

	Offer and Acceptance		State of Arizona State Procurement Office 100 N. 15 th Ave. Suite 201 Phoenix, AZ 85007
	SOLICITATION NO.: ADSP016-00005912 Request for Qualifications: 2016 Annual Professional Services List		PAGE 1
	Offeror: <i>KC Mechanical Engineering</i>		OF 1

OFFER

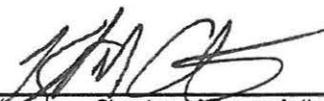
TO THE STATE OF ARIZONA:

The Undersigned hereby offers and agrees to furnish the material, service or construction in compliance with all terms, conditions, specifications and amendments in the Solicitation and any written exceptions in the offer. Signature also certifies Small Business status.

KC MECHANICAL ENGINEERING

Company Name
5447 EASY FIFTH STREET #112
 Address
TUCSON **AZ** **85711**
 City State Zip

kenc@kcmec.net
 Contact Email Address


 Signature of Person Authorized to Sign Offer
KENNETH M. CAWTHORNE
 Printed Name

PRINCIPAL
 Title

 Phone: **520-327-7611**
 Fax: **520-327-0432**

By signature in the Offer section above, the Offeror certifies:

1. The submission of the Offer did not involve collusion or other anticompetitive practices.
2. The Offeror shall not discriminate against any employee or applicant for employment in violation of Federal Executive Order 11246, State Executive Order 2009-9 or A.R.S. §§ 41-1451 through 1465.
3. The Offeror has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted offer. Failure to provide a valid signature affirming the stipulations required by this clause shall result in rejection of the offer. Signing the offer with a false statement shall void the offer, any resulting contract and may be subject to legal remedies provided by law.
4. The Offeror certifies that the above referenced organization IS/ IS NOT a small business with less than 100 employees or has gross revenues of \$4 million or less.

ACCEPTANCE OF OFFER

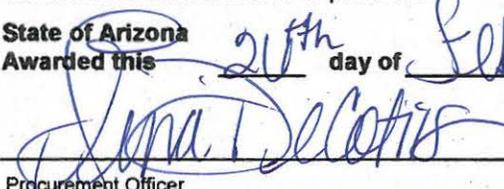
The Offer is hereby accepted.

The Contractor is now bound to sell the materials or services listed by the attached contract and based upon the solicitation, including all terms, conditions, specifications, amendments, etc., and the Contractor's Offer as accepted by the State.

This Contract shall henceforth be referred to as Contract No. ADSP016-00005912

The effective date of the Contract is March 1, 2016

The Contractor is cautioned not to commence any billable work or to provide any material or service under this contract until Contractor receives purchase order, contract release document or written notice to proceed.

State of Arizona
 Awarded this 20th day of February 2016

 Procurement Officer



ATTACHMENT I – General Qualifications

ANNUAL REQUEST FOR QUALIFICATIONS AND EXPERIENCE NO:
ADSP016-00005912

STATE PROCUREMENT OFFICE
Department of Administration
100 North 15th Avenue, Suite 201
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(If a firm has branch offices, complete for each specific branch office seeking work.)

1. Annual Request for Qualifications

a.	FIRM (OR BRANCH OFFICE) NAME:	KC MECHANICAL ENGINEERING
b.	FIRM (OR BRANCH OFFICE) STREET:	5447 EAST FIFTH STREET #112
c.	FIRM (OR BRANCH OFFICE) CITY:	TUCSON
d.	FIRM (OR BRANCH OFFICE) STATE:	ARIZONA
e.	FIRM (OR BRANCH OFFICE) ZIP CODE:	85711
f.	YEAR ESTABLISHED:	1986 (as SMU Mechanical Engineering; name change 2008)
(g1).	OWNERSHIP - TYPE:	S CORP
(g2)	OWNERSHIP - SMALL BUSINESS STATUS:	SBE CERTIFIED – NAICS 541330
h.	POINT OF CONTACT NAME AND TITLE:	KENNETH M. CAWTHORNE, P.E.
i.	POINT OF CONTACT TELEPHONE NUMBER:	520/327-7611
j.	POINT OF CONTACT E-MAIL ADDRESS:	kenc@kcmech.net
k.	NAME OF FIRM (If block 1a is a branch office):	



