

**RFQ# ADSPO14-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

(If a firm has branch offices, complete for each specific branch office seeking work.)

1. REVISED ADSPO13-00003465: Annual Request for Qualifications

a.	FIRM (OR BRANCH OFFICE) NAME:	Fred E. Goldman, PhD, PE, Consulting Engineer
b.	FIRM (OR BRANCH OFFICE) STREET:	28 West Moon Valley Drive
c.	FIRM (OR BRANCH OFFICE) CITY:	Phoenix
d.	FIRM (OR BRANCH OFFICE) STATE:	Arizona
e.	FIRM (OR BRANCH OFFICE) ZIP CODE:	85023
f.	YEAR ESTABLISHED:	2010

(g1).	OWNERSHIP - TYPE:	Sole Proprietorship
(g2).	OWNERSHIP - SMALL BUSINESS STATUS:	Small Business

h.	POINT OF CONTACT NAME AND TITLE:	Fred E. Goldman, Owner
i.	POINT OF CONTACT TELEPHONE NUMBER:	602-910-0787
j.	POINT OF CONTACT E-MAIL ADDRESS:	fredgoldmanphdpe@cox.net

k.	NAME OF FIRM <i>(If block 1a is a branch office):</i>	Fred E. Goldman, PhD, PE, Consulting Engineer
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2. EMPLOYEES BY DISCIPLINE

a. Discipline Title	b. Function: Primary (P) or Secondary (S)	c. No. of Employees - Firm	d. No. of Employees - Branch
Sewage Collection, Treatment and Disposal	P	1	
Water Supply, Treatment and Distribution	S	1	
Total	2	1	

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Fred E. Goldman	b. ROLE IN THIS CONTRACT Principal Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 40	2. WITH CURRENT FIRM 3
d. FIRM NAME AND LOCATION (City and State) Fred E. Goldman, PhD, PE, Consulting Engineer, 28 West Moon Valley Drive, Phoenix, AZ 85023			
e. EDUCATION (DEGREE AND SPECIALIZATION) Ph.D. Civil Engineering, Arizona State University		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer – Arizona Land Surveyor - Arizona Civil Engineer - California	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Adjunct Faculty Member – Arizona State University Past Vice Chair – Arizona State Board of Technical Registration Member – NCEES Civil Engineering Exam Committee Engineer for Several Award Winning Projects			
Fluent in English and Hebrew			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) Water Treatment Plant Improvements Heber Public Utility District, Heber, CA -	(2) Year Completed Project is currently under review by California Department of Public Health	
		Professional Services: Project Design	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Design of Backwash Management System, Storage Reservoir Baffling System, TTHM Removal System and other design work related to improvement project. Water Treatment Plant treated Colorado River Water. Capacity was increased from 2 MGD to 4 MGD. Project Budget \$5 million.		
2)	(1) TITLE AND LOCATION (City and State) Clarkdale Wastewater Treatment Plant Clarkdale, Arizona	(2) Year Completed 2013	
		Professional Services Design and Permitting	Construction (if applicable) Assistance during Construction
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm This project involved the relocation of the mechanical equipment and biological treatment unit from a 350,000 wastewater treatment plant in Surprise, Arizona to Clarkdale, Arizona. Working with SEC Engineering in Cottonwood, AZ and Felix Construction Company the project was successfully executed. The project budget was \$5.1 million. My work included the detailed design and all of the permitting. I was also involved in construction review.		
3)	(1) TITLE AND LOCATION (City and State) Expert Witness Services, Maricopa, County	(2) Year Completed 2013	
		Professional Services Forensic Engineering	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm This work included a forensic investigation and preparation of an expert report and exhibits. The case involved the expansion of a wastewater treatment plant.		
4)	(1) TITLE AND LOCATION (City and State) Standard Detail for a Discharge Monitoring and Sampling Vault – Chandler, Arizona	(2) Year Completed 2013	
		Professional Services Design and Drafting	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm This work involved the modification of the MAG Standard Detail to accommodate the needs of the Chandler Industrial Wastewater Monitoring Department to do on-site sampling and flow measurement using a special vault with a custom designed measurement flume.		

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5)	(1) TITLE AND LOCATION <i>(City and State)</i> Construction Contract Closeout Work for Finished Water Pump Station Yuma Prison, Yuma, Arizona	(2) Year Completed 2013	
		Professional Services	Construction <i>(if applicable)</i> Construction Management
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm This work included assisting the Arizona Department of Corrections in obtaining corrective work by the contractor to provide a correctly operating finished water pump station.			

