

DEFINITIONS

Architect Services, Engineer Services, Land Surveying Services, Assayer Services, Geologist Services and Landscape Architect Services: Those professional services within the scope of the practice of those services as provided in ARS § 32-101.

Branch Office: A geographically distinct place of business or subsidiary office of a firm that has a key role on the team.

Discipline: Primary technical capabilities of key personnel, as evidenced by academic degree, professional registration, certification, and/or extensive experience.

Firm: Defined in ARS § 32-101(B.19.).

Key Personnel: Individuals who will have major contract responsibilities and/or provide unusual or unique expertise.

SPECIFIC INSTRUCTIONS:

1. Complete this form for each branch office seeking work under this RFQ.
 - a. – e. **Firm (or Branch Office) Name and Address.** Self-explanatory.
 - f. **Year Established.** Enter the year the firm (or branch office, if appropriate) was established under the current name.
 - g. **Ownership.**
 - (g1). *Type.* Enter the type of ownership or legal structure of the firm (sole proprietor, partnership, corporation, joint venture, etc.).
 - (g2). *Small Business Status.* A firm is a small business if the firm has less than 100 employees **or** has gross revenues of \$4 million or less.
 - h.-j. **Point of Contact.** Provide this information for a representative of the firm that the Customer can contact for additional information. The representative must be empowered to speak on contractual and policy matters.
 - k. **Name of Firm.** Enter the name of the firm.
2. **Employees by Discipline.**
 - a. Select disciplines from the List of Disciplines (Function Code) listed on Page 3 of 4 Instructions. For employees that do not qualify for any of the disciplines, select Other. *Note: The intended searchable database indicated in the RFQ will be populated from the Qualifications Form I Excel attachment only.*
 - b. Each person can be counted only twice; once for his/her primary function and once for his/her secondary function. Primary and secondary functions should be indicated by including a "P" or an "S" in column b after the Description Title is given.
 - c-d. If the form is completed for a firm (including all branch offices), enter the number of employees by disciplines in column c. If the form is completed for a branch office, enter the number of employees by discipline in column d and for the firm in column c.
3. **Profile of Firm's Experience and Annual Average Revenue for Last Year.**
 - a. Enter the approximate number of projects the firm (or branch) has done attributable by Profile Code listed on Page 3 of 4 Instructions over the last year.
 - b. Enter the appropriate Profile Codes from Instructions Pages 3 of 4 that represent the type of work the firm (or branch) has done over the last year.
 - c. Using the Revenue Index Number on Page 3 of 6 Form, indicate the approximate revenue the firm has

earned over the last year per Profile Code entered into the table.

4. **Resumes of Key Personnel Proposed for This Contract.** Complete this section for each key person who will participate in this contract.
 - a. Self-explanatory.
 - b. Self-explanatory
 - c. Total years of relevant experience (block c1), and years of relevant experience with current firm, but not necessarily the same branch office (block c2).
 - d. Name, City and State of the firm where the person currently works, which must correspond with one of the firms (or branch office or a firm, if appropriate) listed in Section 1.
 - e. Provide information on the highest relevant academic degree(s) received. Indicate the area(s) of specialization for each degree.
 - f. Provide information on current relevant professional registration(s) and in which State(s) they are current.
 - g. Provide information on any other professional qualifications relating to this contract, such as education, professional registration, publications, organizational memberships, certifications, training, awards, and foreign language capabilities.
 - h. Provide information on no more than five (5) projects in the last year which the person had a significant role that demonstrates the person's capability relevant to her/his proposed role in this contract. These projects do not necessarily have to be any of the projects presented in Section 5 for the project team if the person was not involved in any of those those projects or the person worked on other projects that were more relevant than the team projects in Section 5. Use the check box provided to indicate if the project was performed with any office of the current firm. If any of the professional services or construction projects are not complete, leave Year Completed blank and indicate the status in Brief Description and Specific Role.

5. **Example Projects Which Best Illustrate Firms Qualification for this contract.** Select project where multiple team members worked together, if possible, that demonstrate the team's capability to perform work similar to that required for this contract. Complete one Section 5 for each project. List no more than five (5) projects.
 - a. Title and Locations of project or contract. For an indefinite delivery contract, the location is the geographic scope of the contract.
 - b. Enter the year completed of the professional services (such as planning, engineering study, or design), and/or the year completed if construction. If any of the professional services or the construction projects are not complete, leave Year Completed blank and indicate the status in Brief Description of Project and Relevance to This Contract (block f).
 - c. Project Owner or user, such as a government agency or installation, an institution, a corporation or private individual.
 - d. Provide the original budget or not to exceed dollar amount for the project.
 - e. Provide the Total Cost of the Project. If any of the professional services or construction projects is not complete, indicate the percentage complete and whether this project will be on budget, over or under budget.
 - f. Brief Description: Indicate scope, size, and length of project, principle elements and special features of the project. Discuss the relevance of the example project to this contract.