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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
MECHANICAL ENGINEER	P	5	5
PROJECT MANAGER	P	3	3
CADD TECHNICIAN	P	2	2
ADMINISTRATION	P	1	1
Total		11	11



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3. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST YEAR

a. Approximate No. of Projects	b. Experience	c. Revenue Index Number (see below)
2	ANIMAL FACILITIES	1
4	AUDITORIUMS & THEATERS	1
10	CODES; STANDARDS; ORDINANCES	1
20	COMMERCIAL BUILDING (LOW RISE); SHOPPING CENTERS	3
5	COMMUNITY FACILITIES	1
3	COMPUTER FACILITIES	1
20	DINING HALLS; CLUBS; RESTAURANTS	2
6	EDUCATIONAL FACILITIES; CLASSROOMS	3
35	HOSPITAL & MEDICAL FACILITIES	4
15	HOUSING	2
5	HOTELS; MOTELS	2
20	OFFICE BUILDINGS; INDUSTRIAL PARKS	2
10	RECREATION FACILITIES	3
2	SWIMMING POOLS	1
1	WAREHOUSE & DEPOTS	1

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

- | | |
|---|---|
| 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| 2. \$100,000 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| 5. \$1 million to less than \$2 million | 10. \$50 million or greater |



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4. Resumes of Key Personnel Proposed for this Contract (*Complete one Section #4 for each key person.*)

a. NAME Kenneth M. Cawthorne	b. ROLE IN THIS CONTRACT Principal Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 29 years	2. WITH CURRENT FIRM 21 years, since 1994
d. LOCATION (City and State) Tucson, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS Mechanical Engineering, University of Arizona 1986		f. PROFESSIONAL TRAINING - REGISTRATIONS US Green Building Council LEED Accredited Professional	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) ASHRAE – Associate Member ASPE – Associate Member ASHE – Associate Member ICC – Professional Member		AZ Registration #25035 NM Registration #13143 CO Registration #36925	Texas Registration #104235 Nevada Registration #020538

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION (City and State) University of Arizona McKale Center Renovations Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2015	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Principal Mechanical Engineer for the mechanical and plumbing upgrades and renovations for this initial \$30 million phase of construction that included all new locker rooms for Men’s & Women’s basketball, volleyball, swimming, baseball/softball, and coaches along with all new concourse level concessions and public toilet rooms that were expanded to provide 4 times the existing capacity.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) GSA Tucson Federal Building Restroom Renovation Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2013	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Lead Mechanical Engineer- Provided the initial investigation of existing conditions and then construction documents to replace all existing plumbing fixtures and piping serving the toilet cores of this 9 story building. The existing ductwork was determined to be in good condition and was cleaned and utilized with upgrades to the fans.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) 5151 East Broadway Upgrades Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2015	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Principal Mechanical Engineer - Provided design to replace existing tower air handler and boilers serving 16 story 250,000 sf office building. Design included components that would fit through existing doorways, increase energy efficiency, reduce maintenance, reduce noise, and be constructed over a 3 day weekend.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) Hendricks Elementary Chiller Replacement Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2013	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Principal Mechanical Engineer - Provided initial consultation to justify replacement of 160 ton chiller for funding from the Arizona School Board. Then included design and construction administration to replace the existing chiller.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) Pima Air & Space Museum Expansion Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Principal Mechanical Engineer - Mechanical and plumbing design for a 27,000 sf airplane museum. The mechanical system had to take into account the airplanes that were on the ground and suspended overhead.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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4. Resumes of Key Personnel Proposed for this Contract (*Complete one Section #4 for each key person.*)