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a.	TITLE AND LOCATION <i>(City and State)</i> 350,000 GPD Wastewater Treatment Plant – includes planning and permitting the closure of the plant in Surprise, Arizona and designing a new plant in Clarkdale Arizona that used the parts of the original plant.	b. YEAR COMPLETED	
		PROFESSIONAL SERVICES 2013	CONSTRUCTION <i>(If applicable)</i> 2013

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Pulte Homes and Town of Clarkdale	d. DOLLAR AMOUNT OF PROJECT Design and Permitting over three years of project – about \$250,000	e. TOTAL COST OF PROJECT Design and Construction \$ 5.1 million
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(include scope, size, and length of project)* This project included all aspects of the design, permitting and construction of a complete wastewater treatment plant. The work began with planning and permitting the Clean Closure of a "Temporary" Wastewater Treatment Plant in Surprise, Arizona (which was designed by GTA, a firm that I owned). For seven years, the plant produced A+ effluent which was used for irrigation. The site included a 350,000 gpd steel Biological Treatment Unit (BTU) that included aerobic and anoxic reactors, a clarifier and an aerobic digester. The plant also included an influent pump station, tertiary filter, chlorine disinfection, an effluent storage basin connected to an effluent pump station.

During the closure design and permitting process, I was hired to do a Feasibility Study of building a wastewater treatment plant in Clarkdale, Arizona. Because of high costs, the town had failed for many years. I was able to work out a deal to relocate the Desert Oasis Plant to Clarkdale. The town needed capacity of 250,000 gpd and the Desert Oasis plant will give them an extra 100,000 gpd.

Construction of the plant became a challenge. The existing lagoon system covered the entire plant site. To build the plant part of the polishing pond was filled and the plant was operated using only the aerated lagoon. I was able to demonstrate compliance with the permit and receive an Interim Aquifer Protection Permit from ADEQ. In addition, I was able to negotiate an agreement between the Town of Clarkdale and Pulte Homes that allowed Clarkdale to purchase the entire plant. I worked with Felix Construction Company, which constructed the original plant, to develop a cost estimate for decommissioning and refurbishing the BTU and mechanical equipment, and building the new plant in Clarkdale. Using the report and cost estimate the town was able to obtain a WIFA loan to construct the new plant.

Working with SEC Engineers in Cottonwood I was able to design and permit the new plant. The site is piped to allow two phased expansions to an ultimate capacity of 1.05 MGD. The pump stations are designed to handle increased flows by adding pumps. Storage is provided by using part of the old lagoons.

This project demonstrates an ability to "think outside of the box" to find cost effective solutions to difficult wastewater management systems. The project also demonstrates the ability to work with ADEQ to obtain numerous complicated permits that allowed the project to succeed.



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a. TITLE AND LOCATION <i>(City and State)</i> Heber Public Utility District (PUD) Expansion of Water Treatment Plant, Heber, CA	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Heber PUD	d. DOLLAR AMOUNT OF PROJECT \$43,000	e. TOTAL COST OF PROJECT \$230,000
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

This project involved the design of a 2 MGD addition to the 2 MGD Water Treatment Plant for the Heber PUD. My work was carried out as a subcontractor to The Holt Group, El Centro, CA. The Heber PUD Plant treats Colorado River Water delivered by the Imperial Irrigation District (IID). Raw water is treated with a coagulant as it enters the plant and then stored in three open reservoirs. The water is treated in a Trident Treatment Plant manufactured by WesTech. I was responsible for designing a Backwash Management System that complied with State of California and USEPA requirements. Existing settling basins were equipped with decanters and automatically pumped to the head of the plant at a rate that does not exceed 10% of the daily plant production. The variable speed submersible pumps are controlled by a PLC which automatically starts the decant process after each backwash cycle. In addition, I designed the static mixer that conditions the raw water and recycled backwash water.

The backwash management system replaced a previous design and saved the client \$500,000. The static mixers (which were designed with very little headloss and with non-clogging features) saved the client an additional \$250,000. These savings allowed the Utility to carry out the project, required by the California Department of Public Health, without raising rates.

