



Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: John Stufflebean
Randall Murphy

SUBJECT: SEE BELOW

DATE: 04-01-08

Approved

Date

3-31-08

SUBJECT: AGREEMENT WITH WESTIN ENGINEERING, INC. FOR IMPLEMENTATION OF A COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM (CMMS) AT THE SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT

RECOMMENDATION

Approve an agreement with Westin Engineering, Inc. for the implementation of an integrated Computerized Maintenance Management System in an amount not to exceed \$861,000, including an amount of \$80,000 for additional services identified during project implementation, with an initial term of eighteen months for installation and staff training, and a one year maintenance period.

OUTCOME

This action will result in implementation of a comprehensive Computerized Maintenance Management System (CMMS) at the San José/Santa Clara Water Pollution Control Plant (Plant) as a key tool to implement an asset management program to effectively manage, maintain, rehabilitate, repair, and replace an estimated 30,000 Plant assets, most of which are over 30 years old.

EXECUTIVE SUMMARY

Implementation of an online computerized system is being recommended to help streamline preventive maintenance and asset management program at the Plant. CMMS implementation would establish an asset database for City staff use, enabling them to make well informed and data driven maintenance and operations decisions. This memorandum reports on the selection of a consultant to provide implementation services for City approved CMMS software, *Infor/Datastream*. Purchase of the software, estimated at \$300,000, is contingent upon approval of the contract award for implementation services. Final selection of the software modules that are to be purchased will be made by staff with the assistance of the consultant. Hardware purchase, if required, would cost an additional \$20,000. Staff recommends award of the contract to implement a CMMS system to Westin Engineering, Inc. for a not to exceed cost of \$861,000.

The total cost to procure software, hardware, and implementation and maintenance services is approximately \$1.18 million. This cost represents an investment of 0.06% on an essential tool to manage assets worth \$2.0 billion at the Plant.

BACKGROUND

As presented to the City Council on August 14, 2007 in a report on City's infrastructure titled "Deferred Maintenance & Infrastructure Backlog Report," the Plant has been identified as one of the City facilities with aging infrastructure and in need of significant capital investments for rehabilitation and repair. Various elements comprising the wastewater treatment system are on average 30 to 50 years old resulting in decreased reliability and increased maintenance demands. The Plant is valued at approximately \$2.0 billion and the 2007-2008 Adopted Capital Budget, 2008 – 2012 Capital Improvement Program is budgeted at \$178 million in construction projects, which amounts to an average investment of \$36 million/year. To maintain this valuable and critical facility, a comprehensive asset management program and software is needed to accurately capture the condition of the existing assets and the resources required to maintain and/or rehabilitate the infrastructure.

The City has had experience with the implementation of asset management systems since 2004 with the implementation of a CMMS system, *Infor/DataStream* by the General Services Department (GS) and Parks, Recreation and Neighborhood Services (PRNS) Department. Environmental Services Department (ESD), Municipal Water Division is also currently using this software to manage the water utility's assets.

Based on the implementation experiences learned from these various departments, ESD pursued and obtained funding for a total of six new positions to create a Plant Asset Management Team, through the 2006-2007 and 2007-2008 Adopted Capital and Operating Budgets. This team will develop and implement a comprehensive Infrastructure Asset Management System to apply the combined financial, economic, engineering and management practices to the Plant's physical assets with the objective of providing the required level of service in the most cost effective manner. Some of the goals of this new program include:

- Develop a strategic asset management plan
- Identify and catalog physical Plant assets
- Improve Plant reliability by developing a more comprehensive preventive, predictive and corrective maintenance program
- Conduct risk analysis and condition assessments on critical assets
- Increase work efficiency by integrating Plant stores inventory data and costing into the work order process
- Establish financial data for plant assets that leads toward life cycle costing, cost benefit analysis, and financial forecasting
- Develop performance metrics

A new CMMS system is a vital tool to help the Asset Management Team accomplish these goals.

In addition to the Asset Management Team, the 2007-2008 Adopted Capital and Operating Budget included funding for an expanded Preventive Maintenance Program. Both the Asset Management and Expanded Preventive Maintenance Program are intended to deliver long-term savings, as in other similar industrial facilities, by committing resources to extending the useful life of existing assets, and improving the planning for the rehabilitation and replacement of those assets in the most cost effective manner possible. These programs will also significantly increase the reliability of the Plant to ensure continued treatment of wastewater from the 1.5 million population service area. References from other similar implementations (Seattle Public Utilities, Orange County Sanitation District, and Massachusetts Water Resources Authority) of comprehensive asset management programs with tools such as CMMS indicate, on average, a reduction of 5% to 10% in maintenance costs and reduced CIP investments of 15%.

Currently, no such comprehensive tool exists at the Plant. Routine maintenance activities and inventory are currently managed through several different existing legacy systems that do not have the capability of documenting and tracking asset condition and rehabilitation costs.