a. NAME Kenneth G. Weyker	b. ROLE IN THIS CONTRACT Project Manager	c. YEARS EXPERIENCE	
		1. TOTAL 29 years	2. WITH CURRENT FIRM 19 years, since 1994
d. LOCATION (<i>City and State</i>) Tucson, Arizona			
e. EDUCATION (<i>DEGREE AND SPECIALIZATION</i>) Mechanical Engineering, University of Arizona Mechanical Engineering, Pima Community College		f. PROFESSIONAL TRAINING - REGISTRATIONS	
g. OTHER PROFESSIONAL QUALIFICATIONS (<i>Organizations, Awards, etc.</i>) ASHRAE – Associate Member			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION (<i>City and State</i>) Davis Monthan Air Force Base Retro Commissioning Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager/Mechanical Engineer - Provided assessments and energy analysis for four buildings on the air force base. Energy analysis were performed to determine the best replacement HVAC system for each building based yearly payback of proposed systems.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (<i>City and State</i>) Andrada High School & Pantano Polytechnic High School Vail, Arizona	(2) YEAR COMPLETED	
		Professional Services 2013	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager/Mechanical Engineer - Provided the mechanical and plumbing design for both schools that are located on one site. The mechanical design included high efficiency packaged units to meet the LEED GOLD certification.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (<i>City and State</i>) Mary Belle McKorkle Academy of Excellence Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services 2012	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager/Mechanical Engineer - Provided the mechanical and plumbing design for multiple buildings total over 100,000 square foot on one site. The mechanical design include a high efficiency central plant design with underground chilled and heating water piping distributed to the various buildings on site. This design met the LEED Gold certification.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (<i>City and State</i>) Sahuarita Unified School District Mechanical Evaluations Sahuarita, Arizona	(2) YEAR COMPLETED	
		Professional Services 2012	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager/Mechanical Engineer - Provided assessments and analysis for HVAC replacement at three schools throughout the school district. Project included providing cost estimates and scheduling forecasts	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (<i>City and State</i>) Picacho Peak Visitor's Center Picacho, Arizona	(2) YEAR COMPLETED	
		Professional Services 2007	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager/Mechanical Engineer – Provided the mechanical and plumbing design for a new Visitor's Center. The mechanical design included high efficiency, vertical split system heat pumps to meet LEED Gold Certification.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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4. Resumes of Key Personnel Proposed for this Contract (Complete one Section #4 for each key person.)

a. NAME Robert Kunkel	b. ROLE IN THIS CONTRACT Lead Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 10 years	2. WITH CURRENT FIRM 10 years, since 2005
d. LOCATION (City and State) Tucson, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS & BS Mechanical Engineering, University of Arizona		f. PROFESSIONAL TRAINING - REGISTRATIONS Healthcare Facility Design Professional (ASHRAE) US Green Building Council – LEED Green Associate	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) ASHRAE (past President Tucson Chapter) currently Region X Treasurer			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION (City and State) Ft. Huachuca Projects Ft. Huachuca, Arizona	(2) YEAR COMPLETED	
		Professional Services 2014	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Bldg 82012 ARMS: Project Lead Mechanical Engineer for new VRF & Energy Recovery Systems for a 5,000 SF, \$500,000 tenant improvement in the existing evaporative cooled building. Project included two (2) Equipment Simulation Rooms & one (1) large Conference Room. Bldg 22422 ICE HALL: Project Lead Engineer for a complete mechanical system replacement for a 10,000 SF portion of the building w/new dedicated outside air units & chilled/heating water fan coils.	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) Foley Federal Building Las Vegas, Nevada	(2) YEAR COMPLETED	
		Professional Services Started 2011 – on-going	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Lead Mechanical Engineer for on-going various projects within this Federal Building. Completed a \$4 million Energy System Upgrade for the entire 200,000 SF building, including Controls, Variable Primary Pumping, Heat Recovery Chiller, High Efficiency Boilers & Water Heaters. Also providing designs for various tenant improvements ranging in size from 700 SF to 3,000 SF & \$50,000 to \$300,000.	<input checked="" type="checkbox"/>	Check if project performed with current firm
3.	(1) TITLE AND LOCATION (City and State) ADOT Rest Area Rehabilitations Statewide in Arizona	(2) YEAR COMPLETED	
		Professional Services Started 2011 – on-going	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project's Lead Mechanical & Plumbing Engineer – Proving the design for new mechanical and plumbing systems for the Restroom Building, as well as miscellaneous plumbing systems at the Care Taker Building at various rest areas throughout Arizona, including Bouse Wash, Burnt Well and Enrenberg Rest Areas.	<input checked="" type="checkbox"/>	Check if project performed with current firm
4.	(1) TITLE AND LOCATION (City and State) Green Valley Hospital Green Valley, Arizona	(2) YEAR COMPLETED	
		Professional Services 2015	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project's Lead Mechanical & Plumbing Engineer – Recently completed Construction Documents for a new 150,000 SF hospital which includes 4 OR's, 50 Patient Rooms, ICU, PACU, Laboratory, Imaging, ED Departments & full Kitchen and Laundry Facility. Design included combination chilled/heating water systems with VRF & rooftop DX equipment.	<input checked="" type="checkbox"/>	Check if project performed with current firm
5.	(1) TITLE AND LOCATION (City and State) Southern Arizona Veteran's Admin Health Care Services, VA Hospital Tucson, Arizona	(2) YEAR COMPLETED	
		Professional Services Started 2010 – on-going	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Mechanical Engineer for multiple projects at the Tucson VA Hospital. Recently provided mechanical and plumbing designs for the \$6 mil Upgrades in Building 40 to include (2) new 600 Ton chillers, 24 Calmac tanks for peak load shaving and additional system capacity – central plant serves a majority of the hospital. Building 90, a \$5 mil Mental Health Buildout: A new 15,000 SF expansion includes new 300 Ton chillers/heating water central plant. Buildings 60 & 80 Central Plant Expansion w/250 ton air cooled chiller & 12 Calmac tanks for ice storage.	<input checked="" type="checkbox"/>	Check if project performed with current firm