This work demonstrates an ability to optimize designs to save money. The State of Arizona is faced with existing treatment systems that may need to be upgraded to meet the requirements of ADEQ and EPA. Although mandated by the regulatory agencies, the available funding may be limited. We have been able to develop cost effective solutions that may be innovative and new to Arizona. However, our strong professional background has allowed us to demonstrate the viability of the alternate designs to the regulatory agencies. This work, although carried out in California, is demonstrative of needs at many state run facilities in Arizona.

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a. TITLE AND LOCATION <i>(City and State)</i> Closure of the Stabilization Pond in Clarkdale	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2012	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Town of Clarkdale	d. DOLLAR AMOUNT OF PROJECT My fee was \$10,000 but work included testing which cost about \$7,000	e. TOTAL COST OF PROJECT \$17,000
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(include scope, size, and length of project)*
In order to construct the wastewater treatment plant in Clarkdale it was necessary to receive a Certificate of Clean Closure from ADEQ. The pond had been used for treatment of sewage for nearly 45 years and was lined with compacted local soils. The new plant was to be constructed on a portion of the pond that was to be filled in, before any fill could be placed, ADEQ required a "Clean Closure". The work consisted of a plant that was reviewed and approved by ADEQ. The testing was carried out by Aquatic Testing & Consulting based on the approved plan. No construction work could start until this permit was in place. Due to trust that had been developed from over 30 years of dealing with ADEQ, the plan and report of results were reviewed in record time. The "Clean Closure" was obtained without any delays in construction.

This work is an example of the many permits that we have obtained for clients. In some cases (although not here), the permitting was carried out when the client was out of compliance with their permits.

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(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION <i>(City and State)</i> Expert Witness Services for a Court Case in Maricopa County	b. YEAR COMPLETED PROFESSIONAL SERVICES 2013		CONSTRUCTION <i>(If applicable)</i>
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23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Lisa Hauser, Esq., Gammage and Burnham, Attorneys at Law	d. DOLLAR AMOUNT OF PROJECT \$ 55,000	e. TOTAL COST OF PROJECT
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(include scope, size, and length of project)*
 This work involved research and review of the project permitting and design documents. The actual documents were not available but, by working with the regulatory agencies, all were located. We were able to compare the construction documents for a previous project with the project under review and we found similarities that could not be explained. We carefully prepared an opinion letter that reviewed the documents and also reviewed agreements between the city and our clients. The opinion letter was received without significant rebuttal and was instrumental in obtaining a settlement favorable to our clients.

6. ADDITIONAL INFORMATION

a. PROVIDE ANY ADDITIONAL INFORMATION YOU FEEL MAY BE NECESSARY TO DESCRIBE YOUR FIRMS QUALIFICATIONS. (ATTACH ADDITIONAL SHEETS AS NEEDED.)

Although I am a one man firm, I have been successful in executing complicated projects. Much of my work involves solving difficult problems:

- 1. Design – many times a facility has a problem it needs to solve with limited budget. To find the solution requires “thinking outside the box”. The vast 40 years of design experience I have accumulated together with my academic background have allowed me to successfully solve hard problems. Sometimes I am able to complete the design myself, in other cases I work with larger engineering firms.**
- 2. Permitting – I have worked on numerous permits with EPA, the Arizona Department of Environmental Quality, the Arizona Department of Water Resources, The Corporation Commission and other State and Maricopa County Department of Environmental Services. Over the years I have established a great deal of credibility which was achieved by the many successful permits and successful negotiations.**
- 3. Forensic Engineering – I have worked as an expert witness on about 12 cases. I have prepared many expert reports, carried out many depositions and testified in Court three times. My area of expertise is Civil Engineering. In particular Water and Wastewater, Hydrology and Hydraulics. I do not advertise for this work. The work comes to after I have been recommended to attorneys by other attorneys or other parties. Many times my investigatory work has uncovered causes of problems that were not anticipated. This occurred because my research is very thorough and, as part of the work, I develop a very thorough timetable which is tied to the documents that make up the evidence.**

7. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

a.	Percentage of Total Work Attributable to State, Federal and Municipal Government Work:	55%
b.	Percentage of Total Work Attributable to Non-Government Work:	45%

8. AUTHORIZED REPRESENTATIVE. The foregoing is a statement of facts.

Signature: Fred E. Goldman Date: 12/11/13

Name: Fred E. Goldman Title: Owner