



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CP15-132**

1. Agenda Item Number:

35

2. Council Meeting Date:
November 20, 2014

TO: MAYOR & COUNCIL

3. Date Prepared: November 3, 2014

THROUGH: CITY MANAGER

4. Requesting Department: Municipal Utilities

5. SUBJECT: Project Agreement with Wilson Engineering, LLC, for design services for the Riggs Road Well Equipping.

6. RECOMMENDATION: Staff recommends City Council award a Project Agreement to Wilson Engineers, LLC, for design services for Riggs Road Well Equipping, pursuant to On-call Water and Wastewater Services Contract No. EN1517.101, Project No. WA1506.201, in an amount not to exceed \$161,940.

7. BACKGROUND/DISCUSSION: The 2008 Water Master Plan recommends 74.5 million gallon per day (MGD) build-out capacity for groundwater wells. As the City's groundwater wells age, well production will decrease. To maintain the required capacity, new replacement wells are needed. The new well, known as the Riggs Road Well, will be located north of Riggs Road between Gilbert and Lindsay Roads.

The project scope of work includes design for well piping, pump, electrical service, and chlorination for the new well site. The well has been drilled and is ready for equipping. Equipping of this well will increase water production capacity in Chandler's growing southeast zone and help maintain adequate water supply redundancy.

8. EVALUATION: This project is being performed under the On-call Water and Wastewater Services Contract No. EN1517.101, to Wilson Engineering, LLC. The costs proposed for this project have been evaluated by Staff and are determined to be reasonable. The contract completion time is 270 calendar days following Notice to Proceed.

9. FINANCIAL IMPLICATIONS:

Cost: \$161,940

Savings: N/A

Long Term Costs: N/A

Fund Source:

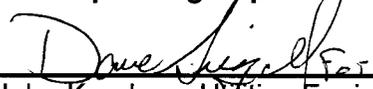
<u>Acct. No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
601.3820.6714.6WA034	Water Bond	Well Construction & Rehab	Yes	\$161,940

10. PROPOSED MOTION: Move City Council award a Project Agreement to Wilson Engineers, LLC, for design services for Riggs Road Well Equipping, pursuant to On-call Water and Wastewater Services Contract No. EN1517.101, Project No. WA1506.201, in an amount not to exceed \$161,940.

ATTACHMENTS: Agreement, Location Map

APPROVALS

11. Requesting Department


John Knudson, Utilities Engineering Manager

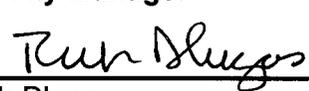
13. Department Head


Dave Siegel, Municipal Utilities Director

12. Transportation & Development


Bob Fortier, Capital Projects Manager

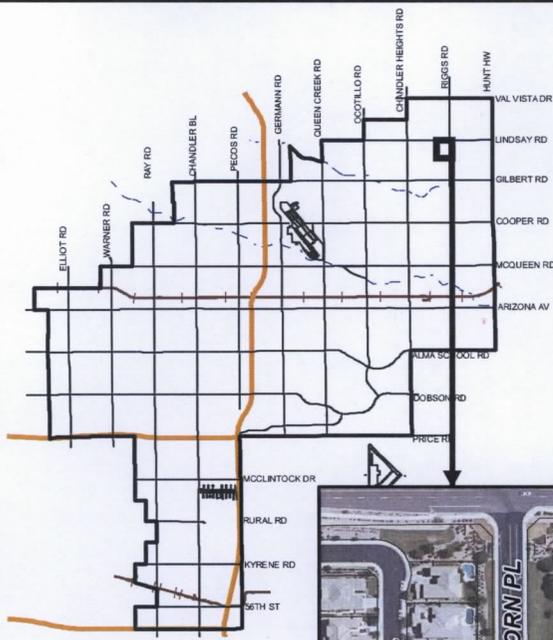
14. City Manager


Rich Dlugas

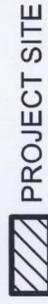


Chandler + Arizona

RIGGS ROAD WELL EQUIPPING PROJECT NO. WA1506-201



MEMO NO. CP15-132



**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN1517.101**

PROJECT AGREEMENT NO: WA1506.201

This PROJECT AGREEMENT is made this ____ day of _____, 2014, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Wilson Engineers, LLC, registered in the state of Arizona (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1517.101.