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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> Pima County Open End Contract Pima County, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES Started 2002 – on-going	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Pima County Tom Gordon Tom.gordon@pima.gov	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT varies	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)

Open-end contract with over 20 projects that included HVAC system assessment and design. Some of these projects included the following:

Jail Tower AC Assessment

Provided options to change the existing main cooling system serving approximately 100,000 sf jail tower from large built up evap coolers to air conditioning. Options and estimates were provided that included chilled water, direct expansion refrigerant condensers, absorption chiller using existing co-gen system, and fan walls to replace existing vane axial fans.

Adult Detention Center West Unit Mechanical Analysis

Provided initial review of existing evap cooling systems serving this detention center and submitted options for air conditioning. Provided design to replace existing evap cooling systems with similar rooftop packaged units that were placed to avoid any structural or ductwork modifications within the building.

Chiller Replacement at 33 N. Stone

Provided evaluation and design to replace (2) 380 ton chillers and pumps with new equipment to improve energy efficiency and reduce maintenance. The design was provided to allow construction to occur while the building remained fully occupied with no interruption in services.



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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) Pima Community College Open End Contract Tucson, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES Started 1996 – on-going	CONSTRUCTION (If applicable)

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Pima Community College Bill Ward wward@pima.edu	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT	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)

Open-end contract with over 70 projects that included HVAC system assessment and design. Some of these projects included the following:

29th St Coalition Center Central Plant Replacement

Evaluated existing +40 year old system to provide improved comfort and additional capacity. Designed 170 ton water cooled chiller with associated tower, heat exchanger, boiler, and pumps with planned expansion to increase capacity.

West Campus Center for Fine Arts Complex AC Replacement

Provided assessment of existing central plant serving the Fine Arts Complex and its ability to serve additional classrooms, offices, and art rooms that were conditioned using large split system AC units with electric heat. Since the project budget was limited, the existing air handlers were refurbished with new chilled and heating water coils with new piping from the central plant.

Downtown Campus CO Building Warehouse Fan Coils

The existing evap cooled warehouse is located directly across from the central plant. The existing building envelop was upgraded and chilled and heating water piping was extended to this building to serve new fan coils to adequately cool and heat this building.

Northwest Campus Central Plant Expansion

The existing central plant was enlarged with an additional 250 ton chiller, cooling tower, expanded heat exchanger, 3.2MMBH boiler, and associated pumps and controls. This expansion was provided to support a new science building on campus.



