

REQUEST FOR COUNCIL ACTION

SUBJECT: 2014 Water Master Plan Update

SUMMARY: Approve Amendment No. 1 to the Professional Services Agreement with Hansen Allen & Luce Inc. for additional engineering services for the 2014 Water Master Plan Update to include a SCADA/Telemetry Master Plan, in an amount not to exceed \$29,800.00.

FISCAL IMPACT: Funds are available in the Capital Water Account.

STAFF RECOMMENDATION:

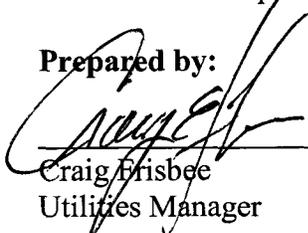
Staff recommends approval of Amendment No. 1 to the Professional Services Agreement with Hansen Allen & Luce Inc. for additional engineering services for the 2014 Water Master Plan Update to include a SCADA/Telemetry Master Plan, in an amount not to exceed \$29,800.00.

MOTION RECOMMENDED:

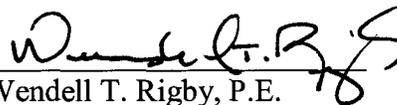
"I move to adopt Resolution No. 14-210 authorizing the Mayor to execute Amendment No. 1 to the Professional Services Agreement with Hansen Allen & Luce Inc. for additional engineering services for the 2014 Water Master Plan Update to include a SCADA/Telemetry Master Plan, in an amount not to exceed \$29,800.00.

Roll Call vote required

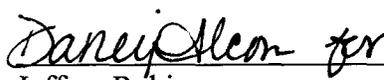
Prepared by:


Craig Frisbee
Utilities Manager

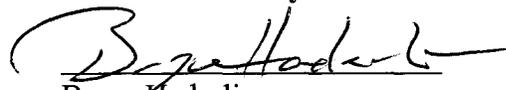
Reviewed by:


Wendell T. Rigby, P.E.
Director of Public Works

Reviewed as to Legal Sufficiency:


Jeffery Robinson
City Attorney

Recommended by:


Bryce Haderlie
Interim City Manager

BACKGROUND DISCUSSION:

The City contracted with the engineering firm of Hansen Allen & Luce, Inc. (HAL) for the 2014 Water Master Plan Update. The City currently does not have a SCADA Master Plan, this amendment will allow Hansen, Allen & Luce, Inc. to analyze the current system and prepare documentation of the SCADA system analysis into a final SCADA Master Plan report.

The utility department is concerned about the adequacy and the condition of the water systems' SCADA system. The current system is a blend of components dating from the 1990's to the present. The older components are failing and in need of replacement. Replacement parts for the older components are no longer available due to industry modernization. There is a need for a comprehensive, long-term plan to evaluate and improve the existing system including software upgrades and replacement of aging/failing existing parts. There is also a need to determine future need based on projected city growth and system security. The city and the utility department have a long standing and excellent relationship with the engineering firm of Hansen Allen and Luce, Inc. The utility has engaged HAL as the engineering consultant to complete the city's Water Master Plan. Because the SCADA system improvement project could be considered an integral part of the Water Master Plan, it is proposed that an amendment to the Water Master Plan be approved to add this SCADA element to the plan.

Attachments:

Resolution
Amendment No. 1

THE CITY OF WEST JORDAN, UTAH
A Municipal Corporation

RESOLUTION NO. 14-210

A RESOLUTION AUTHORIZING THE MAYOR TO EXECUTE AMENDMENT NO. 1 TO THE
PROFESSIONAL SERVICES AGREEMENT BETWEEN
THE CITY AND HANSEN, ALLEN AND LUCE, INC. FOR THE
WATER MASTER PLAN UPDATE

WHEREAS, the City Council of the City of West Jordan has reviewed Amendment No. 1 to the Professional Services Agreement between the City of West Jordan and Hansen, Allen, and Luce, Inc. (a copy of which is attached) for additional engineering services to complete a SCADA/Telemetry Master Plan in an amount not to exceed \$29,800.00; and

WHEREAS, the City Council of the City of West Jordan desires to approve Amendment No. 1 to the Professional Services Agreement with Hansen, Allen, and Luce, Inc. for engineering services to complete a SCADA/Telemetry Master Plan in an amount not to exceed \$29,800.00.

NOW, THEREFORE, IT IS RESOLVED BY THE CITY COUNCIL OF WEST JORDAN, UTAH, THAT:

Section 1. After approval as to legal form, the Mayor is hereby authorized and directed to approve Amendment No. 1 to the Professional Services Agreement with Hansen, Allen, and Luce, Inc. for additional engineering services for the SCADA/Telemetry Master Plan in an amount not to exceed \$29,800.00.

Section 2. This Resolution shall take effect immediately upon passage.

Adopted by the City Council of West Jordan, Utah this 19th day of November 2014.

