		Agenda Item	6K
		Approvals:	
		City Manager	
AGENDA REPORT

SAN CLEMENTE CITY COUNCIL MEETING

Meeting Date: December 4, 2012

	Dept. Head	DR
	Attorney	
	Finance	

Department: Public Works / Engineering Division

Prepared By: Michael Fakhar, Contract Civil Engineer *MBF*

Subject: PROFESSIONAL SERVICES AGREEMENT WITH APPIT, LLC FOR THE "ON-CALL" SCADA SUPPORT AND MAINTENANCE SERVICES, PROJECT NO. *12605.*

Summary: The Utilities Division has been implementing a new Supervisory Control and Data Acquisition (SCADA) system for water, sewer and water reclamation plant for several years. The new SCADA allows the Utilities Division to monitor and operate remote equipment such as pump stations, reservoirs, turnouts, sewer lift stations, wells and processes at the Water Reclamation Plant. It is a core component necessary for the effective and efficient operation of a utility. The water system and remote sewer system are under construction, while the Water Reclamation Plant is under design.

The 2012 Utility Staffing Analysis recommended hiring a third party SCADA expert to assist the City with its current system upgrade and to provide direction to the Utilities Division for continued operation of the system. City staff prepared a request for on-call professional services to perform the following duties to be conducted over the next 24 months:

- Evaluate the City's current SCADA project progress and establish a path forward to include resources, schedule and budget for completion of the existing project.
- Develop a formalized plan to review alarms and events to minimize nuisance alarms.
- Assist the City to perform a Vulnerability Assessment on SCADA to insure the security of the system.
- Develop SCADA standards to insure the system is fully documented and future development can be achieved by other parties.
- Established a formalized SCADA Asset Management program.
- Update the Wonderware software to System Platform 2012.
- Develop and implement a Microsoft Security Patching Plan.
- Assist the City with implementation of the SCADA system virtualization when its servers are replaced.

A request for proposal was distributed to nine consulting firms with system integration and programing experience. Five firms submitted proposals for the project: AppIT, LLC, Delta Systems Engineering, KDC Systems, Trimax and Westin Engineering, Inc. The average hourly rates for the on-call support services ranged from $85/hour to $152/hour. Staff evaluated the written proposals, reviewed work experience and conducted interviews with three of the proposing firms. It was determined that AppIT, LLC, project experience and knowledge of the City's SCADA system would best deliver a successful project for the City. Therefore, staff

recommends AppIT, LLC at a rate of $85/hour to provide on-call support and maintenance services for the City's SCADA system. Staff estimates the cost of these services, to be used an as-needed, basis will not exceed $125,000 for the proposed 24-month length of the agreement.

Recommended Action: STAFF RECOMMENDS THAT the City Council approve and authorize the Mayor to execute a Professional Services Agreement with AppIT, LLC in the amount of $125,000 for a 24 months period for the "On-Call" SCADA Support and Maintenance Services, Project No. 12605.

Fiscal Impact: Yes. The project is partially budgeted from the water, sewer and storm drain operating funds in FY 2013 with additional funding anticipated in FY 2014. Funding associated with the SCADA construction project will be funded from the Sewer Depreciation Reserve. There are sufficient funds budgeted in FY 2013 for the anticipated work. Additional funding will be necessary in FY 2014 and will be proposed as part of the water, sewer and storm drain operating budgets. Funding sources by account and fiscal year are shown below:

Account No.	FY 2013 Budget	Future Proposed FY 2014 Budget
052-463-43890	$19,500	$24,000
054-473-43690	$14,400	$20,000
059-552-43890	$ 1,800	$ 1,800
054-476-45300-000-12605	$43,500	

Attachments: Scope of Work

Notification: None.

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EXHIBIT A

SCOPE OF WORK

The scope of work for this on-call SCADA support and maintenance contract may include but is not limited to the following tasks:

- Evaluate City's current SCADA project progress completed to date and set the path forward including resources, schedule and budget for successful completion of the remaining SCADA program implementation.

- Develop a formalized plan for periodic review of the alarms and events to minimize nuisance alarming.

