construction Administration	percent of Construction Cost		7%	$1,415,724

Water Utility of Greater Tonopah's Responses to
Engineering 2nd List of Deficiencies
Docket No. W-02450A-06-0626
February 2, 2007

Electrical and Instrumentation	percent of Construction Cost		25%	$4,859,376
Mechanical Piping and Equip Install	percent of Construction Cost		34%	$6,562,070
Site Work (equip pads, grading, yard piping)	percent of subtotal		22%	$4,285,434
Raw Cost				$39,876,297
Construction Mark-up			24%	$9,370,930
Construction Cost				$49,247,226
Tax on 65% of construction	8%			$2,608,872
Total Construction Cost w/tax				$51,856,098
Unit Price	1	$/gpd	$4.71	

RESPONDENT: Graham S. Symmonds, SVP
Operations and Compliance

5. Provide detailed information for **Initial Development** within the requested extension area:

Identify the subdivision where the initial development activity will occur.

Number of dwelling units.

Water infrastructure components including description (water production, treatment, storage, booster and distribution) location (layout plans) capacities (including wells) costs projected date of operation

RESPONSE: To assist with the context of this extension request in relation to the water and wastewater CC&N in this area, as well as to provide relation to the Town of Buckeye and Global's two water companies in and around the Town of Buckeye area, attached please find an updated exhibit that shows the following:

WUGT existing CC&N
WUGT proposed CC&N
HUC existing CC&N
HUC proposed CC&N
Balterra Sewer Corporation CC&N
WUGT proposed Balterra CC&N extension
Valencia Water Company existing CC&N
WUGB existing CC&N
Town of Buckeye incorporated boundary
Named Developments

Table 4-2 of the draft Conceptual Water Master Plan has been revised to indicate that the number of customers shown in the table are reflected as dwelling units. The table contains sufficient information to respond to the number of additional dwelling units anticipated per year and the developments where that activity will occur. The schedule provided in Table 4-2 reflects the anticipated construction of homes by development based on agreements and discussions with the various developers in regards to the current pace of their developments.

Table 4-2. Existing and Proposed Customers

Water System/Development	PWS No.	Existing Customers, DU	Year 1, DU	Year 2, DU	Year 3, DU	Year 4, DU	Year 5, DU
Buckeye Ranch System	07-618	94	114	134	154	174	194
Dixie System	07-030	27	30	33	36	39	42
WPE #6	07-733	23	23	23	23	23	23
Tufte WPE #7 System	07-617	6	6	6	6	6	6
Garden City/Big Horn System	07-037	16	17	18	19	20	21
Rose View System	07-082	16	18	20	22	24	26
WPE #1 System	N/A	2	3	4	5	6	7
Sunshine System	07-071	121	159	197	235	273	311
Copperleaf		0	220	220	240	300	300
Silver Water Ranch		0		90	180		
Belmont		0	1840	1840	2820	2820	2820
339th Avenue		0	220	175	240	300	300
Desert Whisper		0	120	75	120	180	180
Silver Springs Ranch		0	220	220	240	300	300
Hassayampa Ranch		0	220	220	240	300	300
Total		**305**	**3,210**	**3,275**	**4,580**	**4,765**	**4,830**

1. Where "DU" represents the number of existing or new service connections.

The water infrastructure components are described in Sections 4.3 and 4.4 of the master plan. The text from these sections is provided in the following paragraphs.

4.3 Water Storage/Booster Facilities

Two water distribution centers are required to serve the initial phases of the proposed developments. Exhibit 4.1 illustrates the location of the proposed water distribution centers. Typical water campus layouts will consist of two (2) reservoirs totaling 5.0 million gallons, booster pumping capable of 15,000 gpm, treatment facilities (if required), disinfection, standby generators, and a control building. Each water distribution center will screened from view by earthen berms and CMU walls.

Water Utility of Greater Tonopah's Responses to
Engineering 2nd List of Deficiencies
Docket No. W-02450A-06-0626
February 2, 2007

4.4 Pipelines

Several miles of pipelines are required to supply the proposed service area with water. Typically these pipelines will range in size from 24" transmission mains to 8" distribution lines. The conceptual location and preliminary sizes for the mains are shown in Exhibit 4.1.