6. **Additional Information.** Use this section to provide additional information you feel may be necessary to describe your firm's qualifications for this contract.

7. **Annual Average Professional Services Revenues of Firm for Last 3 Years.** Complete this block for the firm or branch office for which this form is completed. In column a, enter an approximate percentage of total work attributable to State, Federal or Municipal Work. In column b, enter an approximate percentage of total work attributable to Non-Government work. Percentages should take into consideration work completed over the last 3 years.

8. **Authorized Representative.** An authorized representative of the firm or branch office must sign and date the completed form. Signing attests that the information provided is current and factual. Provide the name and title of the authorized representative who signed the form.

**RFQ# ADSP014-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

List of Disciplines (Function Codes) for Question 7

Aeronautical Engineer	Environmental Engineer	Mining Engineer
Agricultural Engineer	Environmental Scientist	Nuclear Engineer
Archeologist	Fire Protection Engineer	Petroleum Engineer
Architect	Geodetic Surveyor	Photogrammetrist
Architectural Engineering	Geographic Information System Specialist	Project Manager
Biologist	Geological Engineer	Sanitary Engineer
CADD Technician	Geologist	Soils Engineer
Chemical Engineer	Hydrographic Surveyor	Structural Engineer
Civil Engineer	Hydraulic Engineer	Technician/Analyst
Construction Manager	Hydrologist	Transportation Engineer
Construction Inspector	Industrial Engineer	Water Resources Engineer
Control Systems Engineer	Landscape Architect	
Cost Engineer/Estimator	Mechanical Engineer	
Ecologist	Metallurgical Engineer	
Electrical Engineer		

List of Experience Categories (Profile Codes for Question 8)

Acoustics, Noise Abatement	Dredging Studies and Design
Aerial Photography; Airborne Data and Imagery Collection and Analysis	Design & Planning Structured Parking Facilities
Activity Centers	Detention Security Systems
Air Pollution Control	Disability / Special Needs
Airports; Nav aids; Airport Lighting; Aircraft Fueling	Ecological and Archeological Investigations
Airports; Terminals and Hangars; Freight Handling	Educational Facilities; Classrooms
Agricultural Development; Grain Storage; Farm Mechanization	Electrical Studies and Design
Animal Facilities	Electronics
Anti-Terrorism/Force Protection	Elevators; Escalators; People-Movers
Area Master Planning	Energy / Water Auditing Savings
Auditoriums and Theaters	Energy Conservation; New Energy Sources
Automation; Controls; Instrumentation	Environmental Impact Studies, Assessments or Statements
Barracks; Dormitories	Fallout Shelters; Blast-Resistant Design
Bridge Design: Bridges	Fire Protection
Cartography	Fisheries; Fish Ladders
Cemeteries (<i>Planning and Relocation</i>)	Forensic Engineering
Chemical Processing and Storage	Garages; Vehicles Maintenance Facilities; Parking
Child Care/Development Facilities	Gas Systems (<i>Propane; Natural, Etc.</i>)
Codes; Standards; Ordinances	Geodetic Surveying: Ground and Airborne
Cold Storage; Refrigeration and Fast Freeze	Heating; Ventilating; Air Conditioning
Commercial Building (<i>Low Rise</i>); Shopping Centers	Highways; Streets; Airfield Paving; Parking Lots
Community Facilities	Historical Preservation
Communications Systems; TV; Microwave	Hospital and Medical Facilities
Computer Facilities	Hotels; Motels
Conservation and Resource Management	<i>Housing (Residential, Multi-Family; Apartments; Condominiums)</i>
Construction Management	Hotels; Motels
Construction Surveying	Hydraulics and Pneumatics
Corrosion Control; Cathodic Protection Electrolysis	Hydrographic Surveying
Cost Estimating; Cost Engineering and Analysis; Parametric Costing; Forecasting	Industrial Buildings; Manufacturing Plants
Cryogenic Facilities	Industrial Processes; Quality Control
Construction Materials Testing	Industrial Waste Treatment
Dams (<i>Concrete; Arch</i>)	Intelligent Transportation Systems
Dams (<i>Earth; Rock</i>); Dikes; Levees	Infrastructure
Desalinization (<i>Process and Facilities</i>)	Irrigation; Drainage
Design-Build - Preparation of Requests for Proposals	Judicial and Courtroom Facilities
Digital Elevation and Terrain Model Development	Laboratories; Medical Research Facilities
Digital Orthophotography	Land Surveying
Dining Halls; Clubs; Restaurants	Landscape Architecture
	Libraries; Museums; Galleries