Kim V. Rolfe
Mayor

ATTEST:

MELANIE S. BRIGGS
City Recorder

Voting by the City Council	"AYE"	"NAY"
Jeff Haaga	_____	_____
Judy Hansen	_____	_____
Chris McConnehey	_____	_____
Chad Nichols	_____	_____
Ben Southworth	_____	_____
Justin D. Stoker	_____	_____
Mayor Kim V. Rolfe	_____	_____

AMENDMENT NO. 1
TO AN AGREEMENT
FOR PROFESSIONAL SERVICES
BETWEEN THE CITY OF WEST JORDAN
AND
Hansen, Allen and Luce, Inc.

THIS AMENDMENT, made and entered into this 19th day of November 2014 by and between the CITY OF WEST JORDAN, a municipal corporation (hereinafter referred to as "City"), and Hansen Allen & Luce, Inc.(hereinafter referred to as "Consultant").

The City and Consultant agree as to amend the following sections of the original Professional Services Agreement to provide additional engineering services for the Water Master Plan Update to include a SCADA/Telemetry Master Plan.

2. **DESCRIPTION OF SERVICES**

The services to be performed by Consultant are as follows:

Provide for additional engineering services for the Water Master Plan Update as described in the attached Consultant's proposal dated October 30, 2014.

3. **COMPENSATION AND PAYMENT**

The total compensation payable to Consultant by City for the services described in Paragraph 2 shall not exceed the sum of **\$29,800.00** for Amendment No. 1 bringing the total not-to exceed fee to \$87,073.50 for services under this contract.

In concurrence and witness whereof, this Agreement has been executed by the parties effective on the date and year first above written.

CITY OF WEST JORDAN

Kim V. Rolfe, Mayor

APPROVED AS TO ADMINISTRATION:

Melanie Briggs, City Recorder

APPROVED AS TO LEGAL FORM
West Jordan City Attorney

By: Daniel Ales Date: 11-7-14

CONSULTANT

Marvin E. Allen
Hansen, Allen and Luce, Inc.

STATE OF Utah

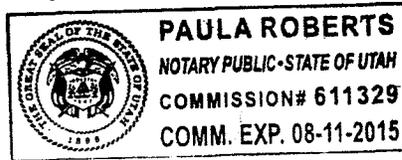
:SS
COUNTY OF Salt Lake

On this 4 day of Nov., 2014 personally appeared before me, _____

Marvin E. Allen, who being by me duly sworn did say that he is the
of Principal, Hansen, Allen + Luce, a Utah

corporation, and that the foregoing instrument was signed in behalf of said corporation by authority of its
Board of Directors, and he acknowledged to me that said corporation executed the same.

Paula Roberts
NOTARY PUBLIC



My Commission Expires: 08-11-2015

Residing in Utah, Salt Lake County, Utah

Craig Frisbee
City of West Jordan
8000 South Redwood Road
West Jordan, Utah 84088

October 30, 2014

Re: 2014 SCADA Master Plan Proposal

Dear Craig:

West Jordan City is concerned about issues with the SCADA system and has expressed the need for a comprehensive plan to improve it. Hansen, Allen & Luce, Inc. (HAL) is pleased to submit this proposal to provide engineering services to the City of West Jordan for the preparation of a SCADA/Telemetry Master Plan. It is our understanding that this work will be added as an amendment to our existing contract for completing a Water Master Plan Update.

BASIS OF PROJECT

This proposal is based on a meeting HAL and Hegerhorst Power Engineering, Inc. (HPE) had with West Jordan City on Thursday, July 31, 2014. HPE will be integral to completing the SCADA Master Plan as a sub-consultant to HAL. HAL and HPE have a long history of working together.

In the meeting, HAL and HPE were made aware of some of the issues presently experienced by the City regarding their SCADA system. The City is interested in accomplishing the following specific tasks with this evaluation in preparing a plan to resolve these existing issues and future potential issues.

- Evaluate the present infrastructure and components to make recommendations for hardware needs.
- Review and evaluate the integrity of the current network and identify any data security issues.
- Address software and software licensing opportunities. Identify options for portable monitoring equipment to allow maintenance personnel to remotely monitor the City's water system.
- Identify the existing SCADA system deficiencies and expansion needs. Develop proposed solution alternatives for the SCADA system.
- Prepare a SCADA system implementation plan including schedule and estimated costs.
- Integrate the documentation of the SCADA System Master Plan into the Water System Master Plan report.

SCOPE OF WORK

HAL proposes to complete the following Tasks to assist the City with preparing a SCADA Master Plan. Each Task includes an Objective and a Statement of Work (list of activities) to accomplish the Task.

TASK 100 – Gather Information on the Existing System

Objective:

Gather information on the existing SCADA/Telemetry system which will include conducting site visits, obtaining information on equipment, and interviewing City personnel. Work with City personnel to obtain any data that might be beneficial to the analysis.

Statement of Work:

1. Meet with City personnel to review study objectives and to discuss the information gathering plan.
2. Perform an independent assessment of the existing SCADA Master Station and remote sites. This effort will include obtaining information on the Master Station hardware, software, radio, and antenna. The assessment should include the present and future Remote Terminal Unit (RTU). HPE will visit any site with SCADA equipment that is 5 years old or older, and sites with instruments that have been in service for 8-9 years or longer.
3. Investigate and better understand any radio path telemetry issues or non-issues within the SCADA system. The basis of this assessment will be a review of a previous assessment that included radio path testing for both licensed radios (5 watt, 173 mHz) and unlicensed radios (1 watt, 928 Spread Spectrum Ethernet).
4. Interview City personnel directly responsible for the installation and upgrading of the SCADA hardware and software to gain an understanding of the strengths and weaknesses of the present City approach to the existing SCADA system. Identify system criteria important to City personnel.