The location of the facilities was provided in Exhibit 4.1 of the master plan.

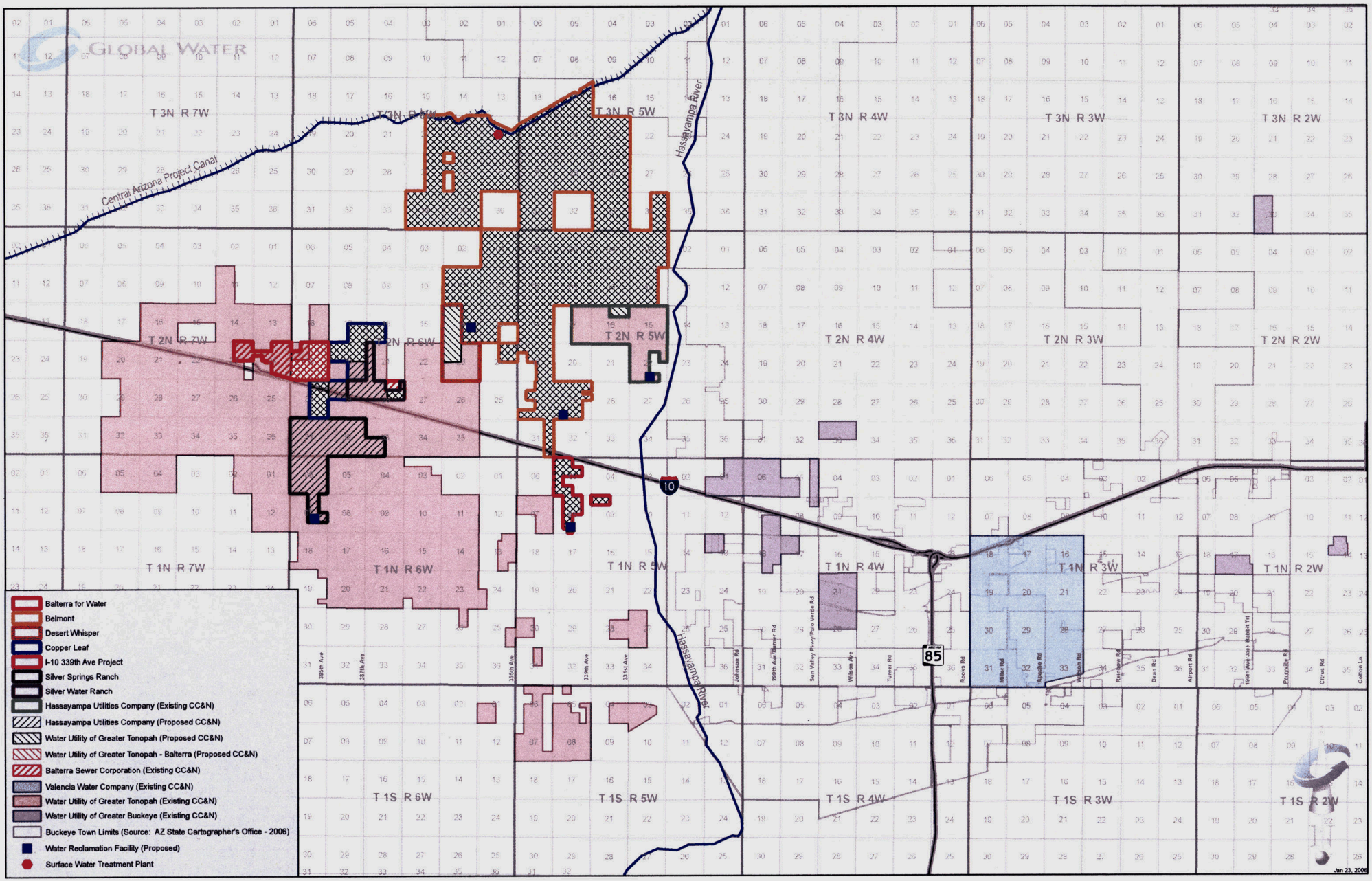
The well capacities in the development areas are estimated to range from 800 to 1,000 gallons per minute (gpm). The master plan will be revised to include this information.