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

a. TITLE AND LOCATION (City and State) University of Arizona Medical Center Tucson, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES Started 1997 – on-going	CONSTRUCTION (If applicable)

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Banner UAMC David Koepp David.koepp@uahelath.com	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT	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)

Open-end contract with over 100 projects that included HVAC system assessment and design. Some of these projects included the following:

UAMC Decontamination and Sterile Processing Pressurization

After an inspection by the Joint Commissioning, the hospital was found to be in non-compliance with the room pressurization for the Central Sterilization area. The existing systems were evaluated and a design was completed along with the construction and re-certification in an expedited schedule to meet the 45 day compliance requirement.

UAMC Operating Room Dehumidification

The hospital wanted to provide room conditions for specific procedures that required extremely dry air during our monsoon season. A 21,000 cfm dehumidification unit was designed to reduce the outside entering air vapor content to less than 5 grains of moisture to meet the room conditions and ventilation requirements for the 15 operating rooms, recovery area, and future hybrid operating rooms. This dehumidification unit used chilled water and high pressure steam from the main systems and supplied the ventilation air to the existing air handlers during the wet seasons.

UAMC South Campus Convert Endoscopy to Bronchoscopy

The existing endoscopy suite needed to be converted to a bronchoscopy room that require a large negative pressure with the air exhausted directly to the exterior to a safe area to avoid contact. Unfortunately, the room was located on the ground floor of a 4 story building and there were no clear paths to the exterior. After extensive field verification, a path was found to a lower roof and HEPA filters were used to capture any infectious contaminants.



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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) City of Tucson Open End Contract Tucson, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES Started 1996 – on-going	CONSTRUCTION (If applicable)

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER City of Tucson Brian Conte Brian.conte@tucsonaz.gov	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT	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)

Open-end contract with over 70 projects that included HVAC system assessment and design. Some of these projects included the following:

Tucson Community Center District Underground Hydronic Piping Replacement and Expansion

Provided initial assessment and estimates for replacement and expansion of the existing underground chilled and heating water distribution to the City downtown facilities. Provided construction documents and construction administration for new direct buried piping through the downtown area to over 6 facilities that included the police headquarters, central fire station, downtown arena, music hall, performance hall, and others.

Thomas O. Price Service Center HVAC Upgrades

Provide initial assessment and estimates to replace the existing HVAC systems in four buildings throughout the Service Center. Provided construction documents and construction administration for the 80,000 square foot project.

Intermodal Depot Energy Efficiency Improvements

An evaluation was provided of the existing evap condenser system and numerous options were reviewed with the City facilities department. To significantly reduce maintenance cost, the chiller was replaced with a 150 ton air cooled chiller with upgraded building controls.



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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) McKale Center Renovation & Expansion Phase 1 Tucson, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2015	CONSTRUCTION (If applicable)

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER University of Arizona	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT \$20 million	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)

Originally a \$60 million project, the scope and budget were significantly reduced to \$20 million for the first phase of construction. Construction actually started within 2 months of the start of design on the extremely fast-track project. The project included a complete remodel of all locker rooms in McKale Center that includes: Men's & Women's Basketball; Men's & Women's Basketball Coaches; Men's Head Basketball Coach's Office; Women's Volleyball; Men's & Women's Swimming & Baseball.

New concessions & toilet rooms were provided for the upper Concourse Level. The new toilet rooms added over 100 water closets & required new water heater & sewer service connections, as well as new main lines.

A new addition was also provided on the east side at all levels for new elevators, a new main entrance, laundry service & storage.



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6. ADDITIONAL INFORMATION

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

KC MECHANICAL ENGINEERING LLC is a Tucson based professional engineering firm specializing in the design of HVAC, plumbing and other mechanical systems for commercial, institutional, and industrial projects.

Originally founded in 1986 as SMU Mechanical Engineering, KC's in-house team of professionals, with certification in Arizona, Colorado, New Mexico and Texas, continue to respond to each new challenge with technological expertise and innovative enthusiasm. The success of this approach is illustrated by the fact that more than 95% of our work is derived from satisfied repeat clients who value our employees' commitment to the highest standards of professionalism and customer service.