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REVISED - Attachment I – General Qualifications**

Lighting (*Interior; Display; Theater, Etc.*)
Lighting (*Exteriors; Streets; Memorials; Athletic Fields, Etc.*)
Labs - General
Labs – Research – Dry
Labs – Research – Wet
LEED Accredited A/E
LEED Independent 3rd Party Building Commissioning
Mapping Location/Addressing Systems
Materials Handling Systems; Conveyors; Sorters
Metallurgy
Materials Testing
Measurement / Verification / Conservation Water Consumption Savings
Mining and Mineralogy
Medical Related
Modular Systems Design; Fabricated Structures or Components
Mold Investigation
Museums
Nuclear Facilities; Nuclear Shielding
Office Buildings; Industrial Parks
Outdoor Recreation
Petroleum and Fuel (*Storage and Distribution*)
Photogrammetry
Pipelines (*Cross-Country - Liquid and Gas*)
Phase I Environmental
Prisons & Correctional Facilities
Plumbing and Piping Design
Prisons and Correctional Facilities
Product, Machine Equipment Design Pneumatic Structures, Air-Support Buildings Power Generation, Transmission, Distribution Public Safety Facilities
Radar; Sonar; Radio and Radar Telescopes
Radio Frequency Systems and Shielding's
Railroad; Rapid Transit
Recreation Facilities (*Parks, Marinas, Etc.*)
Refrigeration Plants/Systems
Rehabilitation (*Buildings; Structures; Facilities*)
Research Facilities
Resources Recovery; Recycling
Roof Infrared Imaging to Identify Water Leaks

Roofing
Safety Engineering; Accident Studies; OSHA Studies
Security Systems; Intruder and Smoke Detection
Seismic Designs and Studies
Sewage Collection, Treatment and Disposal
Soils and Geologic Studies; Foundations
Solar Energy Utilization
Solid Wastes; Incineration; Landfill
Special Environments; Clean Rooms, Etc.
Structural Design; Special Structures
Surveying; Platting; Mapping; Flood Plain Studies
Sustainable Design
Swimming Pools
Storm Water Handling and Facilities
Specifications Writing
Toxicology
Testing and Inspection Services
Traffic and Transportation Engineering
Topographic Surveying and Mapping
Towers (*Self-Supporting and Guyed Systems*)
Tunnels and Subways
Traffic Studies
Transportation
Urban renewals; Community Development
Utilities (*Gas and Steam*)
Value Analysis; Life-Cycle Costing
Warehouse and Depots
Water Resources; Hydrology; Ground Water
Water Supply; Treatment and Distribution
Wind Tunnels; Research/Testing Facilities Design
Waste Water Treatment Facility
Water Well Rehabilitation; Water Well Work
Zoning; Land Use Studies

**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:	Experienced Engineering Enterprise, LLC
b.	FIRM (OR BRANCH OFFICE) STREET:	1945 N. Calle Maderas
c.	FIRM (OR BRANCH OFFICE) CITY:	Mesa
d.	FIRM (OR BRANCH OFFICE) STATE:	Arizona
e.	FIRM (OR BRANCH OFFICE) ZIP CODE:	85213
f.	YEAR ESTABLISHED: 2012	
(g1).	OWNERSHIP - TYPE:	Corporation - Limited Liability Company
(g2).	OWNERSHIP - SMALL BUSINESS STATUS:	Small Business
h.	POINT OF CONTACT NAME AND TITLE:	Robert S. Schulz, P.E., President
i.	POINT OF CONTACT TELEPHONE NUMBER:	480.4614.8148
j.	POINT OF CONTACT E-MAIL ADDRESS:	ExperiencedEngineering@gmail.com
k.	NAME OF FIRM <i>(If block 1a is a branch office):</i>	

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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
Sanitary Engineer	P	1	
Water Resources Engineer	S	1	
Total		1	