The costs associated with the installation of the infrastructure components was included as part of the original CC&N extension application. This type of detailed cost estimate would not typically be included as part of the master planning effort.

The projected date of operation for the facilities included in the master plan, that is, "Year 1" in Table 4-2, is 2009. The projected costs are based on design phase demands, per the discussion above in question No. 3 response, and are found in the initial application, Exhibit 8.

Finally, please note that a typical groundwater treatment plant and appurtenant major facilities, also known as a water distribution center, has been included in the revised Conceptual Master Plan as requested. Specific layout of the WUGT facilities requires a more advanced stage of design, and of course will be prepared, submitted, and proceed through the various permitting and design reviews in order to obtain Certificates of Construction.

RESPONDENT: Graham S. Symmonds, SVP
Operations and Compliance


GLOBAL WATER
Central Arizona Project Canal
Hassayampa River
T 3N R 7W
T 3N R 6W
T 3N R 5W
T 3N R 4W
T 3N R 3W
T 3N R 2W
T 2N R 7W
T 2N R 6W
T 2N R 5W
T 2N R 4W
T 2N R 3W
T 2N R 2W
T 1N R 7W
T 1N R 6W
T 1N R 5W
T 1N R 4W
T 1N R 3W
T 1N R 2W
T 1S R 6W
T 1S R 5W
T 1S R 4W
T 1S R 3W
T 1S R 2W
10
85
Balterra for Water
Belmont
Desert Whisper
Copper Leaf
I-10 339th Ave Project
Silver Springs Ranch
Silver Water Ranch
Hassayampa Utilities Company (Existing CC&N)
Hassayampa Utilities Company (Proposed CC&N)
Water Utility of Greater Tonopah (Proposed CC&N)
Water Utility of Greater Tonopah - Balterra (Proposed CC&N)
Balterra Sewer Corporation (Existing CC&N)
Valencia Water Company (Existing CC&N)
Water Utility of Greater Tonopah (Existing CC&N)
Water Utility of Greater Buckeye (Existing CC&N)
Buckeye Town Limits (Source: AZ State Cartographer's Office - 2006)
Water Reclamation Facility (Proposed)
Surface Water Treatment Plant
Jan 23, 2009

WATER UTILITY OF GREATER TONOPAH
CONCEPTUAL WATER MASTER PLAN
PHASE 1

Prepared for:

Global Water Resources, LLC

21410 North 19th Avenue, Suite 201

Phoenix, Arizona 85027

Phone (623) 580-9600

Prepared by:

Damon S. Williams Associates

2355 E. Camelback Road, Suite 700

Phoenix, Arizona 85016

Phone (602) 265-5400

January 2007

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1.0 INTRODUCTION

Global Water recently acquired the Water Utility of Greater Tonopah (WUGT) as a new subsidiary. The WUGT is the major water provider in this area of Maricopa County to the west of the Hassayampa River. As such, they are responsible for providing water services to the existing and proposed communities in this area. Global and WUGT recognize the need to provide a regional planning document that will aid them in implementing future capital improvement projects. The purpose of this document is to provide Phase 1 of a regional water plan for Global Water's (Global) existing and proposed service area in western Maricopa County, focusing on seven developments which are in relatively advanced stages of planning and have requested service from WUGT.

The WUGT is currently in the process of extending their Certificate of Convenience and Necessity (CC&N) to cover various subdivisions or portions thereof that are not included in their existing CC&N. This document is intended to be used for discussion purposes, but does not necessarily encompass the final version of the full-scale master planning effort.

2.0 BACKGROUND

The area to be regionally planned for the WUGT is located in western Maricopa County and in total comprises approximately one hundred and seventy five (175) square miles. The proposed service area is bounded by the Central Arizona Project canal on the north, 443rd Avenue on the west, Salome Highway on the south, and the Hassayampa River on the east. Exhibit 2.1 provides a vicinity map of the area. WUGT's current service area covers approximately 61 square miles, or close to 39,000 acres.