In addition to many of Southern Arizona's leading architectural firms, KC Mechanical Engineering has provided consulting services for many medical facilities, school districts, City of Tucson, Pima County and other institutional facilities within the state.

The firm, which is in its twenty ninth (29) year of operation, is dedicated to providing detailed, analytical approaches to solving today's engineering challenges using state of the art technology, including Revit MEP 2016 3-D Building Information Models (BIM).

Our portfolio of projects demonstrates a variety of responses, all linked by a continuing commitment to inspire our clients and to exceed their expectations. We are proud to offer not only traditional, but environmentally-focused engineering design solutions and our work has been honored by the American Institute of Architects in Arizona.

KC Mechanical Engineering provides the following design services:

· **HVAC Systems.**

All types of HVAC systems ranging from multi-chiller/boiler systems to simple air conditioning systems.

Green Valley Recreation Center HVAC Replacement

1070 S. Calle de Las Casitas, Green Valley, AZ 85614

Completed: 2015

Santa Cruz Catholic School HVAC Replacement

29 W. 22nd Street, Tucson, AZ 85713

Completed: 2013

St. Paul's Church Fellowship Hall HVAC Replacement

8051 E. Broadway, Tucson, AZ 85710

Completed: 2013

Tucson High School Gymnasium HVAC Upgrades

400 N. 2nd Ave, Tucson, AZ 85705

Construction Cost: \$ 19 million

Completed: 2010

· **Plumbing Systems.**

Plumbing systems include booster pumps, sewer lift stations, vandal resistant systems and more.

Arizona Hotel

Downtown Tucson

Completed: 2015

Flowing Wells School District Laguna Elementary Sewer Lift Pump

Tucson

Completed: 2013



Arizona Department of Transportation Rest Area Rehabilitations

I-10 Bouse Wash	Completed: 2013
I-10 Texas Canyon	Completed: 2014
I-10 San Simon	Completed: 2015
I-10 Burnt Well Ehrenberg	Completed: 2013
I-8 Mohawk	currently under design

Process Piping

Laboratory piping systems, vehicle maintenance piping systems, compressed air systems, medical gases, and process cooling equipment.

Texas Instruments Upgrades

Tucson	Completed: 2012
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Thomas O. Price Center Vehicle Maintenance

Downtown Tucson	Completed: 2014
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UA Marvel Lab

University of Arizona	Completed: 2011
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UA Marvel Building 3rd Floor Huxter Lab

University of Arizona	Completed: 2014
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Controls.

Control systems including pneumatics, line voltage (ladder diagrams), ASHRAE BACnet, LonTalk, graphics, detailed sequences, and commissioning control systems.

Southern Arizona Veteran’s Administration Health Care Services Chiller Plant Upgrades

Ajo Way, Tucson, AZ	
Construction Cost: \$ 4.55 million (mech only)	Completed: 2012

TUSD Mary Belle McKorkle Academy of Excellence K-8 School

4455 S. Mission Rd., Tucson, AZ 85746	
Construction Cost: \$23 million	Completed: 2013

Unisource Tower

Downtown Tucson	
Construction Cost: \$60 million	Completed: 2011

VA Chilled Water/Thermal Storage Central Plant

Ajo Way, Tucson, AZ	
Construction Cost: \$ 4 million	Completed: 2010

Sub-Consulting Services.

KC Mechanical Engineering utilizes sub-consultants for electrical, structural, architectural, civil, landscape, and detailed cost estimating services as required by the project.

Related to these designs, KC Mechanical Engineering provides the following services:

Facilities Deficiency Reports

Deficiency reports varying from a quick list with rough budget costs to detailed lists with energy analysis, costs and schedules.



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· **Feasibility Reports**

These reports typically include various options, comparisons and life cycle cost analysis using energy model programs such as eQwest and Carrier HAP.

VF Factory Outlet Mechanical Evaluation—completed in 2015

Broadway Proper Assisted Living Mechanical Evaluation—completed in 2015

St. Augustine Cathedral Chiller Evaluation—completed in 2013

· **Master Planning**

The master plans can include schematic layouts, rough budget estimates, and time lines with key dates.