CITY and Wilson Engineers, LLC, in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1 - DESCRIPTION OF WORK:

This project is Riggs Road Well Equipping, Project Number WA1506.201. The scope of work consists of design services for well outfitting, including preliminary design and preparation of contract documents for the Riggs Road Well, all as more particularly set forth in Exhibit A attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

ARTICLE 2 - CONTRACT PRICE:

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed One Hundred Sixty One Thousand Nine Hundred Forty Dollars (\$161,940) determined and payable as set forth in Annual Contract EN1517.101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3 - CONTRACT TIME:

The contract time is Two Hundred Seventy calendar days and Annual Consultant agrees to complete all work within Two Hundred Seventy (270) calendar days of the date CITY issues a Notice to Proceed.

ARTICLE 4 - GENERAL:

This Project Agreement is entered into pursuant to Annual Contract No. EN1517.101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

IN WITNESS WHEREOF, the parties hereto have executed this Project Agreement on the day and year first written above.

This Project Agreement will be effective on this _____ day of _____, 2014.

CITY OF CHANDLER

FOR THE ANNUAL:

MAYOR DATE:

By: Steve Todd
Title: PRINCIPAL

ADDRESS FOR NOTICE
City of Chandler
P.O. Box 4008, Mail Stop 407
Chandler, AZ 85244-4008
480-782-3307

ADDRESS FOR NOTICE
Mr. Steve Todd
Wilson Engineers, LLC
9633 S. 48th St., Ste. 290
Phoenix, AZ 85044-5658

APPROVED AS TO FORM:

Phone: 480-893-8860

ATTEST: City Attorney By: [Signature]

City Clerk

EXHIBIT A SCOPE OF WORK

The well outfitting design will consist of the preliminary design and preparation of contract documents for the Riggs Road Well. The Project will include connecting the well into the City's water distribution system. The following major facility components will be included at the well site:

- Vertical turbine well pump and motor. Well pump to include water lubricated bearings and the motor shall be a variable frequency drive (VFD). It is anticipated that the well will produce 1,200 gpm. Coordination services with the Project's Hydrogeological Consultant will be provided to confirm the recommended design points for the well pump. Sound attenuation shall also be provided to reduce the potential noise generated by the pump motor.
- Well discharge piping, valves, magnetic flow meter, and appurtenances to connect the well to the water distribution system.
- Air gap, drop box wet well, and non-potable pump station to convey water from the well to the existing City's reclaimed water system. The pump station is anticipated to be sized at 1,200 gpm and a discharge head of 40 psi. Pump station capacity and head condition to be confirmed with City staff.
- Calcium hypochlorite (tablet) chlorination system and enclosure. The tablet feeder system shall be per the City's current standard: designed, built, and supplied by the City.
- Approximately 100 linear feet of supply pipeline from the well to the water distribution system.
- Approximately 100 linear feet of pump-to-waste pipeline from the well to dry-wells to be located on-site.
- Approximately 100 linear feet of reclaimed water line to connect the non-potable pump station to the City's existing reclaimed water system in 142nd Street.
- 480V / three-phase electrical power supply equipment including service entrance, power monitoring and controls. Site lighting shall be provided per the CITY's standards. It is assumed that the developer has extended primary conduit to the well site. ANNUAL CONSULTANT shall coordinate with the electrical service provider for primary power service.
- Pad and electrical for a new generator with a transfer switch sized for the new well. Provisions (including critical grade noise enclosure and sump area) shall be provided so that the generator has minimal noise and visual impact on adjacent homes.
- Instrumentation and pump controls including coordination with the City's SCADA system. The RTU and antenna design, programming requirements, and connections will be provided.
- RTU Panel design drawings will be included.
- Site grading, drainage, and vehicular access features.
- Topographic survey services.
- Geotechnical investigation services shall be provided to prepare a soils report establishing the existing drainage and soil characteristics and that recommends foundation and construction design criteria.

