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BEFORE THE ARIZONA CORPORATION COMMISSION

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1  
2 MARC SPITZER  
Chairman  
3 WILLIAM A. MUNDELL  
Commissioner  
4 JEFF HATCH-MILLER  
Commissioner  
5 MIKE GLEASON  
Commissioner  
6 KRISTIN K. MAYES  
Commissioner  
7

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AZ CORP COMMISSION  
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Arizona Corporation Commission  
**DOCKETED**

DEC 29 2004

DOCKETED BY

8 **IN THE MATTER OF**  
9 **THE APPLICATION OF MOUNTAIN**  
10 **GLEN WATER SERVICE, INC. FOR A**  
11 **PERMANENT RATE INCREASE IN**  
12 **MARICOPA COUNTY, ARIZONA**

**DOCKET NO.: W-03875A-03-0737**

**MOTION TO EXTEND DEADLINES IN**  
**DECISION 67163**

13 **IN THE MATTER OF**  
14 **THE APPLICATION OF MOUNTAIN**  
15 **GLEN WATER SERVICE, INC. FOR**  
16 **FINANCIAL APPROVAL IN MARICOPA**  
17 **COUNTY, ARIZONA**

**DOCKET NO.: W-03875A-03-0870**

**MOTION TO EXTEND DEADLINES IN**  
**DECISION 67163**

18 Mountain Glen Water Service, Inc. ("Mountain Glen"), through undersigned counsel, hereby  
19 moves to extend the deadlines in Decision 67163 of the Arizona Corporation Commission ("ACC") in  
20 the above-captioned matter. Mountain Glen has been diligently working with WIFA and MILLER  
21 BROOKS Environmental, Inc to prepare an arsenic removal treatment plan and needs additional time  
22 to effectuate the most cost effective and efficient plan for its ratepayers.

23 Pursuant to Decision 67163, Mountain Glen was ordered to file with the ACC, an arsenic  
24 removal treatment plan by December 31, 2004. It was further ordered that the record in this  
25 consolidated docket was to remain open until December 31, 2004, for the purpose of receiving,  
26 Mountain Glen's amended request for financing and for establishment of an arsenic surcharge, once the  
27 costs of the company's arsenic treatment plan were known.

28 Mountain Glen had concerns regarding keeping the consolidated docket open only until  
December 31, 2004, as Mountain Glen had to first obtain a technical assistance grant from WIFA in  
order to retain an engineering firm to evaluate its arsenic remediation plan options. It was Mountain  
Glen's concern that the December 31, 2004 deadline would not provide for sufficient time to obtain an

1 engineering recommendation and allow Staff the opportunity to evaluate the reasonableness or  
2 feasibility of the proposed arsenic plan. As such, Mountain Glen filed an exception to the Proposed  
3 Opinion and Order to allow Mountain Glen the opportunity to extend this deadline until June 31, 2005.  
4 At the Open Meeting to decide this matter, the Administrative Law Judge that heard the case informed  
5 the Commissioners that the Order did not need to be modified to extend the deadlines and that such a  
6 request for an extension could be made by Mountain Glen through a motion at the necessary time.

7 **Mountain Glen has been Diligent in its Efforts to Obtain an Arsenic Remediation Plan.**

8 In accordance with the ACC's Order and the WIFA finance application, Mountain Glen  
9 retained the engineering firm of MILLER BROOKS to prepare an Arsenic Mitigation Design Proposal.  
10 During this timeframe, Mountain Glen was seeking to extend its Certificate of Convenience and  
11 Necessity in Docket W-02597A-04-0191. On October 5, 2004, in Decision No. 67277, the ACC  
12 granted Mountain Glen's CC&N application. One of the options that Mountain Glen discussed with  
13 MILLER BROOKES was the feasibility of drilling a second well in the newly approved certificated  
14 area, which currently has a development under construction, and that had an operable well that is  
15 producing water with a minimal arsenic content (Linden Trails Development). After the ACC  
16 approved Mountain Glen's application in Decision No. 67277, Mountain Glen attempted to coordinate  
17 an inspection of the Linden Trails Development by MILLER BROOKS, but was informed by the  
18 developer that no inspections would be allowed there until the water system was turned over to  
19 Mountain Glen (See letter dated October 25, 2004, attached as Exhibit A).

20 On or about October 5, 2004, MILLER BROOKS provided to Mountain Glen the Proposal that  
21 included two arsenic remediation options. The first included cost estimates for an Arsenic Removal  
22 System. The second option included cost estimates for a New Water Supply System. (See Proposal  
23 attached as Exhibit B). Thereafter, the proposal was submitted to WIFA for their review as part of  
24 their finance application approval.

25 In order to obtain a technical assistance grant from WIFA to fund the preparation of the  
26 proposal, WIFA requested that MILLER BROOKS provide a revised estimate and cost breakdown of  
27 the preliminary arsenic remediation plan. The plan was submitted to Mountain Glen on December 6,  
28 2004, and was forwarded to WIFA for their review. (See Revised Cost Estimate for Design of Arsenic

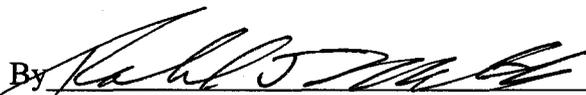
1 Mitigation dated December 6, 2004, attached as Exhibit C). The preliminary plan include a design of a  
2 new production well as well as a design of an arsenic treatment system. WIFA has since approved the  
3 design and has released its portion of the technical assistance grant (which totals 50% of the cost of  
4 such preliminary plan) to Mountain Glen.

5 Upon consultation with its engineer, Mountain Glen has determined to move forward with  
6 trying to drill a new well instead of building a treatment plant. As such, Mountain Glen is currently in  
7 negotiation for two separate parcels of land as possible sites to construct the new well. Mountain Glen  
8 will also continue to explore drilling a well-site in the Linden Trails Development upon securing  
9 cooperation from the developer. Once the land is purchased and or the well-site determined, Mountain  
10 Glen will move forward with the initial testing of the new production well as set forth in the Revised  
11 Cost Estimate at Exhibit C. Once Mountain Glen evaluates the feasibility of drilling a new well, it will  
12 be in a position to file with the ACC, a final arsenic removal plan as well as an amended request for  
13 financing to establish an arsenic surcharge.

14 Therefore, Mountain Glen moves to extend the deadlines to file a final arsenic removal  
15 treatment plan by June 30, 2005. Further, Mountain Glen moves to extend the timeframe to keep the  
16 record in this consolidated docket open until June 30, 2005, for the purpose of allowing Mountain Glen  
17 to amend its request for financing and to establish an arsenic surcharge, once the costs of the  
18 company's arsenic treatment plan are known.