Pima Community College East Campus

Pima Community College Desert Vista Campus

· **Preliminary Testing**

Although KC does not have testing equipment, we work with testing agencies to obtain trending data, sewer inverts, air/water flows, temperatures, pressures, etc. of equipment for evaluation.

· **Field Surveys**

Detailed field surveys are provided for accurate design and to determine the extent of any utility interruptions.

· **Calculations and Computer Selection**

KC only estimates cooling and heating loads for schematic purposes. All designs include detailed cooling/heating load calculations, detailed pipe loss calculations, and computer selection of all equipment at operating conditions.

· **Construction Documents**

Construction documents are submitted for owner review at various stages during the design.

· **Cost Estimating**

Detailed cost estimates are provided using Means Cost Estimating Guide and pricing of major equipment from local vendors.

Project	cost estimate	low bid	final cost
Sahuaro HS Central Plant	\$1,150,000	\$1,200,00	\$1,200,00
Sahuarita HS Auditorium Mechanical System Replacement	\$393,000	\$340,000	\$390,000
Cienega High School	\$17,500,000	\$17,000,000	\$16,100,000
Vail Auditorium	\$4,754,290	\$4,904,290	\$4,904,290
Ironwood Ridge Addition	\$2,500,000	\$2,368,223	\$2,368,223

· **Scheduling**

Design and construction schedules are provided.



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Bidding Assistance

Attending pre-bid meeting, responding to questions, generating addendums, reviewing prior approvals, and contacting local contractors and vendors to generate project interest.

Construction Administration

Construction administration services as a prime consultant requires attending construction meetings, review and distribution of submittals, responding to RFI's, monitoring construction progress, evaluating payment requests, and coordinating field visits with other trades.

<u>Project</u>	<u>start construction</u>	<u>completed</u>
EM Research Organization	2/1/15	6/1/15
PCC West Campus AC Replacement	6/1/15	current
Sunnyside School Gallego Renovations	3/1/15	7/1/15
UA McKale Phase 1 Renovation	4/1/14	11/1/14
San Carlos Apache Tribe Admin Bldg	11/14	current

Project Close-out

Project close-out documents include generating final punch lists, submitting substantial completion documents, review of operation and maintenance manuals, verification of completion of punch lists, document training has occurred, and submitting final completion documents.

Warranty

Throughout the warranty period, any issues related to the project shall be documented and communicated with all parties involved. Final warranty inspections can also be provided prior to the expiration date.

QUALITY CONTROL

KC Mechanical Engineering employs the following methods to provide Quality Control during the design phase of ALL projects:

Determine the **Client's Expectations**.

Develop a clear **Scope of Work**.

Provide **Initial** thorough site investigations and as-built review.

Verify **Condition of Existing Equipment**.

In-House Reviews of progress and key issues.

Bi-monthly scheduled **Client Reviews** of progress and key issues.

Utility Company coordination.

Manufacturer and Vendor involvement.

Contractor Review of Construction Documents and Schedules.

Consultants **Coordination Reviews**.

Submittals of progress to Client.

Final site investigation & as-built review *with* Construction Documents.

Final In-House Review of *ALL* details, code items, water and air flow balances, pipe sizes, valves, ductwork dimensions, equipment selections, controls, specifications, etc.

Final Client Review to verify expectations and scope of work.



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KC Mechanical Engineering utilizes this method on all projects to ensure that the client’s expectations are met and the client has minimal “surprises” during the construction phase. This technique has provided KC with a reputation of providing clear and complete construction documents for the Owner and Contractor.

The Project Manager and Engineer will remain actively involved throughout the bidding and construction process to ensure that the quality and completeness of the project are provided to the client. KC will provide an initial Pre-Construction Meeting to review the project and the client’s expectations with the contractor and provide a *TEAM* approach to complete the project within the proposed budget and schedule.

The direct benefit of KC Mechanical Engineering’s proven approach to quality control is that the contractors actively seek our projects, resulting in lower bids, minimal field problems, fewer errors and completion on time.