Services that will not be provided include:

- Hydrogeologic services.
- Perimeter site wall design and landscape design services. The ANNUAL CONSULTANT shall coordinate with the developer regarding the perimeter wall and access gate locations to support the well facility.
- Construction Phase Services for equipping the well (including special inspections) are assumed to be conducted under a future agreement.

Services to acquire the following permits have been excluded under this Project (see below for basis):

- Certificate of Occupancy from the CITY - to be acquired during construction.
- Approval of Construction from MCDES - to be acquired during construction.
- Air Quality Permit for the Standby Generator (if applicable) - to be acquired during construction.
- New Source Approval from MCESD. It is assumed that the New Source Approval has already been acquired by the City, but may be needed again when the well is commissioned.

The ANNUAL CONSULTANT shall provide the following services:

TASK 1.0 DESIGN DEVELOPMENT

Subtask 1.1 Kick-Off Meeting. A kickoff meeting with representatives from ANNUAL CONSULTANT and the City of Chandler will be conducted at project initiation. The following will be accomplished:

- Introduce key team members and establish lines of communication
- Review the project scope and schedule
- Identify key issues affecting project development
- Request background information
- Discuss and identify preferred system operation, equipment, and suppliers for the civil, mechanical, electrical, instrumentation, and control equipment.
- ANNUAL CONSULTANT to prepare and distribute meeting minutes to the attendees.

Subtask 1.2 Data Collection and Review. Collect and review background information including:

- Site legal description / title commitment – to be provided by the City
- Finished well report from the project hydrogeologist including the constant rate pumping test, step rate pumping test, and any recommended design points for the well pump.
- Water quality data for the new well
- Pressures in the corresponding potable water distribution system. If necessary, the engineer shall coordinate with the City's staff to set pressure recorders to establish the potable water distribution system discharge conditions.
- Pressures in the corresponding reclaimed water distribution system. If necessary, the engineer shall coordinate with the City's staff to set pressure recorders to establish the reclaimed water distribution system discharge conditions.
- Buried facility maps from other utilities in the project area.
- Any geotechnical information provided by the adjacent developer to the City for the Project site will be made available to the ANNUAL CONSULTANT.

Subtask 1.3 Geotechnical Investigation and Report. The ANNUAL CONSULTANT will provide, through a qualified consultant, the necessary soil borings and soil investigations to analyze conditions present in the area where the proposed Project will be physically located and as required to support the design of the proposed facilities.

Subtask 1.4 Topographic Survey and Base Sheet Preparation. Topographic survey services for the well site shall be completed under this Project. A survey control sheet will be provided and established based on City of Chandler datum. The survey information will identify surface features, establish survey control, and topography of the site. Prepare a 1-inch equals 40 feet topographic map of the entire site to be used as the base sheet for the construction documents.

Subtask 1.5 Utility Coordination. The ANNUAL CONSULTANT will contact Blue Stake to obtain a list of the utilities having facilities in the project area and request record drawings from those utilities for inclusion in the base map and construction plans. The ANNUAL CONSULTANT will identify, investigate and confirm facility alignment conflicts associated with the project design, and assist those utilities in conflict with mitigation for clearance. The ANNUAL CONSULTANT will submit one set of coordination plans to each utility at each progress submittal along with a clearance (no conflict) letter. The ANNUAL CONSULTANT will provide the CITY's Engineering Project Manager with a copy of all utility clearance letters.

TASK 2.0 PRELIMINARY DESIGN

Subtask 2.1 Conceptual Site Layout. Develop conceptual site layout for the well site. The site will include sufficient detail to accurately depict the well site layout, pipe lay-down storage areas, major equipment, connection to the existing potable water distribution system, connection to the reclaimed water system, and alignment for the pump-to-waste line. One informal meeting will be conducted to discuss the conceptual layout and to coordinate the detailed layout and design with the City.