19 RESPECTFULLY SUBMITTED this 29 day of December, 2004.

20 **LOOSE, BROWN & ASSOCIATES, P.C.**

21  
22 By 

23 Donald A. Loose

24 C. Kyle Brown

25 Robert J. Metli

26 *Attorneys for Mountain Glen Water Service, Inc.*

1 ORIGINAL and 13 copies of the  
2 foregoing filed this 29<sup>th</sup> day of December,  
2004, with:

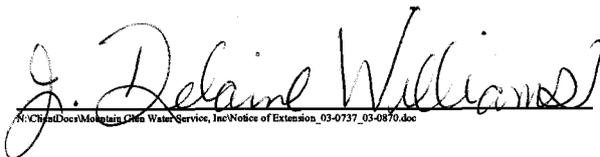
3 Docket Control  
4 ARIZONA CORPORATION COMMISSION  
1200 West Washington Street  
5 Phoenix, Arizona 85007-2927

6 COPIES of the foregoing hand-delivered  
7 this 29<sup>th</sup> day of December, 2004, to:

8 Lyn Farmer  
Chief Administrative Judge  
9 ARIZONA CORPORATION COMMISSION  
1200 West Washington Street  
10 Phoenix, Arizona 85007-2927

11 Chris Kempley  
Chief Counsel, Legal Division  
12 ARIZONA CORPORATION COMMISSION  
1200 West Washington Street  
13 Phoenix, Arizona 85007-2927

14 Ernest Johnson  
15 Director, Utilities Division  
ARIZONA CORPORATION COMMISSION  
16 1200 West Washington Street  
17 Phoenix, Arizona 85007-2927

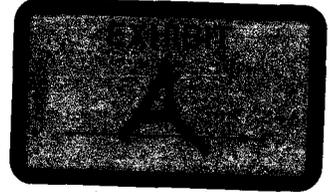
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19 N:\Chad\Docs\Mobile\Gas Water\GService, Inc\Notice of Extension\_03-0737\_03-0870.doc

MOUNTAIN GLEN WATER SERVICE, INC.  
P.O. Box 897  
Clay Springs, AZ 85923  
928-739-4770 or 4779  
928-739-4186 FAX

October 25, 2004

Docket Control # W-03875A-04-0191

Mr. Jeff Vitale  
Mustang Development  
Linden Trails  
3951 E. Kael Circle  
Mesa, AZ 85215



Dear Mr. Vitale:

I attempted to contact you on October 13, 2004 for the purpose of arranging an inspection of the Linden Trails Subdivision water system by our engineer in order for him to evaluate the use of that system as part of Mountain Glen Water Services Inc.'s arsenic remediation proposal to be submitted to ADEQ and the ACC. The inspection is necessary so that all alternatives may be included in the "Scope of Work" proposal our engineer is preparing for our WIFA Grant. As you know, arsenic remediation was an important element in the ACC's decision to grant Mountain Glen's extension to the Linden Trails development and we expect that you will cooperate fully in our efforts to find a cost effective solution to the arsenic problem. WIFA has awarded Mountain Glen a Grant to study possible solutions for the Arsenic problem. As part of the application process, Mountain Glen is required to enter into a contract with the engineer by November 15, 2004. Given the ACC's directive that Mountain Glen explore cost effective ways to solve the arsenic problem, the engineer thought it prudent to include the Linden Trails subdivision in his Scope of Work

Because you were unavailable on October 13, I left a message on your voicemail explaining what was needed and asking for a return call. I did not hear from you, so I called you again on Friday, October 22, 2004 on two separate occasions. Because you again failed to return my calls, I visited the Linden Trails subdivision that afternoon and spoke to Dan in your Sales Office. I asked him to call you, which he did. He too left a message on your answering machine. Again, you failed to return my call so I called you again on Saturday, October 23, 2004 from Tucson and left another message. You finally returned my call on Sunday, but I had not yet returned home.

This will confirm our discussion today, October 25, 2004, whereby I requested that we arrange for a convenient time for our engineer to arrange an inspection of the Linden Trails water system as part of his "Scope of Work" analysis. You can imagine our surprise at your refusal to allow our inspection of the system until such time as all the paperwork was completed. Specifically, you stated:

OCT 27 2004

"No inspections will be allowed until all of the paper work is done and the system is officially turned over to you and you (Mountain Glen) are the owner. I don't want any studies made involving this system or proposals made that may not ever happen."

I then asked you when you thought the paper work would be done and you responded, "Sometime in December, ADEQ said it can take 45 to 60 days."

All we are seeking is to have our engineer inspect the Linden Trails water system so that he can evaluate whether that system can be used to remedy Mountain Glen's arsenic problem in an efficient and cost effective way. Without your approval, Mountain Glen will have to include other potential solutions in its "Scope of Work," which may be much more costly to the water customers. We do not understand why you would seek to delay our efforts after you told the ACC that you would cooperate with whoever obtained the CC&N extension due to your own time constraints. It appears that you are continuing to be uncooperative and in fact are attempting to obstruct our efforts to move forward with our WIFA application in the hope that we will somehow miss our deadlines imposed by WIFA and the ACC.

If I have misunderstood our conversation or your intentions, please give me a call.

Respectfully,



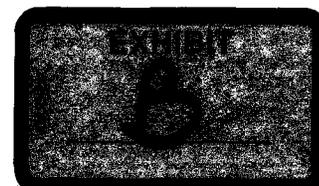
BEATRICE I. PARKER  
Owner

Cc: Arizona Corporation Commission  
Docket Control Center  
Utilities Division  
1200 W. Washington St.  
Phoenix, Arizona 85007

Mr. Robert Metli  
Loose, Brown and Associates  
11209 N. Tatum Blvd, Suite 130  
Phoenix, AZ 85028

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## **1.0 INTRODUCTION**

Miller Brooks Environmental, Inc. (Miller Brooks) of Phoenix, Arizona is pleased to submit this proposal to Mountain Glen Water Service, Inc. (MGWS) for Arsenic. MGWS requested a proposal for the treatment and/or removal of dissolved Arsenic detected in their production well, "Linden East #1," located in Linden, Arizona (Figure 1). Miller Brooks understands that the project is partially funded by Arizona Water Infrastructure Finance Authority (WIFA). Miller Brooks is an approved WIFA contractor.

Miller Brooks will designate Mr. Waseem Khan to manage and coordinate the project, with additional support from other key staff members at Miller Brooks. The technical approach used to prepare this proposal is based on a review of the existing data provided by MGWS and information gathered from MGWS' Mr. Bill Parker and Ms. Beatrice Parker during a site reconnaissance visit and subsequent communications.