KC Mechanical Engineering enjoys a well-deserved reputation for producing **quality** work. KC’s commitment to quality can be seen throughout all stages of a project

COST & SCHEDULE CONTROL

KC Mechanical Engineering understands that design excellence and budget responsibility are integrally connected. Therefore, KC takes into consideration desired costs and design solutions when establishing an estimate. KC has provided numerous estimates of probable construction costs 29 years. These estimates are established by receiving bid prices from manufacturer’s representatives for equipment and updating material and labor costs with local contractors. Mr. Cawthorne has also attended a cost estimating seminar to provide a better understanding of bidding techniques.

More recently, KC Mechanical Engineering, as Prime, has either been involved in projects that are CM @ Risk or has negotiated construction costs with contractors, thus the bid process is not utilized. However, KC has experience in the bidding process as is demonstrated in the following table:

<u>PROJECT</u>	<u>COST ESTIMATE</u>	<u>LOW BID</u>	<u>FINAL COST</u>
PCC DVC Phase I Exp.	4,574,500	4,963,100	5,578,000
PCC East Campus	8,269,500	7,969,000	8,300,000
Sahuaro High School Central Plant Renov.	1,800,000	1,600,000	1,700,000
University of Arizona Economics Building HVAC Renov.	1,600,000	1,400,000	1,500,000
PCC DVC Heat Exchanger	58,500	62,800	68,000
UPS Mechanical Upgrades	220,000	235,000	250,000
TIA Rebuild Cooling Towers	60,000	63,000	63,000
Canyon View & Manzanita Elementary Schools HVAC	835,000	792,000	796,000

KC Mechanical Engineering has one of the largest mechanical engineering staffs serving the architectural community of Southern Arizona. With a staff of eleven, consisting of three (3) Professional Engineers, one (1) Design Engineer, six (6) Mechanical/Plumbing Designers and one (1) Office staff, KC is confident that any schedule, no matter how demanding, can be met without compromising quality.



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The current work load of significant size projects at KC is as follows:

PROJECT TITLE	SIZE	CURRENT PHASE	PHASE COMPLETION
UNIVERSITY OF ARIZONA McKALE CENTER PHASE 2	18,000 SF	Schematic Design	100%
NEW VAIL ELEMENTARY SCHOOL	58,000 SF	Construction Administration	8%
AC TUCSON HOTEL	80,000 SF 90,000 SF Parking	Construction Documents	90%
REID PARK ZOO ANIMAL HEALTH CENTER	9,500 SF	Design Development	100%
KAYENTA	167,634 SF	Construction Administration	90%
AMPHITHEATER USD MESA VERDE	11,300 SF	Construction Administration	35%
AMPHI S.T.E.M. ELEMENTARY SCHOOL	70,000 SF	Construction Documents	75%
MAINGATE MARIOTT HOTEL	200,000 SF	Schematic Design	5%

At KC Mechanical Engineering, we pride ourselves on our ability to perform our services promptly and efficiently. We understand the importance of deadlines and the value of time, and are proficient in creating a schedule which is thorough and realistic, yet satisfies the client's requirements. Communication between the client and the design team is critical maintaining the schedule.

Preparation:

KC Mechanical Engineering is realistic, both with ourselves and the client, about how much time a project will take. We are efficient, but insist on providing the client with the highest quality of workmanship.
 We identify specific client scheduling issues. Schedules must respond to client needs.
 We prepare a task oriented schedule with an understanding of the critical path.
 KC does not underestimate time for existing analysis and quality control.

Maintenance:

The schedule is reviewed and committed to by the team.
 Progress is monitored and controlled by the Project Manager.
 KC is committed and takes pride in meeting schedules. We put in the time necessary to meet deadlines.
 With a technical staff of eleven, KC has the flexibility to adjust staffing as required.
 Communication between KC and ADOA is critical in maintaining the schedule.
 KC responds quickly and efficiently to client questions.

With a technical staff of ten, KC is one of the largest mechanical engineering firms in Southern Arizona, and can easily accept any project ADOA presents and create a schedule which is thorough and realistic, while satisfying the ADOA's requirements.



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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:	15
b. Percentage of Total Work Attributable to Non-Government Work:	85

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

Signature: 

Date: 12.21.15

Name: Kenneth M. Cawthorne, P.E.

Title: Principal