Global filed an application for an extension of Certificate of Convenience and Necessity (CC&N) with the Arizona Corporation Commission (ACC) for water (WUGT) Docket No. W-02450A-06-0626. The proposed extension area is approximately 22,000 acres and includes the Belmont and 339th Avenue developments, and a portion of Copperleaf, Desert Willow, Silver Water Ranch and Hassayampa Ranch (the balance is already in the existing CC&N), currently in development master planning with Maricopa County. All of these developments have requested service from WUGT or its parent company, Global Water. Currently, Global is responding to comments provided on October 26, 2006. This master plan will focus on serving the developments included in this CC&N extension area, as well as those portions already in the existing CC&N area, for an approximate total of 25,000 acres; thus this master plan is to be considered Phase 1. None of the developments have existing service as they are all in the planning stages and have not reached final plat.

Water for the region will be provided by groundwater and CAP water. Groundwater will be chlorinated prior to distribution and other treatment including blending for arsenic, fluoride or nitrate removal will be provided as well if required to meet drinking water quality standards. CAP water cannot be utilized until capacity is secured, which is not expected until 2010. Treatment technologies for the CAP water will consist of conventional sedimentation and filtration or membrane filtration. The water will be treated to drinking water quality as prescribed by the Arizona Administrative Code (A.A.C.).

3.0 EXISTING CONDITIONS

The area to be regionally planned is located in western Maricopa County and in total, comprises approximately one hundred and seventy five (175) square miles. The proposed service area is bounded by the Central Arizona Project canal on the north, 443rd Avenue on the west, the WUGT boundary to the south, and the Hassayampa River on the east. WUGT's current service area covers approximately 61 square miles, or close to 39,000 acres.

3.1 Existing Water Systems

As indicated in Table 3.1, the existing water delivery system for Water Utility of Greater Tonopah (WUGT) serves approximately 300 customers. These customers are spread out over several miles. Exhibit 3.1 shows the approximate locations of the existing customers. Typically, these existing systems are characterized by small diameter pipelines and small wells. Of the seven systems within the WUGT, three of them provide fire hydrants on the system.

Table 3-1. Existing WUGT Water Systems and Customers

Water System	PWS No.	Existing Customers
Buckeye Ranch System	07-618	94
Dixie System	07-030	27
WPE #6	07-733	23
Tufte WPE #7 System	07-617	6
Garden City/Big Horn System	07-037	16
Rose View System	07-082	16
Sunshine System	07-071	121
	Total	**303**

3.2 Geohydrology

The proposed service area is located in the western portion of the Phoenix Active Management Area and the Hassayampa Subbasin. The Hassayampa Subbasin comprises approximately 1,200 square miles. The basin is bounded to the north by the Vulture Mountains, to the east by the White Tank Mountains, to the south by the Gila Bend Mountains and Buckeye Hills, and west by the Palo Verde Hills, Belmont Mountains, and Big Horn Mountains. The Hassayampa Subbasin is drained by the Hassayampa River, which with the Gila River to the east.

Two cones of depression have developed in this subbasin due to extensive groundwater pumping for agricultural use. These depressions have created a decline in water levels of between 70 and 90 feet in the Tonopah Desert and Centennial Wash areas, respectively.

The depth to water ranges from approximately 20 feet below land surface near the Gila River and to over 700 feet below land surface to the north portion of the subbasin.

The Arizona Department of Water Resources (ADWR) Groundwater Site Inventory (GWSI) and Well Registry databases indicate that there are up to 357 wells located within the proposed service. GWSI indicates that the wells located within the proposed service are used for drinking water, irrigation, stock, and monitoring purposes.

The specific conductance across the proposed service, as reported by the ADWR, ranged from 400 to 4,650 microsiemens per centimeter (uS/cm) with the higher values recorded in the southeast where agricultural use is high. The calculated total dissolved solids (TDS) concentration ranged from 240 to 2,790 mg/L, respectively. The TDS concentration was calculated by multiplying the specific conductance by 0.6 to obtain milligrams per liter (mg/L) of dissolved solids. The fluoride and arsenic concentrations exceed Aquifer Water Quality Standards generally on the south side of proposed service area.