### **1.1 PROJECT BACKGROUND**

The latest groundwater analytical results indicated that this well yielded total Arsenic concentration of 14 and 15 micrograms per liter ( $\mu\text{g/L}$ ) (Mohave Environmental Laboratory, Bullhead City, Arizona and ATL, Tucson, Arizona, respectively) in water samples collected in September 2004. Beginning on January 1, 2006, the allowable Arsenic concentrations in drinking water are 10  $\mu\text{g/L}$ . Consequently, MGWS will be required to reduce the influent total Arsenic concentrations in the water system generated at Linden East #1 Well. The analytical results do not present the nature of Arsenic (Arsenic +3 and/or Arsenic +5).

Other water wells incorporated in the MGWS include "Linden East #2 and Linden West" (Figure 1). Neither of these wells currently exceed the 10  $\mu\text{g/L}$  limit for Arsenic. Details on the distribution system infrastructure are summarized in Section 2.0.

### **1.2 KEY PROJECT PERSONNEL**

As mentioned above, Miller Brooks will designate Mr. Khan as the Project Manager and point of contact. Additionally, he will be assisted by a team of well-qualified and experienced technical personnel, including Mr. Raymond Craft and Ms. Susan Alvarez, who are both registered Chemical and Civil Engineers in Arizona, respectively. We have included their professional résumés in Appendix A.

## 2.0 WATER SYSTEM SPECIFICATIONS

The MGWS consists of the following engineering specifications:

### 2.1 *WATER WELLS AND ASSOCIATED INFRASTRUCTURE*

As mentioned earlier, the water distribution system consists of three existing and operating wells. Based on a site reconnaissance visit conducted on September 17, 2004, personal interviews with MGWS personnel, and a review of the Arizona Department of Water Resources (ADWR) database, the following information is presented:

- Linden East #1:
  - ADWR Registration #: 55-629078
  - Legal Cadastral Coordinates: SW ¼, NW ¼, SE ¼, Section 34, Township 11 North, Range 21 East, Navajo County
  - Well Installation: 1965
  - Approximate Well Depth: 290 feet
  - Approximate Depth to Groundwater: 223 to 245 (1965) feet below ground surface (bgs)
  - Well Diameter: 10 inches
  - Casing Type: Steel
  - Approximate Daily Production: 58,000 gallons per day (gpd)
  - Storage Tank: 15,000-gallon galvanized steel above-ground storage tank (AST)
  - Submersible Pump Capacity: 20 horse power (HP)
  - Maximum Pump Capacity: 150 gallons per minute (gpm)
  - Booster Tanks: Three 85-gallon booster tanks
  - Booster Pump: Two 5-HP pumps
  
- Linden East #2:
  - ADWR Registration #: 55-629080;
  - Legal Cadastral Coordinates: NW ¼, NW ¼, SE ¼, Section 3, Township 10 North, Range 21 East, Navajo County
  - Well Installation: 1963
  - Approximate Well Depth: 265 feet
  - Approximate Depth to Groundwater: 230 (1965)
  - Well Diameter: 6 inches
  - Casing Type: Steel
  - Approximate Daily Production: 24,750 gpd
  - Storage Tank: 12,000-gallon galvanized steel AST
  - Submersible Pump Capacity: Unknown
  - Maximum Pump Capacity: 60 gpm
  - Booster Tanks: Four 85-gallon booster tanks
  - Booster Pump: One 7.5-HP pump
  
- Linden West:
  - ADWR Registration #: 55-629079;
  - Legal Cadastral Coordinates: SW ¼, SW ¼, SW ¼, Section 3, Township 10 North, Range 21 East, Navajo County
  - Well Installation: 1963

- Approximate Well Depth: 270 feet
- Approximate Depth to Groundwater: 223 to 230 (1963) feet bgs
- Well Diameter: 6-inch
- Casing Type: Steel
- Approximate Daily Production: 4,000 gpd
- Storage Tank: 12,000-gallon galvanized steel AST
- Submersible Pump Capacity: 7.5 HP
- Maximum Pump Capacity: 55 gpm
- Booster Tanks: Four 85-gallon booster tanks
- Booster Pump: One pump

The MGWS distribution system consists of the following infrastructure:

- Three production wells independently connected to the distribution network
- Number of Connections: Approximately 240
- Total System Yield: 50,000 to 90,000 gpd;
- Water Main Type and Diameter: Concrete and PVC; 6-inch internal diameter
- Fire Hydrants: None
- Pressure System: Varies across the distribution network due to elevation differences

### 3.0 ARSENIC REMOVAL

Based on the chemical and physical data provide by MGWS, Miller Brooks evaluated several options to address water quality generated at Linden East #1 Well. Upon data review, Miller Brooks evaluated the options as two categories which include an on-site water treatment at the Linden East #1 location OR installing a new production well to eliminate Linden East #1 from the existing distribution system. We have taken into account the existing site constraints and the existing infrastructure associated with the Linden East #1 well site and the MGWS distribution network, which limit treatment options. It should be noted that engineering design details on these alternatives are presented below:

#### 3.1 **OPTION #1: ARSENIC TREATMENT**

As part of the treatment option, Miller Brooks evaluated several potential Arsenic removal alternatives. However, most were judged as impractical or not cost-effective for this scenario. Three Arsenic removal technologies were short-listed as practical and recognized Arsenic treatment technologies. These include treatment using granular iron oxide/Granular Ferric Hydroxide (GFH), coagulation/filtration, and hybrid iron media (ion exchange). Brief technology descriptions and associated impacts and operational features are presented below:

##### 3.1.1 **Iron-Oxide Filters**

Granular iron oxide, also called GFH, is a method of removing dissolved Arsenic from drinking water. Although new to the United States, the method has been successfully utilized for years in Germany. There are two domestic equipment suppliers who receive their media from German sources. Both suppliers presumably provide similar media.

The technology appears to be simple and reliable. The City of Scottsdale, Arizona has contracted to have GFH systems installed for dissolved Arsenic treatment at three of their production well sites. Miller Brooks evaluated costs from two separate equipment suppliers (AdEdge and U.S. Filter).

###### 3.1.1.1 Technology Description

Untreated water extracted from the well is passed through a bed of iron-oxide pellets, facilitating the adsorption of dissolved Arsenic onto the iron oxide. When the iron oxide becomes spent (unable to adsorb sufficient Arsenic to meet water-quality goals), it is discarded, and replaced with fresh iron oxide.

###### 3.1.1.2 Design Criteria

The iron-oxide filtration equipment should have the following properties:

- Produce product water with concentrations of less than 10 µg/L Arsenic;
- Treat water at a maximum rate of 120 gpm;
- Operate reliably; and
- Operate with minimum maintenance

###### 3.1.1.3 Environmental Impacts

An iron-oxide adsorption system would be installed near the well. The spent iron-oxide pellets can be disposed of as solid non-hazardous waste in a landfill. No adverse environmental effects are expected.