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

a. NAME Robert S. Schulz, P.E.	b. ROLE IN THIS CONTRACT Project Manager	c. YEARS EXPERIENCE	
		1. TOTAL 38	2. WITH CURRENT FIRM 1
d. FIRM NAME AND LOCATION (City and State) Experienced Engineering Enterprise, LLC, 1945 N. Calle Maderas, Mesa, AZ 85213			
e. EDUCATION (DEGREE AND SPECIALIZATION) B.S. Civil Engineering M.S. Sanitary Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Arizona 22001 Civil – 1988 California C-28237 Civil - 1977	
OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) American Water Works Association, Water Environment Federation, American Public Works Association, American Society of Civil Engineers. Training – How to Make a Winning Presentation, The Marketing Game, Business Negotiations, Project Managers' Meeting Safety, Servant Leadership – Leading from the Back. Awards – Special Recognition from Kansas Society of Professional Engineers (KSPE) for Mathcounts Program, Engineer of the Year KSPE, Young Engineer of the Year KSPE, American Public Works Association (APWA) for Project of the Year for Environment Award – 2012.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) Managed and Constructed Recharge Facilities – Planning-Conceptual Design-Value Engineering Casa Grande, Arizona	(2) Year Completed 2012	
		Professional Services Conceptual Design	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE – Infrastructure & Value Engr. <input type="checkbox"/> Check if project performed with current firm Reclaimed Water Recharge Reservoirs, Casa Grande, AZ developed and designed for construction a series of basins that serve as both a recharge facility and a public park amenity. Work included the development of a Recharge Facility Value Engineering Analysis to identify the most cost effective options for recharging wastewater effluent by either or Managed or Constructed facilities as defined by the State of Arizona Department of Environmental Quality. The system is based on recharge of 3500 acre feet per year with an estimated construction cost of \$1,200,000.		
2)	(1) TITLE AND LOCATION (City and State) Managed and Constructed Recharge Facilities – Final Design Casa Grande, Arizona	(2) Year Completed	
		Professional Services Design, Plans, & Specifications	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 Mr. Schulz is currently contracted by Burns & McDonnell Engineering to serve as Project Manager to complete the detailed design of aquifer recharge facilities for City of Casa Grande, AZ. Recharge is accomplished by a series of 5 ponds, designated as 'constructed' facilities, and a natural wash will recharge the remainder of the effluent as 'managed' facilities. Both recharge components will be monitored and controlled with SCADA controls for documentation of recharge credits. The project is broken into 2 phases one for managed and one for constructed. The managed are approximately 75% complete and the constructed are approximately 30% complete.		
3)	(1) TITLE AND LOCATION (City and State) Butler Recharge Optimization Study Peoria, Arizona	(2) Year Completed 2012	
		Professional Services Conceptual and Value Engineering	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Butler Recharge Optimization Study, Peoria, AZ evaluated the various recharge methods and/or combination of methods (managed, constructed, Vadose Zone wells, Aquifer Storage and Recovery Wells) from the Butler Reclamation Facility. Recharge methods were located over 8 geographic sites within Peoria. A financial analysis (Value Engineering) for 30 year operating period identified the most cost effective combinations of recharge ranging in capacity from 9,000 to 15,000 acre feet per year over the period with an estimated construction cost of nearly \$18,000,000. My role was responsibility for value engineering and all infrastructure evaluation.		
4)	(1) TITLE AND LOCATION (City and State) Sanitary Sewer System Expansion Project Cave Creek, Arizona	(2) Year Completed 2012	
		Professional Services Design, permitting, plans and specifications	Construction (if applicable) Design/Build
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Sanitary Sewer System Expansion Project, Cave Creek, AZ provided for a new 0.66 MGD wastewater treatment facility. At project completion, the D/B team had saved the Town of Cave Creek 6% of the initial project cost, and allowed for another 3% in added Town request scope additions. The project was awarded the national APWA Project of the Year Award for Environment for 2012. Total project cost was \$26,585,543.00. My role was Program Design and Construction Administration Manager.		
5)	(1) TITLE AND LOCATION (City and State) Confidential Client Arizona	(2) Year Completed 2013	
		Professional Services Conceptual 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 Conceptual design for a 150,000 acre-feet drainage recovery system recovering drainage water from beneath irrigated fields along the Colorado River with a system of pipelines, pump stations, and intermediate storage reservoirs. Much of that water is planned for storage underground in an aquifer storage facility. Recharge facilities include the potential for lakes incorporating roads, beaches, a wetland wildlife preserve, boat ramps, docks, a store, rest rooms, and facilities suitable for support of water sports. A recreational-vehicle park and golf course are also future development components.		

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REVISED - Attachment I – General Qualifications**

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> Arizona Department of Emergency and Military Affairs Marana, Phoenix, and Buckeye, Arizona	b. YEAR COMPLETED 2007-2012	
	PROFESSIONAL SERVICES Local Client and Project Manager	CONSTRUCTION <i>(If applicable)</i> Local Construction Administration Manager

23. PROJECT OWNER'S INFORMATION

c .PROJECT OWNER DEMA	d .DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT 4 Projects total cost \$64 million
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

- National Guard Readiness Centers for Arizona Department of Emergency and Military Affairs

- Marana Readiness Center is a 2010 BRAC project supporting the Army National Guard and the Army Reserves costing \$28.2 million. The 119,752 ft² facility is made up of a two story Readiness Center with unit storage areas with Arms Vault for both the Guard and Reserves. A combined National Guard Vehicle Maintenance facility and Reserves AMSA Shop. Achieved LEED Gold designation.