- Assist City to Perform a Vulnerability Assessment on the SCADA periodically to insure the security of the system. As the SCADA system has developed over time, generic login credentials have been used by Operations and contractors. This condition makes it difficult to determine with certainty who is accessing and making changes to the system. It is proposed to remove all unnecessary logins, reset all Administrator credentials, and enforce named user credentials in the future. The tasks will include:

  ➤ Evaluate current SCADA security model
  ➤ Develop security plan to reduce the probability of attacks from internal or external threats
  ➤ Implement recommended changes within the network and server environment
  ➤ Evaluate the SCADA system to ensure the system remains stable and functioning after security changes

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- Develop SCADA standards (HMI, PLC, and Network) to insure the
  system is fully documented and future development can be achieved by
  other parties.
  As different contractors move in and out of the SCADA environment,
  there is no way to determine if they are adhering to the standards
  previously implemented in existing SCADA system. To remedy this, the
  following tasks are recommended:

  ➢ Develop Standards documentation based on the standards
    implemented in the existing SCADA applications
  ➢ Consult with third party contractors to ensure they understand
    the SCADA standards
  ➢ Verify and document that third party contractors have adhered
    to San Clemente SCADA standards

- Assist City and it's consultants to complete implementation of upgraded
  Wonderware System Platform SCADA system and standardized Allen-
  Bradley Logix PLCs to any remaining sites as expeditiously as possible.

- Develop a formalized SCADA Asset Management program.

- Develop an Operations Data Management System (ODMS), using
  existing Active Factory and SQL Reporting service, to automatically
  generate operations reports.

- Update the Wonderware software to System Platform 2012.
  The SCADA hardware is at end of life and the operating systems are no
  longer supported by Microsoft. Additionally, the Wonderware SCADA
  software is no longer supported by Wonderware. It is proposed to upgrade
  the operating systems and Wonderware software with little or no
  interruption to the ongoing operations. The tasks will include:

  ➢ Develop a SCADA software and operating system upgrade
    plan for approval by SC IT
  ➢ Implement the upgrade with minimal interruption to
    Operations

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- Develop and Implement Microsoft Security Patching Plan.
  Microsoft releases security patches on a regular and ongoing basis. By not applying these patches to the SCADA system, these computers are at risk of virus attack. However, these patches should be tested and certified before they are applied to the SCADA system. The tasks will include:

  - ➤ Develop a Microsoft Security Patch program and software roadmap to ensure San Clemente stays current with supported hardware and software version well into the future
  - ➤ Implement MS Security patch testing and deployment when and where needed.

- Assist City with implementation of the SCADA system virtualization.
  Virtualization allows cost savings and eases backup/recovery tasks, and has been the path of IT for over five years now. SCADA software has just recently taken advantage of this trend, and all the latest Wonderware software can be virtualized. The tasks will include:

  - ➤ Develop a plan to virtualize the SCADA system for approval by IT
  - ➤ Implement the OS and SCADA software virtualization with minimal interruption to Operations
  - ➤ Startup, testing and verification of the virtualized system

- Develop Backup and Disaster Recovery Plan.
  Although the SCADA system has several levels of operational and data safety, the system is still vulnerable in the event of multiple failures. System backup and recovery allows the system and data to be recovered under most failure scenarios. The tasks will include:

  - ➤ Develop a plan to backup and recover the SCADA system for approval by IT
  - ➤ Develop a step-by-step disaster recovery SOP
  - ➤ Develop emergency start-up and shut-down procedures

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> ➤ Develop Emergency Recovery test protocols to verify the system is functioning.

- Establish formalized plan for optimization (i.e. Energy Consumption) of the system utilizing SCADA.

- Provide SCADA Training to City staff.

- Assist City with equipment and software Procurement.

- Prepare Operation and Maintenance manuals for all new equipment

App-IT, LLC

I.   Project Staffing

The project will be staffed by Steve Geel (Resume included in section VI). Steve has more than 10 years of experience managing and developing industrial automation solutions using Wonderware's AppServer, Historian and reporting tools. Additionally, Steve has over 10 years of experience with ACP Thin Manager applications as used in San Clemente's SCADA implementation. Steve will be the principal on the project for the entire two year duration of the contract and is available on a 24x7 basis. AppIT's office is located in Irvine, California, approximately 20 minutes from the San Clemente Water Reclamation facility.

II.   Related Experience

Steve has direct experience with the San Clemente implementation including all hardware and software configurations, custom Win911 architecture, the Domain controller configuration, all user and group security configurations, all physical locations and layouts for servers, switches and client terminals. Steve is already familiar with the city's IT staff, Operations staff, and Engineering staff. Additionally, Steve has implemented several SCADA applications similar to San Clemente's including San Diego County Water Authority, Huntington Beach Water and Waste Water system, County of Los Angeles's Malibu Water Distribution, County of Los Angeles's Lancaster Water Distribution, Twin Oaks Water Treatment Plant, Mesa Consolidated Water Distribution, and some work on Irvine Ranch Water Distribution. Steve has virtualized the SCADA systems for the Port of Long Beach, Twin Oaks Water Treatment Plant, and San Diego County Water Authority. References are included in Section V.

III.   Fee Schedule

A) Rates are assured valid for the two year contract period
B) Mileage and time traveled to and from San Clemente is at no charge
C) Weekly status meetings are at no charge
D) Regular rate - $85.00/hour
E) After hours emergency response - $105.00/hour