#### 3.1.1.4 Land Requirements

No new land would be required by an iron oxide filter Arsenic treatment system. However, one 12 feet by 12 feet building to house the treatment system and 10 feet by 10 feet concrete pad for a backwash tank will be needed for treatment system installation.

#### 3.1.1.5 Potential Construction Problems

Iron-oxide filter systems use steel, or PVC pipe and valves, and steel pressure vessels common to other types of granular media filtration, such as carbon or resin. For this reason, the equipment is available off-the-shelf, and construction problems are minimal.

#### 3.1.1.6 Advantages/Disadvantages

The advantages of using iron oxide filter systems are:

- The technology is simple and well understood;
- Equipment is easy to operate;
- Operations require no addition of chemicals;
- No requirement to chlorinate the water;
- There is only one point of maintenance;
- Additional taps require no additions to treatment equipment; and
- Operating costs are moderate due to the relatively low Arsenic concentration.

The disadvantage of iron-oxide filter systems is:

- The technology is not recognized by the U.S. Environmental Protection Agency (EPA) as a "best available technology" (BAT) for removing Arsenic from drinking water. However, the lack of recognition is probably because the technology is new to the United States, even though it has been successfully applied in Europe. The technology is now also being implemented throughout United States, including in Arizona.

#### 3.1.1.7 Cost Estimates

Miller Brooks received cost estimates from AdEdge Technologies, Inc. (AdEdge), of Norcross, Georgia, which is the United States distributor for the iron-oxide filter systems manufactured by Severn-Trent Services and US Filter.

The following assumptions were made to arrive at estimated costs for the AdEdge system:

- Capital equipment cost of \$70,300 (from AdEdge);
- Capital equipment cost of \$61,000 (from US Filter)
- General labor costs of \$20 per hour;
- AdEdge system includes a backwash recycle system.
- US Filter system requires a backwash tank, pump and controls;
- O&M general labor of 1 hour per week;
- Replacement media and disposal cost of \$4,725 per year (from AdEdge); and \$6,880 per year (from US Filter).
- The equipment lasts for 20 years.

### 3.1.2 Coagulation/Filtration

This Arsenic treatment technology has a proven track record and has been used at several locations throughout the United States. Miller Brooks evaluated this technology utilizing information and costs provided by Filtronics, Inc.

#### 3.1.2.1 Technology Description

Iron oxide is added to the water. The iron oxide precipitates, and dissolved Arsenic co-precipitates along with the iron oxide. The precipitated iron oxide is then filtered out of the water stream. The system is designed to be backflushed periodically, to remove the precipitate and prevent it from clogging the filter media. The backflushed water could be either disposed of, or recycled. Both vendors offer equipment to pump the backflush into a settling tank, where the precipitant settles into a sludge at the bottom of the tank, and the water is recycled back into the system. The sludge is removed several times per year, and disposed of as solid non-hazardous waste.

#### 3.1.2.2. Design Criteria

The coagulation/filtration equipment should have the following properties:

- Produce product water with concentrations of less than 10 µg/L Arsenic;
- Treat water at a maximum rate of up to 70 gpm. Flow is bypassed and blended during peak flow rates;
- Recovers backflushed water;
- Operate reliably;
- Operate with minimum maintenance;

#### 3.1.2.2 Environmental Impacts

The filtration system would be installed on a concrete pad near the well. No adverse environmental effects are expected.

#### 3.1.2.3 Land Requirements

No new land would be required by a coagulation/filtration Arsenic treatment system. However, system installation and infrastructure needs are similar to iron-oxide filtration technology.

#### 3.1.2.4 Construction Problems

Coagulation/filtration equipment is available on a turnkey basis, and no construction problems are anticipated.

#### 3.1.2.5 Advantages/Disadvantages

The advantages if coagulation/filtration are:

- Low operating cost
- There is only one point of maintenance; and
- Additional taps require no additions to treatment equipment.

The disadvantages of coagulation/filtration are:

- High capital cost;
- Need to chlorinate the water;
- Treatment system is more complex than the other centralized treatment system considered.

#### 3.1.2.6 Cost Estimates

Miller Brooks obtained a cost estimate for the coagulation/filtration system from Filtronics, Inc. (Filtronics) of Anaheim, California. Filtronics strongly recommends that a pilot test be performed on site before the full-scale system is installed. The vendor would absorb most of the costs of the pilot study, if the full-scale system were purchased.

The following assumptions were made to arrive at estimated costs:

- Capital equipment cost of \$99,800 (from Filtronics);
- Additional equipment costs for a tank for recycling backwash water;
- Non-reimbursable pilot study costs of \$1,000, which represents travel, meals, and lodging for two Filtronics employees for 3 days (pilot study equipment rental costs are applied to the equipment purchase price);
- General labor costs of \$20 per hour;
- O&M general labor of 1 hour per week;
- Chemical and electrical costs are \$1,500 per year (from Filtronics); and
- The equipment lasts for 20 years.

#### 3.1.3 Hybrid Iron Media

Hybrid iron media uses a nano-particle selective resin designed to remove Arsenic (arsenate and arsenite) from water. The hybrid media process involves passing untreated water through an iron-based material that adsorbs the Arsenic. Miller Brooks evaluated this technology using costs and system processes related information supplied by McPhee Environmental Supply and Conestoga-Rovers and Associates (CRA).

##### 3.1.3.1 Technology Description

The untreated water passes through a bed of iron-oxide coated macroporous polystyrene beads and the dissolved Arsenic is adsorbed onto the iron oxide. When the media is exhausted, typically after a few months to more than a year, the spent media is removed from the lead vessel and taken off site for regeneration.

##### 3.1.3.2 Design Criteria

The hybrid iron media equipment should have the following properties:

- Produce product water with concentrations of less than 10 ug/L Arsenic;
- Treat water at a maximum rate of at least 100 gpm;
- Operate reliably;
- Operate with minimum maintenance;

### 3.1.3.3 Environmental Impacts

A hybrid iron media system would be installed adjacent to the well. Spent hybrid iron media will be regenerated off site. The equipment supplier would remove spent media for regeneration in off-site facilities owned and operated by the supplier. Regenerated resin would be returned to the facility. There may be some potential environmental liability associated with off-site regeneration of spent Arsenic-laden media. The regeneration process may generate brines that require additional treatment. Treated wastewater from regeneration would require discharge to a City sewer under an industrial wastewater discharge permit (i.e., to a publicly-owned treatment works). Solid waste from media regeneration may be disposed of as solid non-hazardous waste in a landfill.

