

**Statement of Work**  
**Water Quality Monitoring**  
**VA Central California Health Care System**

**Section 1: General Information**

1.1 General: This is a non-personnel services contract to provide water quality monitoring at the VA Central California Health Care System (VA CCHCS). The Government shall not exercise any supervision or control over the contract service providers performing the services herein. Such contract service providers shall be accountable solely to the Contractor who, in turn is responsible to the Government. The contractor shall perform to the standards in this contract.

1.2 Period of Performance:

Base Year:	July 15, 2015 through June 30, 2016
Option Year One:	July 1, 2016 through June 30, 2017
Option Year Two:	July 1, 2017 through June 30, 2018
Option Year Three:	July 1, 2018 through June 30, 2019
Option Year Four:	July 1, 2019 through June 30, 2020

1.3 Place of Performance:       VA Central California Health Care System  
  Building One and the Community Living Center  
  2615 E. Clinton Avenue  
  Fresno CA 93703

1.4 Hours of Operation: The contractor is responsible for on-going maintenance services. More information is available under Section 5.5, service and maintenance plan

1.5 Type of Contract: The government will award a Firm Fixed Price contract.

1.6 Invoicing: All invoices from the contractor shall be submitted electronically in accordance with VAAR Clause 852.232-72 Electronic Submission of Payment Requests.

VA's Electronic Invoice Presentment and Payment System – The FSC uses a third-party contractor, Tungsten, to transition vendors from paper to electronic invoice submission. Please go to this website: <http://www.tungsten-network.com/US/en/veterans-affairs/> to begin submitting electronic invoices, free of charge.

More information on the VA Financial Services Center is available at <http://www.fsc.va.gov/einvoice.asp>.

Vendor e-Invoice Set-Up Information:

Please contact Tungsten at the phone number or email address listed below to begin submitting your electronic invoices to the VA Financial Services Center for payment processing, free of

charge. If you have question about the e-invoicing program or Tungsten, please contact the FSC at the phone number or email address listed below:

- Tungsten e-Invoice Setup Information: 1-877-489-6135
- Tungsten e-Invoice email: [VA.Registration@Tungsten-Network.com](mailto:VA.Registration@Tungsten-Network.com)
- FSC e-Invoice Contact Information: 1-877-353-9791
- FSC e-invoice email: [vafscshd@va.gov](mailto:vafscshd@va.gov)

## **Section 2: Definitions & Acronyms**

### **2.1 Definitions:**

*Contractor.* A supplier or vendor awarded a contract to provide specific supplies or service to the government. The term used in this contract refers to the prime.

*Subcontractor.* One that enters into a contract with a prime contractor. The Government does not have privity of contract with the subcontractor.

*Work Day.* The number of hours per day the Contractor provides services in accordance with the contract.

*Work Week.* Monday through Friday, unless specified otherwise.

### **2.2 Acronyms:**

CFR	Code of Federal Regulations
CLC	Community Living Center
COR	Contracting Officer Representative
DPD	Diethyl-p-phenylenediamine
EPA	Environmental Protection Agency
I/O	Input / Output
mA	Milliamps
MS	Microsoft
PSI	Pounds per Square Inch
SMS	Short Message Service
VA	Veterans Affairs
VA CCHCS	VA Central California Health Care System
VHA	Veterans Health Administration
WQA	Water Quality Analyzer

### **Section 3: Government Furnished Property, Equipment, and Services**

The government will provide all parts and labor required to install the pipe tap, saddle, back flow prevention device and similar items required to connect the Analyzer to the water supply.

The Government shall perform all site preparations required to accommodate the water quality analyzer. This includes procuring and installing all water taps, backflow preventers, isolation valves, electrical connections and sewage piping.

### **Section 4: Contractor Furnished Items and Services**

The Contractor shall furnish all supplies, equipment, facilities and services required to perform work under this contract, other than the items listed in Section 3.

### **Part 5: Specific Tasks**

#### **5.1 General**

- A. Install and maintain two (2) water quality analyzers (WQA) that provide continuous water monitoring. The WQA's will be installed on the main water feed to Building 1 and the main water feed to the Community Living Center (CLC).
- B. The contractor shall submit a drawing and narrative depicting the placement of the water quality analyzer prior to delivery of the equipment
- C. The contractor must coordinate the date of installation of the WQA with the COR. Installation costs associated with the physical installation of the water quality analyzer (other than the items indicated in Part 3) shall be the responsibility of the contractor.
- D. The WQA must be fully automatic and continuously measure pressure, dissolved solids (by conductivity), temperature, and pH of the water. WQA shall also measure oxidant residuals with respect to both free chlorine (F-Cl<sub>2</sub>) and total chlorine (T-Cl<sub>2</sub>) at pre-set intervals using the EPA accepted DPD (N,N-diethyl-p-phenylenediamine) colorimetric test method.
- E. The Analyzer shall have three automatically controlled pumps to add the appropriate amount of reagents in the appropriate sequence into the colorimetric reading cell. The WQA shall automatically flush and rinse the colorimetric reading cell. All DPD-treated water will be sent to the drain
- F. At set intervals the WQA shall perform oxidant residual measurement (both free chlorine (Cl<sub>2</sub>) and total chlorine (Cl<sub>2</sub>) of the potable water supply. The frequency at which these measurements are performed shall be adjustable from 2 minutes to 10 minutes in 1 minute intervals
- G. It is mandatory that the oxidant residual measurement complies with US EPA regulation 40 CFR140.74, Standard Method 4500-CLG, and US EPA Method 334.0 "Determination of Residual Chlorine in Drinking Water Using an Online Analyzer".