- Papago Readiness Center is a \$12 million 2009 project supporting the Army National Guard. The 90,110 ft² facility is made up of a bi-level Readiness Center with Unit Storage and Vehicle Maintenance included in a single separate facility. These facilities support 421 National Guard personnel and achieved LEED Silver designation.



- Buckeye Readiness is a 2007 BRAC project supporting the Army National Guard and the Army Reserves. The 127,105 ft² facility is made up of six pre-engineered buildings to support 255 National Guard personnel and 216 Army Reserve personnel. Water and wastewater treatment facilities were included in the project. Cost of the facility is \$18.6 Million.



- Singapore Peace Vanguard Hangar is a 24,500 ft² 3-bay hangar and 12,000 ft² administration area provide facilities to support 137 National Guard personnel, and the Singapore Air Force. The primary focus is training and maintenance of AH-64 aircraft.



- These 4 projects are representative of my project management and construction administrative management capabilities working with multi-discipline type of projects.
- Worked very closely with client representatives during the design and represented the client during the construction in managing the efforts of the construction contractors. Contracting methods included traditional design, bid, build and Construction Management at Risk.

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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 (City and State) Sanitary Sewer System Expansion Project Cave Creek, Arizona	b. YEAR COMPLETED -2012	
	PROFESSIONAL SERVICES Design, permitting, plans and specifications	CONSTRUCTION (If applicable) Design/Build
23. PROJECT OWNER'S INFORMATION		
c. PROJECT OWNER Cave Creek, Arizona	d. DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT \$26,585,543.00

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

The project provides for a new 0.66 mgd wastewater treatment facility to replace the existing plant. Sewage is conveyed from the existing treatment plant site to the Water Ranch through 3 miles of new forcemain and a mile of gravity sewer.



The new water reclamation facility includes an influent pump station to lift the raw wastewater into the treatment components which includes screening with a rotary drum screen and vortex grit removal prior to biological treatment with the sequencing batch reactor process. The SBR system consists of two treatment trains and a post-equalization basin. The final treatment process is cloth disc filtration followed by disinfection with hypochlorite in the chlorine contact basin and de-chlorination with sodium metabisulfite. Treated effluent is pumped back to the old plant site for discharge to golf course irrigation ponds through 4 miles of new forcemain. Solids are pumped from the SBR basins to a sludge holding tank. From the sludge holding tank the solids are pumped to a belt filter press, dewatered and disposed at a local landfill. Chemical wet-scrubber odor control is provided for the treatment facilities. The facility meets all regulatory property set back criteria. The site can provide for expanded treatment capacity of 2.25 mgd.

Within the first six months of the project, economic conditions required reducing the cost of the project to meet Town budget constraints. Value engineering defined process changes and pipeline routing changes to decrease costs and yet keep the project on schedule. This was the first project in Arizona to utilize ARRA funding for construction.

An Aquifer Protection Permit was obtained for the treatment process and includes provisions for reuse of the Class A+ effluent for golf course irrigation. A new Arizona Pollution Discharge Elimination System permit was obtained to allow for discharge to Cave Creek Wash at two separate locations, giving the Town maximum flexibility.

The design/build team transferred operations to the new reclamation facility from the existing plant site without interruption of service and decommissioned the existing facilities which conformed to ADEQ closure criteria.

During the progress of the project, a need to replace an aging water transmission main developed in the same utility corridor as the wastewater pipelines. With some quick design and permitting, 2.5 miles of 16-inch water line was added to the project.

This project represents the largest public works infrastructure project undertaken by the Town. The project was a financial success by saving the Town 9% of the original identified project costs and completing the project on schedule.

This project has been recognized for its merits in engineering, construction, and Owner cooperation by being a recipient of Arizona ACEC's Engineering Excellence Honor Award in 2011 and APWA's National Public Works Projects of the Year award for 2012.

This project demonstrates my abilities as program manager for engineering during the design and construction portions of the project under the design/build contracting method.

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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> Wastewater System Expansion Lake Havasu City, Arizona	b. YEAR COMPLETED 2005	
	PROFESSIONAL SERVICES Master Planning - Program Management	CONSTRUCTION <i>(If applicable)</i> Program Construction Administration

23. PROJECT OWNER'S INFORMATION

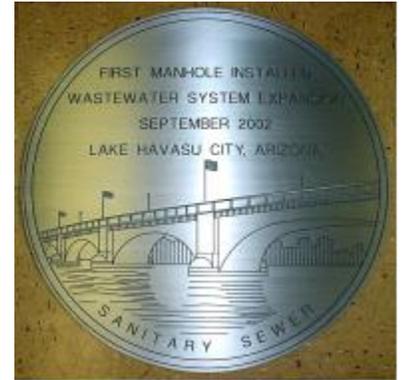
c. PROJECT OWNER Lake Havasu City, Arizona	d. DOLLAR AMOUNT OF PROJECT \$463,000,000.	e. TOTAL COST OF PROJECT
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Lake Havasu City is situated on the Colorado River in west central Arizona. The City's 36,000 acre planning area supports a current population of 50,000 with build out projected at 96,000. At the beginning of the program approximately 20 percent of the population was served by the existing sanitary sewer collection system, with the remainder on individual septic tanks. Monitoring wells located within one mile of the lake have indicated high levels of nitrates, which prompted the ADEQ to establish several building ban areas.