### 3.1.3.4 Land Requirements

No new land would be required by a hybrid iron media Arsenic treatment system. However, system installation and infrastructure needs are similar to the above-mentioned technologies.

### 3.1.3.5 Construction Problems

Hybrid iron media systems use steel, or PVC pipe and valves, and steel pressure vessels common to other types of granular media filtration, such as carbon or resin. As with the iron-oxide filtration system, the equipment is available off-the-shelf, and construction problems are minimal.

### 3.1.3.6 Advantages/Disadvantages

The advantages of hybrid iron media systems are:

- The technology is simple and well understood;
- The resin has received NSF 61 certification;
- Resins can be regenerated up to five times with minimal loss of capacity;
- Equipment is very easy to operate;
- Backwashing is not required.
- Operations require no addition of chemicals;
- No requirement to chlorinate the water;
- There is only one point of maintenance; and
- Additional taps require no additions to treatment equipment.

The disadvantage of hybrid iron media systems is:

- Media must be replaced every 10 years;
- Operating costs may escalate with increasing cost of media regeneration or replacement;
- As with iron oxide, the technology is not recognized by the EPA as a BAT for removing Arsenic from drinking water;
- Media must be regenerated off-site. Alternate regeneration facilities may not be available;
- Hybrid iron media is a relatively new technology; and
- No long-term performance data available. Systems using hybrid iron media have been pilot tested. Currently, no full-scale systems are in operation.

### 3.1.3.7 Cost Estimates

Miller Brooks received a cost estimate from CRA. The system proposed by CRA utilizes Solmetex™ As:X<sup>np</sup> resin. McPhee Environmental Supply (Appendix A) distributes Solmetex™ resins in Arizona.

The following assumptions were made to arrive at estimated costs:

- Capital equipment cost of \$48,000 (from CRA);
- General labor costs of \$20 per hour;
- O&M general labor of 1 hour per week;
- Media regeneration costs of \$0.172/1000 gallons treated (from CRA);
- Media will require replacement every 10 years; and
- The equipment lasts for 20 years.

### 3.2 **OPTION # 2: NEW PRODUCTION WELL**

As an alternative to improving water quality within the MGWS distribution network, Miller Brooks has also evaluated a non-Arsenic treatment option. This option includes the drilling and installation of a new production well that could improve water quality, increase system capacity and upgrade the existing water distribution system. Figure 1 illustrates the proposed location of a new production well, should this option be selected instead of an active Arsenic treatment system at the Linden East #1 Well site.

#### 3.2.1 **Well Design**

Prior to initiating well drilling activities, Miller Brooks will design the new production well. The well design will include, but not be limited to, the following:

- Perforation interval;
- Well casing diameter and type;
- Well construction details;
- Above-ground well completion details;
- Estimated depth to static water elevation;
- Installation of a 15- to 20-HP pump capable of producing 150 gpm;
- Annular space materials and depths; and
- A maximum total depth of 500 feet.

If needed, per the ADWR (unless agreed upon earlier by MGWS and the ADWR), the well design will be submitted by MGWS to the ADWR for approval before drilling activities commence. Miller Brooks can and is willing to submit the well design to the ADWR on behalf of MGWS. If needed, Miller Brooks will incorporate any changes and/or suggestions to the well design that may be requested by the ADEQ.

#### 3.2.2 **ADWR Permitting**

Miller Brooks will prepare and submit Notice of Intent (NOI) to drill and install the proposed new well at the designated location (Figure 1). The process will include ADWR permit preparation, obtaining the MGWS designated board member or staff signature on the NOI forms, and submitting the permits to the ADWR for review and approval. The NOI form to the ADWR will be accompanied with well permitting fees, individual well design, and any applicable waiver request.

### **3.2.3 Well Drilling and Installation**

Miller Brooks will provide project management and coordination with on-site supervision during essential drilling and well installation activities to ensure that the well is installed in accordance with specifications approved by ADWR, as well as any applicable MGWS requirements. We will utilize a qualified geologist to supervise the drilling program. He/she will ensure that a proper well drilling log is prepared and the well is installed according to the approved design specifications. This information can be submitted to the ADWR in a letter report format, if needed.

### **3.2.4 Production Well Drilling and Installation**

For proposal purposes, Miller Brooks assumes that a 500-foot deep production well will be drilled and installed at the proposed location (Figure 1). It should be noted that upon project completion, Miller Brooks' invoice would be based on actual drilling footage, which may be less than the assumed 500 feet.

Based on anticipated drilling conditions at the proposed drilling location, Miller Brooks will utilize mud or foam rotary drilling technique. We assume that drill cuttings generated during drilling activities will be spread near the well location and would not be subject to containerization and later disposal. The cost estimate for the well installation option is based on the following assumptions:

- Total well depth is 500 feet;
- An 8-inch internal diameter steel surface casing will be installed;
- A 20-HP pump will be installed;
- Well will be perforated from approximately 400 to 500 feet bgs;
- A factor slotted screened interval will consist of 1/8 x 2 1/4 inch slots; and
- Well will be capable of producing approximately 150 gpm.

### **3.2.5 Well Development**

Upon completion of well installation, the production well will undergo a 24-hour pumping test which will allow the connection between the well and the aquifer, as well as assist in the developing the well itself. Miller Brooks assumes that well water generated during the pumping test will not be containerized but will be allowed to discharge near the newly installed well.

### **3.2.6 Water Quality Analysis**

Towards the end of the 24-hour pumping test, Miller Brooks will collect water samples for several water quality parameters, including chemical and physical parameters needed for a new public water system. The water samples will include Arsenic among other metals, organic compounds, inorganic compounds, hardness, pH and several other parameters.

### **3.2.7 Well Site Infrastructure**

The corresponding costs also include for the installation of a 70,570-gallon AST connected to the new well and to the MGWS network at the nearby meter location. The tank specifications include the following:

- 26.154 feet diameter by 18.06 feet high;
- Factory coated steel;

- Tan colored;
- On-site construction and installation;
- Delivery to site approximately 6 to 8 weeks from project approval; and
- Constructed in accordance with standards, specifications and/or interpretations and recommendations of professionally recognized agencies and groups such as AWWA, API, ACI, ASTM, and AWS etc.

### **3.2.8 Electrical and Mechanical Work**

The costs associated with the installation of a new well also include costs for on-site plumbing and electrical work. It should be noted that the well pump would require a 3-phase electric service. Based on site reconnaissance, it appears that single-phase power is available at the site. Costs associated with bringing a 3-phase electric service are NOT included in the cost estimate and can be provided later.