Presently, all water services for the proposed service area are provided by groundwater wells. Exhibit 3.2 provides a well location map showing existing wells throughout the proposed service area.

4.0 PROPOSED IMPROVEMENTS

4.1 Water Demands

Table 4-1 shows the water demand projections developed for the seven proposed developments considered in this Phase 1 conceptual master plan.

Table 4-1. Water Demand Projections

Development	Area of Existing CC&N (acres)	Area of Proposed CC&N (acres)	[1]Dwelling Units at Buildout	Projected Water Demand, mgd
Belmont	-	19,893	80,048	38.42
Copperleaf	302	914	4,000	1.92
Silver Water Ranch	433	96	1,877	0.90
Silver Springs Ranch	2,229	-	8,200	3.94
339th Avenue	-	1,273	2,127	1.02
Desert Whisper	474	474	2,900	1.39
Hassayampa Ranch	1,989	78	6,744	3.24
Totals	**3,198**	**22,718**	**97,696**	**46.89**

1. Dwelling units and acreages taken from development master plans prepared by others.

Water demands were developed based on the following criteria:

- 150 gallons per day per capita
- 3.2 persons per residential dwelling unit
- Initially, groundwater will supply all of the calculated demands

The projected water demand for the service area is 46.89 mgd. Global intends to meet the water initial demands through two water distribution centers and future treatment facilities for CAP water. One water distribution center will be located near 403rd Avenue and Camelback in the Balterra development and one will be located in the Belmont development near the pressure zone boundary along Camelback. This water distribution center will be a dual zone site thereby supplying water to two separate zones.

It is unlikely that the new water distribution system will be interconnected with the existing system due to the limited groundwater pumping capabilities at each of the

existing well sites. WUGT will use the existing wells to provide future construction water needs. Table 4-2 shows the proposed use of the existing water system for services to existing customers and limited future customers in the immediate vicinity of these systems in the next five years.

In addition, Table 4-2 shows the estimated addition of new customers over the next five years for the proposed master planned developments in the area of the CC&N extension. The information is broken down by the number of additional dwelling units anticipated per year and the developments where that activity will occur. The schedule provided in Table 4-2 reflects the anticipated construction of homes by development based on agreements and discussions with the various developers in regards to the pace of their developments.

Table 4-2. Existing and Proposed Customers

Water System/ Development	PWS No.	Existing Customers, DU	Year 1, DU	Year 2, DU	Year 3, DU	Year 4, DU	Year 5, DU	Total End of Year 5
Buckeye Ranch System	07-618	94	114	134	154	174	194	194
Dixie System	07-030	27	30	33	36	39	42	42
WPE #6	07-733	23	23	23	23	23	23	23
Tufte WPE #7 System	07-617	6	6	6	6	6	6	6
Garden City/Big Horn System	07-037	16	17	18	19	20	21	21
Rose View System	07-082	16	18	20	22	24	26	26
Sunshine System	07-071	121	159	197	235	273	311	311
Belmont		0	1,840	1,840	2,820	2,820	2,820	12,140
Copperleaf		0	220	220	240	300	300	1,280
Silver Water Ranch		0		90	180			270
Silver Springs Ranch		0	220	220	240	300	300	1,280
339th Avenue		0	220	175	240	300	300	1,235
Desert Whisper		0	120	75	120	180	180	675
Hassayampa Ranch		0	220	220	240	300	300	1,280
Total		**303**	**2,904**	**2,904**	**4,144**	**4,264**	**4,264**	**18,783**

1. Where "DU" represents the number of existing or new service connections.

The future CAP treatment plant will be located near 355th Avenue and the CAP. This plant should be operational by Year 2012.