The initial system consisted of two treatment facilities minimal collection. Treatment plant capacity totaled 1.8 MGD initially. Lake Havasu City's 208 plan does not permit treatment plant effluent discharge to Lake Havasu, therefore **effluent had to be discharged by reuse alternatives such as golf course irrigation and percolation ponds.**

The City authorized master planning services to study the City's wastewater treatment, collection facilities, and reuse/reclamation. The Master Plan reviewed the entire planning area and evaluated alternative collection systems, location of treatment facilities for regional growth and providing **a regional network effluent conveyance, reuse and disposal.** All options were evaluated for performance and cost.



Results of the planning resulted in the need for a management plan to provide infrastructure improvements and expansion totaling \$463 million. A Capital Improvement Program was developed which included design and construction of infrastructure made up of 79 individual projects spanned over an eleven year period. This CIP served as the major road map for the program and also became the basis for assembling the annual funding request for these CIP projects. This including providing all of the technical background to support the annual expenditure of WIFA loan or bond market funds for these projects.

A comprehensive management structure was required for execution of these projects within the limited time schedule available. Program design standards were developed for the projects. Special details were also incorporated into the standards to be used in the drawings sets to provide consistency throughout the program. Based on the size of the overall program and the time frame involved considerable effort was made to coordinate with ADEQ. Standardized design reports were developed for pre-construction approvals and likewise, new construction forms were developed to permit sequential use of gravity sewers as they were under construction. This process has served as a model for other such projects with ADEQ.

Services during this program have incorporated significant public involvement activities. Some of these included multiple public meetings during the design phase, legal and informational packet mailings for construction access to every property and ultimately filing with the County as a legal document, construction notifications and a project phone hot line to answer questions or provide emergency follow-up on construction related issues. This including hanging door hangers on every residence to notify on construction start dates for their area and provide assistance with vehicular traffic and in some cases, physical assistance with the handicapped.

An equally extensive effort was made to standardize the bidding and construction activities. Procedures were developed and incorporated into the contract documents to make the process for each project as similar as possible. Considerable time was spent in developing a consistent method to develop construction estimates and quantities appropriate for installing gravity sewer pipelines where none previously existed, but all other utilities were in place. Scheduling was equally important for the entire program. A primavera program schedule was developed for each year. It included management, design, permitting, construction and project close out. It was set up to input the detailed primavera construction schedule provided by each contractor.

Verification of conditions for both pre and post construction required a major effort. Still photographs and video were recorded for both periods of time to accurately reflect the quality of the work performed by the contractor particularly with respect to yard restoration.

Weekly construction progress reports were made to the City Council and local newspaper to inform completed work and scheduled future work to ease traffic congestion. Monthly program meetings were held with City staff to coordinate and plan every facet of the project.

This project demonstrates my ability to provide multiple project coordination for design and construction within a single large multi-phase program. A large part of this project involved permitting and working with regulatory agencies to develop new methods of documentation and reporting methodologies.

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5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		
<i>(Present no more than five (5) projects. Complete one Section 5 for each project.)</i>		
a. TITLE AND LOCATION <i>(City and State)</i> Water Source Development Project Lake Havasu City, Arizona	b. YEAR COMPLETED 2005	
	PROFESSIONAL SERVICES Master Planning Detailed Design Multi-Phased Program	CONSTRUCTION <i>(If applicable)</i> Construction Administration for all phases of project
23. PROJECT OWNER'S INFORMATION		
c. PROJECT OWNER Lake Havasu City, Arizona	d. DOLLAR AMOUNT OF PROJECT \$50,000,000.	e. TOTAL COST OF PROJECT

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Biological Manganese Removal Water Treatment Facilities, Lake Havasu City

Lake Havasu City, Arizona, with a population expected to double to 96,000, planned ahead to support quality growth. The water supply from 14 wells, located at three separate well fields, would be inadequate to sustain the burgeoning population. In addition, high levels of manganese in the well water had caused numerous black water complaints from consumers. The City established a Water Source Development program to address these needs.