### **3.2.9 Project Completion Report**

Upon completion of well installation, tank installation and connection to the MGWS distribution services, as an option, Miller Brooks has included costs associated with preparing and submitting a letter report documenting well installation and related activities upon completion of field tasks. This letter report, if needed, can be submitted to ADWR and other funding agencies by MGWS.

## 4.0 COST ESTIMATES

Based on the options presented in Section 3.0, Miller Brooks has prepared costs estimates for each of the three short-listed Arsenic treatment technologies presented in Option # 1 and also for a new public water system installation as presented in Option # 2. Breakdown of costs are presented in Tables 1 through 6. It should be noted that we have also provided estimated operation and maintenance costs associated with each of the Arsenic removal systems. In either case, the costs for implementing the most practical Arsenic removal system or the new water system are very similar.

Tables 1 through 4 present costs summaries associated with AdEdge, U.S. Filter, Filtronics and McPhee Environmental Supply/CRA equipment costs, respectively. Table 5 presents annual operation and maintenance costs associated with each of the technology. Finally Table 6 presents costs associated with the installation of a new water system. A summary of cost estimate breakdowns is as follows:

### 4.1 *OPTION # 1: ARSENIC REMOVAL SYSTEMS*

- Iron Oxide Filtration
  - AdEdge = capital costs are \$114,926.18 and \$5,725.00 annual O&M costs
  - U.S. Filter = capital costs are \$143,998.43 and \$7,880.00 annual O&M costs
- Coagulation/Filtration
  - Filtronics, Inc. = capital costs are \$185,648.02 and \$2,500.00 annual O&M costs
- Hybrid Iron Media
  - McPhee Environmental Supply, Inc./CRA = capital costs are \$110,366.20 and \$6,343.00 annual O&M costs

### 4.2 *OPTION # 2: NEW WATER SUPPLY SYSTEM*

- New water well, AST and supporting infrastructure = \$114,957.50.

## 5.0 RECOMMENDATIONS

In the event MGWS elects to implement an Arsenic removal system at the Linden East #1 Well site, Miller Brooks recommends an Iron Oxide Filtration system manufactured by AdEdge. This recommendation is based on overall project costs, taking into account the capital costs, as well as long-term operation and maintenance costs. AdEdge system schematics and additional specifications are presented in Appendix B.

As illustrated in proposed costs, implementing either option will result in similar capital improvement costs. To assist MGWS in selecting the appropriate option, Miller Brooks has provided advantages and limitations of each option below.

### 5.1 *ADVANTAGES /DISADVANTAGES OF ELECTING OPTION #1*

The following are some of the advantages of implementing an AdEdge or any of the evaluated Arsenic treatment systems at the Linden East #1 Well site are as follows:

- Improve water quality and reduce dissolved Arsenic concentrations

The following are some of the disadvantages of installing a new well:

- Installing an Arsenic removal system will not increase system capacity;
- Capital costs for system implementation = **\$114,926.18**;
- Long-term operation and maintenance may not outweigh the benefits of water treatment;
- Although the current well site area configuration appears to permit the installation of system, it may restrict future vehicle traffic access to the wellhead for well maintenance or redevelopment, etc., resulting in accessing neighboring vacant lot; and
- Due to the lack of a central blending facility, the treated water produced at Linden East #1 Well may not overcome water-quality issues if water quality deteriorates in a separate well that is online.

### 5.2 *ADVANTAGES /DISADVANTAGES OR ELECTING OPTION #2*

The following are some of the advantages of implementing Option #2:

- Improve water quality and reduce dissolved Arsenic concentrations. This is based on nearby wells screened in similar intervals;
- Increase system capacity;
- Allow for upgrading of the overall system;
- Reduce long-term operation and maintenance costs;
- Located near the highest point elevation of the MGWS distribution system; and
- Based on surface elevation, the new well and tank will allow for the overcoming of system pressure drops due to topographic changes within the water distribution main.

The following are some of the disadvantages of installing a new well:

- The land is not owned by MGWS and would either have to be purchased or leased;
- Capital costs for installing a new water supply system = ***\$114,957.50***; and
- Although nearby water-quality data indicates compliance with maximum allowable dissolved Arsenic concentrations, there are no guarantees that the new well will be in compliance until actual water samples are collected.

**MILLER BROOKS ENVIRONMENTAL, INC.  
SERVICES AGREEMENT**

Agreement No. \_\_\_\_\_

BY AND **MILLER BROOKS ENVIRONMENTAL, INC. ("Miller Brooks")**  
BETWEEN: 202 East Earll Drive, Suite 470  
Phoenix, Arizona 85012

AND: Mountain Glen Water Service ("Client")  
P. O. Box 868  
Clay Springs, Arizona 85923

The parties agree as follows ("Agreement"):

**A. SCOPE OF SERVICES AND PERFORMANCE SCHEDULE**

Miller Brooks will perform services for Client according to the scope of work and performance schedule described in the proposal dated November 5, 2004 (the "Proposal") addressing "Dissolved Arsenic Mitigation Alternatives"

**B. ADDITIONAL TERMS; COMPENSATION**

The General Terms and Conditions set forth on the reverse side of this page are a part of this Agreement. Client shall compensate Miller Brooks in accordance with the Proposal and the General Terms and Conditions.

**MILLER BROOKS ENVIRONMENTAL, INC.**

**CLIENT**

By: \_\_\_\_\_

\_\_\_\_\_

Title: Senior Geologist & Vice President

\_\_\_\_\_

Date: November 11, 2004

\_\_\_\_\_

*D:/Contract/Services (Miller Brooks 9/98)*

# MILLER BROOKS ENVIRONMENTAL, INC.

## GENERAL TERMS AND CONDITIONS

1. Services Defined. Miller Brooks shall perform services for Client as described in Paragraph A of this Agreement (the "Services").

2. Charges and Payment.

2.1 Client shall pay for all Services at the rates set forth in Paragraph B of this Agreement.

2.2 If a Time-and-Expenses compensation method is used, Client agrees to pay Miller Brooks for all expenses related to the Services, which expenses may include, without limitation: travel (including local travel), meals and lodging expenses; expenses for reproductions, deliveries, supplies, equipment rental, taxes and freight, and subcontractor charges. Miller Brooks will bill Client at Miller Brooks' cost plus 15 percent.

2.3 Miller Brooks will submit invoices on a monthly basis. Miller Brooks may assess Client a service charge for any invoiced amount not paid within 30 days after the date of the invoice. The service charge will equal 1.5 percent per month (but not exceeding the maximum allowable by law) of the unpaid amount from the date of the invoice until paid. The service charge is in addition to, and not in lieu of, any other rights and remedies Miller Brooks may have under applicable laws or this Agreement.