2. Develop blending mechanisms and control strategies to blend high quality water with poorer quality groundwater to ensure compliance with the Safe Drinking Water Act and AAC R18-4.
3. Modify existing wells to isolate areas of high concentrations or access higher quality water.
4. Provide slipstream treatment processes which in conjunction with an effective blending plan will meet the requirements.
5. Provide full scale treatment of groundwater.

A three phased approach to the evaluation of wells is employed by Global:

1. Phase 1 – Review available ADWR and ADEQ data, and physical assessment of wells;
2. Phase 2 – Analytical sampling of flow rates and quality (depth specific sampling, spinner logs);
3. Phase 3 – Rehabilitation. Installation of sanitary seal, re-screening, renewal of electrical control system, installation of SCADA control system, and obtain New Source Approval.

During Phase 2 of the evaluation program, a full suite of analytical data is taken from the groundwater including:

- Metals
- Inorganics
- Synthetic Organic Compounds
- Volatile Organic Compounds
- Nutrients
- Bacteriological Analyses
- Radiochemical constituents

The results of these analyses will determine any groundwater treatment requirements. The selection of wells for potable water production will take into account the water quality data, so investment into the conversion is made prudently. Global is prepared to install, operate and maintain any treatment processes that may be required. Global is considering three (3) alternative type of treatment methods for removal of Arsenic and Flouride from the groundwater. These facilities will be located on the water distribution centers.

5.0 CONCLUSIONS

The master planned area will require new pipelines and water distribution centers to adequately serve the proposed developments with potable water. The maximum pressure in the system will be 80 psi. The minimum pressure in the system during peak hour conditions is 40 psi. As new development plans become available and as construction begins, this master plan should be updated and revised accordingly. Ultimately, a complete hydraulic model of the system will be created and maintained to accurately assess the distribution and delivery system.

Water Utility of Greater Tonopah's Responses to
Engineering 2nd List of Deficiencies
Docket No. W-02450A-06-0626
February 2, 2007

6. Provide an up-dated Drinking Water Compliance Reports for water systems #07618 & # 07-733 demonstrating full compliance status.

RESPONSE: Please see the attached updated Reports that demonstrate full compliance.

RESPONDENT: Graham S. Symmonds, SVP
Operations and Compliance

Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: B & D Water Company
PWS ID#: 07-618

Type of System: Community Number of POE's: 2 Surface Water: n/a
Number of Service Connections: 76 Population Served: 235

Assigned Monitoring Dates - Initial: 1/1/98 Phase II: 1/1/98 Phase V: 1/1/98

Does the water system have a Certified Operator? Yes

Does the system have major treatment plant deficiencies? No
Please describe: _____

Date of last inspection: February 13, 2004

Does the system have major O & M deficiencies? No
Please describe: _____

Does the system have water quality monitoring/reporting deficiencies? No
Please describe: _____

General Public Water System Compliance Status? **Compliant**

Date of compliance review: **01/26/2007** By: **Duncan Wright** Initials: **dw**
Phone: **(602) 506-5173**

Requested By: Robyn Wymer Fax Number/ Contact: _____ Tracking Number: 1233
Supervisor Initials: GY Date: 1/26/06

Drinking Water Program
John Kolman, Manager
1001 N. Central Ave., Suite 150Phoenix, Arizona 85004-1940 Phone: (602) 506-6666 Fax: (602) 506-6925

Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: 07-733
PWS ID#: WPE #6

Type of System: Number of POE's: 1 Surface Water: no
Number of Service Connections: 23 Population Served: 71

Assigned Monitoring Dates - Initial: 2002 Phase II: 2002 Phase V: 2002

Does the water system have a Certified Operator? yes

Does the system have major treatment plant deficiencies? no
Please describe: ___

Date of last inspection: 8/25/05

Does the system have major O & M deficiencies? no
Please describe: ___

Does the system have water quality monitoring/reporting deficiencies? no
Please describe: ___

General Public Water System Compliance Status?

Date of compliance review: **1/23/07** By: **Laura Moorhead** Initials: ___
Phone: **(602) 506-6631**

Requested By: ACC Fax Number/ Contact: ___ Tracking Number: 1234
Supervisor Initials: GY Date: 1/24/07