TASK 200 – SCADA System Assessment

Objective:

Conduct an assessment of the existing SCADA/Telemetry system using the information collected in the previous task. Identify the future system expansion needs.

Statement of Work:

1. Using the information gathered from the previous tasks, assess the existing system using criteria developed with input from City personnel. These criteria could include:
 - a. Which sites are higher priority sites within the City and which sites are of lesser priority? Priority sites should be investigated and addressed as very important and critical locations. These sites should receive priority maintenance and upgrades. Less priority sites may be upgraded and maintained on an as needed basis, put on a lower priority upgrade schedule, or receive “hand-me-down” components as the critical sites are updated.
 - b. Which RTU sites have SCADA and/or field transducer hardware that is now or will soon become, hard or expensive to maintain?
 - c. In the event of a long-term power outage, which sites may significantly impact the City’s ability to deliver safe and clean water? In the event of a long-term power outage which sites may not significantly impact the City’s ability to deliver safe and clean water?
2. Analyze the existing software and software licensing opportunities. Identify options for portable monitoring equipment to allow maintenance personnel to remotely monitor the City’s water system.
3. Analyze the possibility for the SCADA Master to include remote Closed Circuit Television (CCTV) monitoring and potential security system hardware.
4. Analyze the identified existing SCADA system deficiencies and develop recommended solution alternatives.
5. Analyze the anticipated future SCADA system expansion needs.

TASK 300 – Develop Implementation Plan

Objective:

The purpose of this task is to present the list of existing system deficiencies and system expansion needs to City personnel and assist them in selecting the preferred solution from the recommended solution alternatives developed in the previous task. Once an overall preferred solution is selected, a SCADA system implementation plan will be developed including solution priorities, schedules, and estimated costs.

Statement of Work:

1. Prepare a list of recommended alternatives for improvements to the SCADA system from previous tasks.
2. Meet with City personnel to review recommendations and to present alternative recommendations developed in the analysis. Screen alternatives based on feasibility, City personnel acceptance, etc. and select the alternatives for further analysis.

3. Compare the alternative plans on the basis of conceptual level costs, maintenance requirements, operation costs, City personnel acceptability, and ability to accommodate changes.
4. Meet with City personnel to review the comparison data for alternatives, select the preferred solution plan including assigning priorities to individual components and developing an implementation schedule.
5. Develop cost estimates for the preferred solution plan by using typical costs for SCADA hardware for items such as the Programmable Logic Controllers (PLC's), Input/Output modules, equipment enclosures, instrumentation (switches, transducers, etc), software and programming/commissioning.

TASK 400 – Document the Analysis

Objective:

The purpose of this task is to prepare documentation of the SCADA system analysis into a final SCADA Master Plan report.

Statement of Work:

1. HPE will prepare a draft report that details the methodologies, data, analysis, results, recommendations and the implementation plan from all previous tasks.
2. HAL will incorporate the SCADA Master Plan into the Water System Master Plan.
3. HAL and HPE will review the report with City personnel.
4. Make requested changes after receiving comments from City personnel.
5. The final SCADA Master Plan documentation will be included in the final Water Master Plan report.

COST ESTIMATE

The following table includes a summary of our fee estimate. The fee estimate and scope of work are based on our understanding of the City's needs and what we believe would give the City a complete SCADA Master Plan. The City may wish to add, subtract or modify Tasks to better meet their needs.

TASK	TASK NAME	ESTIMATED FEE
100	Gather Information on the Existing System	\$13,000
200	SCADA System Assessment	\$6,000
300	Develop Implementation Plan	\$4,900
400	Document the Analysis	\$5,900
TOTAL		\$29,800

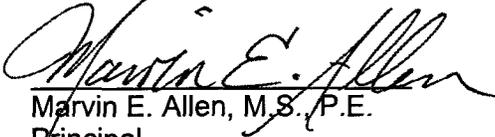
Our assumptions in developing this fee include:

1. It is assumed that 25 sites with SCADA equipment will be visited.
2. The SCADA Master Plan will be included in the Water Master Plan report.
3. Four meetings are assumed with the City at City offices.
4. It is assumed the City will provide a list of current SCADA System issues with hardware, software, field instrumentation, and controls.
5. No time is assumed to engineer or design standard Remote Terminal Units (RTU's).
6. It is not assumed that any technical drawings or specifications will be or produced or printed.

We appreciate the opportunity you have given us to present this proposal to the City. We are very excited about this project, and are prepared to begin work when the City is ready. We invite you to contact our offices if you have any questions regarding our proposed scope of work and cost estimate.

Sincerely,

HANSEN, ALLEN & LUCE, INC.



Marvin E. Allen, M.S., P.E.
Principal