3. Change Orders. Any party desiring to amend the scope or the performance schedule of the Services must first submit to the other party for approval a written change order describing the desired change and the reason for the change. Upon mutual execution and delivery, the change order will become an amendment to this Agreement. If both parties wish to amend this Agreement before a written change order can be prepared and executed, the parties may proceed on the basis of an oral change order agreed to by both parties and to be documented in writing at the earliest time practicable.

4. Term and Termination.

4.1 This Agreement is effective on the date it is executed by both parties and will continue in effect until the Services have been performed and all payments received, unless sooner terminated by either party, with or without cause, by seven days written notice to the other. If Miller Brooks has begun providing Services before mutual execution of this Agreement, this Agreement will be effective retroactively to the date the Services were commenced.

4.2 Upon termination of this Agreement, Miller Brooks shall prepare a final invoice for all Services performed to the date of termination, and Client shall pay that invoice pursuant to the terms of Section 2 above. If the termination is at the request of Client or is at the request of Miller Brooks because of Client's default, Miller Brooks may assess Client a charge for fees and expenses Miller Brooks incurs to effect the termination, which may include, without limitation, the cost of irretrievably committed resources, completion of documentation Miller Brooks considers necessary to protect its professional reputation, unrecovered proposal and presentation costs and administrative and overhead costs.

5. Warranty, Limitations of Liability, and Indemnity.

5.1 Miller Brooks warrants that the Services will satisfy the standards of care, skill and diligence ordinarily provided by a professional in the performance of similar services as of the time Miller Brooks performs the Services. **THIS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE. NO OTHER WARRANTIES OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED IN THIS AGREEMENT OR ANY OF MILLER BROOKS' BROCHURES, PROPOSALS OR REPORTS.** Client may rely on the reports, opinions, conclusions, analysis, judgments, and recommendations, whether written or oral, that Miller Brooks provides to Client in providing the Services under this Agreement ("Work Product") only for the limited purpose of the project, and may not disseminate the Work Product, in whole or in part, to another party without the prior written consent of Miller Brooks.

5.2 Miller Brooks' liability under this Agreement is limited to the lesser of \$25,000 or the total amount paid by Client for Services under this Agreement. Miller Brooks is not liable for any incidental, consequential or special damages. These limitations apply to any liability of Miller Brooks, whether arising under contract, tort or any other legal or equitable theory.

5.3 Neither party may bring an action relating to Services performed under this Agreement more than two years after the date the Services are performed, except that an action for non-payment may be brought within two years of the date of the last payment.

5.4 Client shall defend, indemnify and hold harmless Miller Brooks and its officers, directors, employees, subcontractors and agents against and from any and all causes of action, suits, demands, costs, claims, damages, losses, liability, fines and expenses, direct or indirect, (including but not limited to attorney's fees at trial and on any appeal or petition for review) for, or on account of, personal injury, illness or death, property damage or governmental order, relating to the Services and arising out of or attributable to any hazardous or toxic substance, waste or material or any other pollutant or contaminant. To the fullest extent permitted by law, this subsection will apply regardless of the fault, negligence, breach of warranty or contract, or strict liability of Miller Brooks, except to the extent of Miller Brooks' gross negligence or willful misconduct.

6. Samples; Wastes. Any soil, water and other samples will be collected by Miller Brooks as agent for Client, and Client will be deemed the sample collector under 40 CFR Section 261.4(d). Miller Brooks will retain samples for 30 days following completion of the Services and will return samples to Client at Client's request during that period. Client will be deemed to have generated any wastes (including without limitation, samples, drill cuttings, water produced, excavated material, and contaminated equipment and materials) generated in connection with the Services, and Client will be responsible for the proper disposal of those wastes, unless their disposal is specifically included in the description of the Services. Unless Client and Miller Brooks otherwise agree in writing, Miller Brooks may return all such wastes to Client at Client's expense, and Client shall reimburse Miller Brooks for the cost of all equipment or materials that become contaminated and must be disposed of.

7. Hazardous Substances. Client represents and warrants that it has informed Miller Brooks in writing of any hazardous substances Client knows or suspects are present on the property to be addressed by the Services (the "Property"). Client agrees that Miller Brooks shall have no responsibility for any hazardous substances present on the property.

8. Responsibility for Access and Information. Client shall secure for Miller Brooks the right of access to the Property and shall provide Miller Brooks with copies of all plans, environmental records and reports, and other information and documentation in its possession that may be relevant to the performance of the Services. Client assumes responsibility for all personal injury, death and property damage that may be caused by Miller Brooks' interference with subterranean structures, utilities, tanks, wastes or conditions not accurately shown on plans provided by Client or otherwise not accurately located in a written notice to Miller Brooks, unless that interference is caused by the gross negligence or willful misconduct of Miller Brooks. Client acknowledges that the nature of the Services will involve some damage or destruction of property, and that Miller Brooks will have no responsibility or liability with respect to that damage or destruction, except to the extent caused by the gross negligence or willful misconduct of Miller Brooks.

9. Ownership of Documents. All designs, drawings, specifications, notes, data, report reproductions and other work developed by Miller Brooks, and all rights therein (including but not limited to copyrights), will remain Miller Brooks' property. Miller Brooks will retain all pertinent summaries and reports relating to the services performed for a period of at least three years following submission of the report, during which period the records will be made available to Client at all reasonable times. Miller Brooks reserves the right to discard at any time field notes, laboratory test sheets, calculation sheets, etc.

10. General.

10.1 Miller Brooks shall have the right to engage subcontractors (including corporations affiliated with or related to Miller Brooks) to assist it in the performance of the Services. Miller Brooks reserves the right to change at its sole discretion the personnel it assigns to the performance of the Services.

10.2 A party will not be considered in default under this Agreement, except with respect to the obligations to make payments pursuant to Sections 2 and 5, if the performance of the party's obligation is prevented or delayed by events that the party could not, with reasonable diligence, control or prevent such as acts of God, war and strikes.

10.3 In making and performing this Agreement, the parties are independent contractors, and neither party may make any commitments or incur any charges or expenses for or in the name of the other party without prior written consent.

10.4 All notices and payments under this Agreement must be personally delivered or sent by first-class mail, postage prepaid, addressed to the other party at the address set forth above or as otherwise designated in writing to the other party. Unless otherwise provided in this Agreement, all notices must be in writing. Notices will be deemed given when received and will be deemed received when personally delivered or 48 hours after they are postmarked, if sent by mail.

10.5 Any controversy or claim arising out of or relating to this Agreement, including, without limitation, the making, performance, or interpretation of this Agreement, will be settled by arbitration. Unless otherwise agreed, the arbitration will be conducted in Huntington Beach, California, in accordance with the then-current Commercial Arbitration Rules of the American Arbitration Association. If, in any judicial or arbitration proceeding, the judge or arbitrator refuses to enforce all the provisions of this Agreement, the scope of any unenforceable provision will be deemed modified and diminished to the extent necessary to render that provision valid and enforceable. In any event, the validity or enforceability of any such provision will not affect any other provision of this Agreement, and this Agreement will be construed and enforced as if that provision had not been included.