Subtask 2.2 Drainage Report. Prepare one Drainage Report for the well site. The Drainage Report will be submitted with the 90% plans and specifications. ANNUAL CONSULTANT will submit five (5) copies the Drainage Report to the City for review.

Subtask 2.3 Basis of Design Report (30%). Prepare a preliminary basis of design report for submittal to the City. Based on the available data, site investigations, and the City's design standards, ANNUAL CONSULTANT will prepare the basis of design report for the Well Site that includes the following:

- Conceptual well site layout as prepared in Subtask 2.1.
- Design criteria for pipelines, pumps, structures, and other critical items of equipment.
- Equipment preferences.
- Operating and control strategies.
- Preliminary Process and Instrumentation Control Diagrams (P&IDs).
- Preliminary construction cost estimate.
- Estimated site power requirements.
- Identification of any additional design issues and recommendations.

ANNUAL CONSULTANT will submit five (5) copies of the Basis of Design Report to the City for review. A review meeting will be conducted with City staff to discuss comments on Design Report. These comments will be incorporated and five (5) copies of the final design report will be submitted.

TASK 3.0 FINAL DESIGN

Subtask 3.1 Preparation of 60% Plans. Prepare preliminary (60%) construction documents (plans only) for the well site. The 60% plans shall include the following detailed design areas:

- Civil: Site plan and piping locations.
- Mechanical: Variable speed well pump, discharge piping, valves, and piping appurtenances. Reclaimed water pump station, wet well, piping, and appurtenances.
- Disinfection: A calcium hypochlorite disinfection system will be provided. The design will mirror the City's current preferred standard.
- Electrical and Instrumentation: Preliminary Process & Instrumentation Diagrams.

Five copies of the preliminary, 60 percent, plans will be submitted for review to the City's Engineering and Operations Departments. One review meeting will be conducted to discuss any comments received from the City.

Subtask 3.2 Preparation of Agency Review (90%) Plans and Specifications. Prepare preliminary (90%) construction documents including plans, specifications, and a construction cost estimate for the well site. The 90% plans shall include the following detailed design areas:

- Civil: Site plan, piping locations, grading, and drainage.
- Structural: Equipment pads, generator sump, and electrical shade canopy.
- Mechanical: Variable speed well pump, piping, valves, and piping appurtenances. Reclaimed water pump station, wet well, piping, and appurtenances.
- Disinfection: A calcium hypochlorite disinfection system will be provided. The design will mirror the City's current preferred standard.
- Electrical and Instrumentation: Power supply requirements, control descriptions and instrumentation.
- Remote Telemetry Unit Design: ANNUAL CONSULTANT will design the remote Input/Output (IO) for the well site and provide the connection design to the RTU interface.
- RTU Panel design drawings.
- Pad and electrical for a portable generator with a transfer switch sized for the new Well Facility.

Five (5) copies of the preliminary, 90 percent, plans and specifications will be submitted for review to the City's Municipal Utilities Department. One review meeting will be conducted to discuss any comments received from the City.

Subtask 3.3 Maricopa County Environmental Services Department. The ANNUAL CONSULTANT shall complete the Application for Approval to Construction and submit one copy of the 90 percent Agency Review Plans and Specifications and Basis of Design Report to the Maricopa County Environmental Services

Department (MCESD). One review meeting will be conducted to discuss any comments received from the County, if necessary.

****NOTE:** An allowance of \$3,000 has been assumed for non-expedited review fees for MCESD Approval to Construct. Allowance includes \$675 for the new well, \$600 for the water pipeline, \$150 for the chlorination system, \$675 for the reclaimed booster station, \$600 for the reuse pipeline, and \$300 for the final review fee.

Subtask 3.4 City of Chandler Engineering and Development Services Review. The ANNUAL CONSULTANT shall submit three (3) copies of the Agency Review Plans and Specifications, Drainage Report, Geotechnical Report, and Structural Calculations to the City's Engineering and Development Services Departments for review. Also, one review meeting will be conducted to discuss any comments received from the City.