A new horizontal collector well, the first of its kind in Arizona, was built on London Bridge Beach to meet future water demands. The new well replaced two existing well fields, while the third was maintained as a contingency back-up. After pilot testing to identify the optimal water treatment technology for manganese removal, a water treatment plant utilizing biological filtration, was constructed. The biological method saved over \$1 million in plant construction and over \$600,000 in annual operating costs compared to more traditional methods. Water is conveyed to the new plant via 16,000 feet of 48" concrete reinforced pipe. Finished water is then delivered to the transmission and storage system via 10,000 feet of 30", and over 18,000 feet of 36", ductile iron pipe. The new treatment plant not only eliminates the problems caused by the high levels of manganese, but also reduces arsenic content below future Federal regulation levels. The City is now capable of producing 26 million gallons per day (MGD) of fresh, clear water, with built-in capacity increases up to 36 MGD



Lake Havasu City, Arizona Manganese Removal Pilot Water Treatment Plant

Lake Havasu City currently provides water to their customers from numerous wells along the Colorado River. An inadequate supply from these wells to meet future needs and high manganese levels in the raw water prompted a new direction for the City. The City decided to pursue the construction of a new single horizontal collector well to supply 25 mgd of water to the customers. This water source also had high levels of manganese and the City decided to treat the water for manganese removal before sending it to the distribution system.



Water was supplied to the pilot plants from the continuously operated 100 feet deep test well located adjacent to the site of the new horizontal collector well. This well was in operation for over a year at the time of the pilot study and water quality from the well had stabilized. The capacity of the well was approximately 1,000 gpm. A PVC pipe delivery system was manifolded to the discharge header of the test well to supply water to each of the pilot plants. Pilot operations were started in April, 1998, and concluded at the end of July, 1998.

Evaluation of each alternative was based on compliance with current and proposed water quality standards, estimated construction costs and estimated operational costs. Finished water quality goals used for evaluation were:

- Manganese removal below MCL of .05 mg/L.
- Arsenic removal below proposed MCL of 20 mg/L.
- Total trihalomethane concentration less than the proposed D/DBP rule Stage II MCL of 40 mg/L.
- Consistent removal of turbidity to 0.1 NTU.

Biological Manganese removal using the IDI Mangazur7 process with Aquazur filters has been selected as the treatment process for final design. This is based on evaluation costs derived from the pilot study and the design team's determination of system reliability.

This project demonstrates my ability to provide multiple project coordination for design and construction within a single large multi-phase program. A large part of this project involved permitting and working with regulatory agencies to develop new methods of documentation and reporting methodologies.

**RFQ# ADSP014-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

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> Regional Watershed Planning Colorado River Regional Sewer Coalition (CRRSCo) (Lower Colorado River)	b. YEAR COMPLETED 2005	
	PROFESSIONAL SERVICES Master Planning – Governmental Relations	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

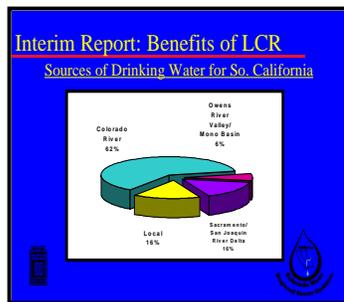
c. PROJECT OWNER Colorado River Regional Sewer Coalition	d. DOLLAR AMOUNT OF PROJECT \$200,000 fee	e. TOTAL COST OF PROJECT Construction recommended \$2 billion
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Colorado River Regional Sewer Coalition (CRRSCo)

Regional Watershed Planning

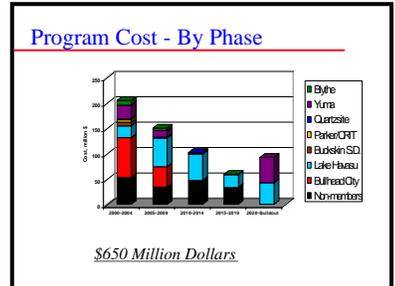
The Colorado River Regional Sewer Coalition (CRRSCo) wanted to provide a Watershed Master Plan for the lower Colorado River. CRRSCo was a non-profit corporation with membership consisting of local Governments, Indian Tribes, businesses, private citizens and others concerned with protecting and enhancing the surface and ground water quality along the lower Colorado River from Davis Dam to the international border with Mexico. The organization is set up to include the Colorado River watershed in Arizona, California, Nevada, and associated tribal lands.



These communities are experiencing rapid growth. Population in the study area is expected to increase by 62 percent by the year 2020. This growth, combined with the fact that a majority of river residents are on septic systems, has contributed to water quality problems for both surface water and ground water. This is of critical importance since over 20 million residents of Arizona, California and Nevada receive their drinking water from the Colorado River. The river also supports over \$2 billion in crop production and \$400 million in hydroelectric power generation annually. Furthermore, recreation plays an extremely important role in the area, as there are over 19 million visitors to the area each year.