10.6 This Agreement and any referenced attachments, exhibits or schedules (which are incorporated herein by this reference) are the entire agreement between the parties and supersede all previous agreements or understandings between them. This Agreement may be modified only in writing, signed by both parties, except as described in Section 3 above.

10.7 Waiver by either party of any breach of this Agreement will not be construed as a waiver of any other breach. The parties' remedies under this Agreement are not exclusive, but are in addition to all other remedies available at law or in equity.

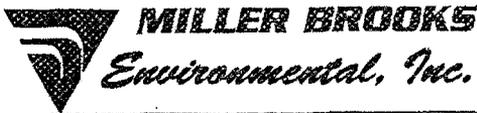
10.8 If any suit, action, or arbitration is filed by any party to enforce or interpret a provision of this Agreement or otherwise with respect to the subject matter of this Agreement, the prevailing party will be entitled, in addition to other rights and remedies it may have, to reimbursement for its expenses incurred with respect to that proceeding, including court costs and reasonable attorneys' fees at trial, on appeal, in all bankruptcy proceedings, and in connection with any petition for review.

10.9 If Miller Brooks or any of its employees are subpoenaed or otherwise compelled by law to testify or produce documents in connection with the Services, Client agrees to compensate Miller Brooks for its staff time and expenses according to Miller Brooks' then current rates.

10.10 This Agreement is not intended to confer a benefit on any third party. The Work Product is intended solely for Client's use with respect to the Property and matters specifically addressed by the Services. Any use of the Work Product by persons other than Client and any re-use by Client for purposes outside this Agreement is at the user's sole risk. No third party is entitled to rely on the Work Product.

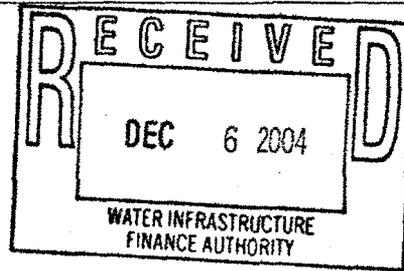
10.11 This Agreement will be governed by and construed under the laws of the State of California, but without reference to its conflict of law principles.

10.12 As between Client and Miller Brooks, Client will have the primary obligation, if any, to report to the appropriate governmental authorities the presence of contamination on the Property. Client acknowledges, however, that Miller Brooks may be required by applicable laws to report to governmental authorities contamination of which it becomes aware during the performance of the Services. Before making any such reports, Miller Brooks will notify the Client and allow the Client at least 24 hours to make the report itself, to the extent that delay is consistent with any reporting obligations and the protection of human health, welfare and the environment.



December 6, 2004

Ms. Beatrice Parker  
Mountain Glen Water System  
P. O. Box 868  
Clay Springs, Arizona 85923



**RE: Revised Cost Estimate for Design of Arsenic Mitigation**

Dear Ms. Parker:

Pursuant to our communications with you and Mr. Jon Bernreuter of WIFA of Arizona, the following is a revised cost breakdown of Arsenic Mitigation Design services.

***Design of a New Production Well***

The scope of work includes drilling of a pilot borehole using casing advancement to a maximum depth of 500 feet below ground surface (bgs). Discreet groundwater samples will be collected at approximately 20-foot intervals to analyze for total dissolved arsenic concentrations. Miller Brooks Environmental, Inc. (Miller Brooks) will utilize an onsite field arsenic testing kit to screen the samples. Additionally, the samples will also be submitted to an ADHS certified analytical laboratory for confirmatory analyses. A Miller Brooks' geologist will oversee the drilling operations to ensure that water samples are collected appropriately, record subsurface conditions and pertinent aquifer characteristics as well as create a geologic log of the borehole for submittal in the well design package to the ADEQ and ADWR. Prior to initiating any drilling activities, Miller Brooks will prepare and submit a Notice of Intent permit to the ADWR.

Upon completion of drilling activities, the analytical results will be utilized to design a new production well screened to minimize intake of arsenic rich waters. The well design will then be submitted to WIFA of Arizona as a deliverable. Should Mountain Glen Water Service (MGWS) elect to convert the pilot borehole into a production well, the well design will also be submitted to the ADEQ and ADWR to facilitate the permitting of a new Public Water System.

The cost estimate for the above-mentioned scope of work is as follows:

Well Permitting, and Design	\$ 14,051.00
Pilot Borehole Drilling, Field Supervision and Discreet Water Sampling	\$ 40,657.60
<b>Total Costs for New Production Well Design</b>	<b>\$ 54,708.60</b>

***Design of a Arsenic Treatment System***

In the event the above option cannot be implemented, costs associated with the design of an arsenic removal system are as follows:

Arsenic Removal System Design	\$ 13,800.00
<b>Total Costs for a Arsenic Removal System Design</b>	<b>\$ 13,800.00</b>

**Water Infrastructure Finance Authority Technical Assistance  
Requisition 1  
Cost Incurred Report and Disbursement Request  
Mountain Glen Water Service, Inc.  
TA DW-009-2005**

**Type of Request:**  Final  Partial **Period Covered:** from (m/d/y) \_\_\_\_\_ to (m/d/y) \_\_\_\_\_

**Technical Assistance Recipient Contact & Address:**

Mountain Glen Water Service, Inc.  
PO Box 897  
Clay Springs, AZ 85923

**Contact:** Ms. Beatrice Parker  
**Phone #:** (928) 739-4479  
**FAX #:** (928) 739-4186

**Payee** (If other than Technical Assistance Recipient Contact. Must have WIFA pre-approval & W-9 on file with WIFA):

**Payee:**  
**Address:**

**Contact:**  
**Phone #:**  
**FAX #:**

*Attach statements, invoices, or other proof that the amount requested below is currently due or has been advanced by the Technical Assistance Recipient.*

(Column 1 should follow scope of work submitted to WIFA.)

Request by Budget Item  (1)	Budget as per TA Agreement (2)	Previously Disbursed  (3)	This Request  (4)	Total To Date  (5) = (4) + (3)	Total as % of Budget  (6) = (5) / (2)
Well Permitting and Design	\$7,026				
Pilot Borehole Drilling, Supervision, and Sampling	\$20,329				
Design - Iron Oxide Filtration	\$6,900				%
<b>Total</b>	<b>\$34,254</b>				%

**Technical Assistance Project Status**

Give a brief summary of work completed since previous requisition. (*Attach reports if applicable to scope of work deliverables*)