- H. Water flow (on/off) through the WQA must be continuously monitored and if a no flow condition is detected the WQA must indicate such as an alarm point.
- I. Optionally, the WQA must be able to accept 4-20mA inputs from external sources.
- J. A web-based browser application shall be used to access the real time measurement data, data trending and historical alarms collected by the WQA. Real time measurement data, data trending, and historical alarms shall be viewed on a secure website via a computer or mobile smartphone using login credentials. Historical data shall be available for export from the web-based browser application in to MS Excel format for further analysis, reporting and documentation. The WQA shall also provide SMS (E-mail) notifications for system alerts to key points of contact. The web-based application shall be managed by the contractor.
- K. The WQA must be able to be used to monitor the water quality of a potable cold water stream (i.e. incoming water main). The WQA is to be tied into the water line in a side-stream manner using backflow prevention device. A particle filter must be used to prevent any suspended solids from entering the WQA. All water that flows through the Analyzer will be sent to a drain.

## 5.2 Water Quality Analyzer (WQA) Specifications

- A. Water pressure sensor; 0 to 145 psi measurement range, continuous measurement interval.
- B. Particle filter assembly and filter
- C. Conductivity probe; 0 to 10,000 uS/cm measurement range, continuous measurement interval.
- D. Temperature probe; 0° to 212°F measurement range, continuous measurement interval.
- E. pH probe; ceramic diaphragm and gel filling sensor, 0 to 14 measurement range, continuous measurement interval.
- F. Flow cell (Colorimetric reading cell); 0-10 mg/L (ppm) measurement range, high resolution (0.01 mg/L (ppm), measurement interval from 2 minutes to 10 minutes, self-zero measurement before each reading.
- G. Reagent pumps
- H. Required reagents
- I. I/O module
- J. Power supply
- K. Control panel
- L. Keyboard

- M. 4-20 mA input module (minimum of two)
- N. 4-20 mA output module (minimum of two)
- O. Transmitter
- P. Antenna

### 5.3 Submittals

- A. The information must be provided in an electronic format. Electronic documents will be stored on the server of the contracted vendor. Access to the documents will be performed via the internet. Access must be provided to a minimum of four users. Collected data must be available on demand electronically.
- B. The following information will be provided:
  - 1) Test description and diagram of the process flow
  - 2) Manuals, drawings and technical data sheets for each probe/sensor. (2 each).
  - 3) Manuals, drawing and technical data sheets for equipment assemblies. (2 each).
  - 4) Dimensions and utility requirement for equipment assemblies. (2 each).
  - 5) Document defining installation guidelines and requirements.

### 5.4 System Commissioning

- A. System commissioning shall be performed by a qualified specialist who has been properly trained to perform such work.
- B. Commissioning shall consist of final connection of the water quality analyzer to the water system to be monitored; system calibration, system testing, operator training and equipment start up.
- C. Commissioning will also include a written preventive maintenance plan.
- D. All expenses for the commissioning of the WQA shall be included in the contract cost.

### 5.5 Service and Maintenance Plan

- A. After installation and commissioning the water quality analyzer shall be maintained by the contracted vendor to assure accurate and reliable operation. This may require the replacement of key components and consumables on a regular basis. Contractor shall provide a service and maintenance plan to assure the water quality analyzer operates within specified control ranges.
- B. Contractor shall provide a minimum of two inspections every month to check the water quality monitor for proper operation and perform work outlined in the service and maintenance plan.

- C. At a minimum the service and maintenance plan shall include regularly scheduled replacement of consumables, cleaning, and sensor calibration. Additionally equipment components shall be replaced as needed to assure continuous and accurate operation of the water quality analyzer. Such replacements shall be at no additional cost to the government.
- D. Contractor shall maintain sufficient reagents, probes and consumable parts at the facility, to allow engineering personnel to add reagents or perform emergency repairs to the WQA.
- E. In the event of a WQA failure, the contractor shall provide onsite response within 24 hours. The WQA must be operational within 48 hours of notification of the failure.
- F. In the event that repairs to the WQA cannot be completed within 48 hours, a new or reconditioned WQA must be installed to provide monitoring until the failed WQA can be replaced.
- G. All costs associated with the service and maintenance of the water quality analyzer shall be the responsibility of the contracted vendor.

## **Section 6: Applicable Publications**

6.1 VA Handbook 6500.6, Contract Security, Appendix C is available at

[http://www.ois.oit.va.gov/docs/Appendix\\_C.pdf](http://www.ois.oit.va.gov/docs/Appendix_C.pdf).

## **Section 7: Attachments**

7.1 Wage Determination 2005-2045