The purpose of the Regional Watershed Planning Document is to present an assessment of the wastewater needs of river communities located in the planning area. The planning area covers approximately 7,000 acres and encompasses the 22 members of CRRSCo. The report both:

1) informs members and non-members within the planning area of the gravity of the situation; and 2) provides a cohesive document to assist state and federal legislatures in efforts towards obtaining funding for the identified needs and subsequent implementation of improvements.



Results of the study suggest that needed improvements include over 5 million lineal feet of sewer collection system and over 34 million gallons per day of treatment capacity. Using available data, an estimate of order-of-magnitude costs for constructing the recommended wastewater improvements has been developed. The actual dollars to be spent for the identified improvements by 2020, for both CRRSCo and non-CRRSCo members approaches \$2.8 Billion.

The report details a watershed-prioritized, multi-year implementation program for the recommended wastewater improvements. A financial framework is detailed which addresses local, state, federal, and philanthropic opportunities for funding. The final report is being used to secure funding for members of CRRSCo. In addition, and as a start to this process, the Report serves as an introduction to Arizona, California, and Nevada congressional delegations in Washington, DC. Public Advocacy material is being developed to aid the active CRRSCo participants in training their own officials to present the CRRSCo

program, costs, and funding to their constituents.

As the planning continued, it became clear there were other issues in addition to nitrates that needed to be addressed. These included perchlorate, radiation contamination from mine tailings, and salinity.

6. ADDITIONAL INFORMATION

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

Welcome to Experienced Engineering Enterprise.

With nearly 4 decades of experience, Experienced Engineering Enterprise offers

- consulting engineering services for water and wastewater needs
- comprehensive project management, coordinating engineering, consultant services, and contractors, for project execution
- focusing on conservation of resources
- meeting the specific needs of cities and municipalities
- maximizing the use of existing infrastructure
- resulting in an *economical* upgrade or expansion of facilities.

The work of Experienced Engineering Enterprise is based on sound engineering principles as we help local administrators explore options. We factor into account existing and proposed operational requirements, work within the framework of regulatory requirements, and carefully consider construction impacts, particularly in regard to minimal disruption to existing facilities and services.

With nearly 4 decades of experience in providing engineering services has been in the arid Southwest. This experience brings a concern for conservation of our water resources – How can we do more with what we have, without negatively impacting the environment?

Issues, such as identified in the CRRSCo Master Plan continue to be vitally important as we move forward. Infrastructure is in place to move water across the desert Southwest, via the California MWD pumping facilities on the Colorado River, and the CAP and Salt River Project delivery systems in Arizona. Inter-tie of the CAP and SRP systems provides for continued water supply originally developed in the early 1900's and provides for irrigation, potable water supplies, and even aesthetic incorporation of delivery systems into our neighborhoods and communities.

We are at a critical time in our water resource needs in the parched Southwest. Drought conditions continue, with major water storage lakes at historically low levels such as Lake Mead. Populations continue to grow, although at reduced rates than were experienced over the last 10 years. Economic conditions have reduced spending capital for cities and municipalities for much-needed rehabilitation and expansion of infrastructure. While the infrastructure continues to age, the need for renovation services continues to grow. It is important to look at all options available, to be the best stewards of our valuable resources.

Mr. Bob Schulz's career spans over four decades and includes a wide base of experience in regional office start-up and management, project office oversight, department management, project management, client development and maintenance, technical and administrative management of special interest group, staff management, and technical development of staff.

Over the past 5 years, Mr. Schulz served as Contract Manager/Principal-in-Charge on multiple projects running concurrently. These projects included pipeline/infrastructure components and facility components. All had strict completion schedules and included design/bid/build, CMAR, and design/build delivery methods. Total construction value of the most recent three concurrent projects was \$61.2 million.

Mr. Schulz has extensive experience in municipal water and wastewater services including reclamation and recharge, municipal program management, master planning, industrial water and wastewater, pilot plant testing and data confirmation, military readiness center design and construction, and technical federal, state, and local governmental and regulatory issues development and presentations.

Career Highlights Include:

- Program Manager for a \$463 million wastewater system upgrade to replace septic systems with community sewer system, with 11 year completion plan
- Design Coordinator, Construction Manager and Client Coordinator for 4 National Guard Readiness Centers with a total construction cost of \$64 million
- Program Manager for a design/build wastewater system upgrade which was completed on schedule and saved the client 9% of the original project budget

7. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS 2013 - \$5,000 Previous two years responsible for \$500,000 per year in fees.

a.	Percentage of Total Work Attributable to State, Federal and Municipal Government Work:	100%
b.	Percentage of Total Work Attributable to Non-Government Work:	

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

Signature: 

Date: December 11, 2013

Name: Robert S. Schulz, P.E.

Title: President