****NOTE:** It is assumed that the City of Chandler will pay all review fees directly.

Subtask 3.5 Preparation of 100% Plans and Specifications. The final 100% plans and specifications will be prepared including incorporating the City and County comments. One (1) reproducible set of plans and specifications will be submitted to the City for preparation of bid sets.

TASK 4.0 BID SERVICES

Subtask 4.1 Pre-Bid Conference. Attend the pre-bid conference to answer bidder questions pertaining to the Contract Documents.

Subtask 4.2 Questions. Receive and respond to bidder inquires after the pre-bid conference.

Subtask 4.3 Prior Approval Review / Addenda. Review equipment submittals presented for prior approval (according to the City's requirements) and prepare addenda required to clarify or modify the Contract Documents.

Subtask 4.4 Attend Bid Opening. Attend the bid opening, review bids, and make recommendation for award.

**EXHIBIT B
FEE SCHEDULE**

Task	Task Description	Principal \$ 205	Sr. Proj Mgr \$ 195	Project Egr \$ 140	CADD Tech III \$ 85	Admin. Asst III \$ 75	Total	Total Fee
Task 1.0 - Design Development								
1.1	Kick-Off Meeting	2	2	4			8	\$1,360
1.2	Data Collection and Review		4	8			12	\$1,900
1.3	Geotechnical Investigation			8			8	\$1,120
1.4	Topographic Site Survey and Base Sheet Preparation			4	4		8	\$900
1.5	Utility Coordination			8			8	\$1,120
Subtotal - Design Development		2	6	32	4	0	44	\$6,400
Task 2.0 - Preliminary Design								
2.1	Conceptual Site Layout	2	8	16	16		42	\$5,570
2.2	Drainage Report	4	12	20	16	4	56	\$7,620
2.3	Basis of Design Report (30%)	4	32	40	20	16	112	\$15,560
Subtotal - Preliminary Design		10	52	76	52	20	210	\$28,750
Task 3.0 - Final Design								
3.1	Preparation of 60% Plans	4	48	80	64		196	\$26,820
3.2	Preparation of Agency Review (90%) Construction Documents	8	54	96	84	40	282	\$35,750
3.3	Maricopa County Environmental Serv. Dept Submittal		8	16			24	\$3,800
3.4	City of Chandler Engineering and Development Serv. Submittal	2	8	20			30	\$4,770
3.5	Preparation of 100% Plans and Specifications	4	24	40	20	20	108	\$14,300
Subtotal - Final Design		18	142	252	168	60	640	\$85,440
Task 4.0 - Bid Services								
4.1	Pre-Bid Conference		2	2			4	\$670
4.2	Questions / RFI Response		8	20			28	\$4,360
4.3	Equipment Prequalification Review / Issue Addenda		8	20	8	4	40	\$5,340
4.4	Attend Bid Opening			2			2	\$280
Subtotal - Bid Services		0	18	44	8	4	74	\$10,650
Subtotal - Labor Summary		30	218	404	232	84	968	\$131,240

II. Other Direct Costs

Task No(s)	Expense Description	Unit	Total Units	Cost / Unit	Total
1.4	Topographic Site Survey and Control (Wood Patel)	LS	1	\$ 3,500	\$3,500
1.3	Geotechnical Investigation (Atek)	LS	1	\$ 3,400	\$3,400
3.0	Structural Design (Herrup Engineering)	LS	1	\$ 5,300	\$5,300
3.3	MCESD Review Fees - Non-expedited	LS	1	\$ 3,000	\$3,000
	Perimeter Wall & Access Gates Allowance (Demo & Redesign)	LS	1	\$ 4,000	\$4,000
	RTU Panel Design Drawings Allowance	LS	1	\$ 10,000	\$10,000
	Misc. Reimbursable Allowance (Printing, mileage, etc.)	LS	1	\$ 1,500	\$1,500
Subtotal - Other Direct Costs					\$30,700

III. TOTAL FEE PROPOSAL

I	LABOR SUMMARY	\$ 131,240
II	OTHER DIRECT COSTS	\$ 30,700
III	TOTAL FEE	\$ 161,940