GS, PRNS and ESD's Municipal Water Division currently are using CMMS software called *Infor/DataStream 7i*. Further the Airport is pursuing efforts to implement an asset management program as well. Therefore, this product was approved by the Finance Department as brand name/sole source procurement for the City as specified under Municipal Code Section 4.12.240.B.5 based on the following justification:

- Its compatibility with existing core technology infrastructure firmly established Citywide.
- Software product (*Infor/DataStream*) was originally selected by GS through a competitive RFP process in 2001 and has been in use by various City departments since 2003.
- Familiarity and existing operational experience of City IT staff with this software.
- Interface synergies with existing City systems to enable development of similar infrastructure management reports Citywide.
- Potential for volume discounts with software licensing and future upgrades.

In order to implement the *Infor/DataStream 7i* CMMS software at the Plant, a Request for Proposal (RFP) for consultant services was developed and issued by ESD.

ANALYSIS

The development of the scope of the project and the RFP involved an extensive collaborative process between the Airport, ESD, Finance Department and Information Technology Department (ITD), involving the following activities:

- Demonstrations and field trips to understand the use of the software in various departments
- Analysis and evaluation of lessons learned during implementation by GS, PRNS and ESD (Municipal Water Division)
- Research of other wastewater facilities/agencies on implementation of CMMSs
- Joint efforts by the Airport and ESD on the preparation of the requirements development

- Approval of the project and the scope by the Information Technology Planning Board (ITPB)
- Assessment of City staff resources required to implement the software successfully

Staff utilized the lessons learned during these collaborative efforts, such as:

- Software can be used and configured for various different business objectives, however, it is not one size fit all.
- Specific business requirements should be considered and a separate configuration be designed to maximize the benefit of the software package.
- Customization should be kept to a minimum and business processes should be flexible to adapt to the software.

The RFP to procure professional services to implement the proposed CMMS software was developed incorporating these lessons learned. On September 6, 2007, the RFP was released and advertised on the City's internet "BidLine" site as well as the Department's website, and ten companies were directly notified of the RFP. Four companies requested the RFP. All of the companies were sent the subsequent three addenda and the addenda were posted on the internet websites. The City received only one proposal submitted by Westin Engineering, Inc., in conjunction with *Infor/DataStream* by the October 19, 2007 deadline.

Staff conducted additional outreach to consultants that received the RFPs but did not bid, in an effort to understand the reasons behind the non-receipt of additional proposals and found that some of the reasons for the lack of consultant participation were:

- Lack of experience with CMMS and wastewater asset management
- Resources committed to other projects

An evaluation team consisting of City staff from ESD and ITD reviewed and evaluated the sole proposal based on the criteria set forth in the RFP, i.e. firms experienced in implementing similar systems, customer service and satisfaction, technical capability, and cost. Based on this evaluation, Westin Engineering Inc.'s team and their proposal were deemed to be well qualified to provide the implementation services for the CMMS. Westin, Inc. has implemented several CMMSs for various wastewater agencies such as Henrico County Department of Public Utilities, Richmond, VA; Citrus Height Water District, Citrus Heights, CA, and South Bayside System Authority, Redwood City, CA. Reference checks with all these agencies provided positive feedback on the consultant team's performance. Further, Westin's partnership with the software provider, *Infor/DataStream*, is likely to enhance the technical ability of the team to provide a successful implementation of the project.

Staff then proceeded with the next step of scope and price negotiation on the project. City staff and the consultant firm have agreed on a final negotiated amount of \$781,000 for implementation services (not including software purchase) and an allowance of \$80,000 for possible scope enhancements and unanticipated changes, for a total contract cost of \$861,000. CMMS software, *Infor/Datastream 7i*, is to be procured based on the consultant's recommendation of the required modules and user licenses to meet the needs of the Plant.

The cost for the software is estimated to be \$300,000, and will be purchased through a separate PO following the Consultant's recommendation of the modules required. It is anticipated that existing hardware is sufficient to test and install the software. Should additional hardware be required, based on the Consultant's recommendation, it is anticipated that this cost would be under \$20,000. The total initial cost of this project is estimated to be approximately \$1.18 million. This cost represents an investment of 0.06% on a tool to manage assets worth \$2.0 billion at the Plant. The ongoing maintenance cost for this software package is estimated to be \$25,000 annually.

Based on the evaluation of the qualifications of the consultant and negotiated cost, and the value of the investment to the Plant, staff recommends Westin Engineering, Inc. be awarded the contract for implementation of the CMMS at the Plant. The scope of work to be completed by Westin engineering includes project planning, business process re-engineering and evaluation, recommendation of various Infor/DataStream software modules to be purchased, software implementation, creating reports, training, documentation, testing and post implementation support. Upon completion, staff will start using the system for day to day activities of work order management, asset management, preventive maintenance and inventory control.

EVALUATION AND FOLLOW UP

This agreement will provide staff with the ability to engage the services of the consulting firm to implement the CMMS system. Software purchase is to be handled through the Procurement Division of the Finance Department under a separate PO and is estimated to be well under \$1 million. Staff expects that there will be future enhancements and integration phases of the system once the initial implementation is completed. Integration with Geographic Information Systems, mobile data devices, and Plant Control Systems will take place in subsequent phases. Currently these efforts are anticipated to be completed with internal staff resources. No additional follow up action with the Council is expected at this time.

POLICY ALTERNATIVES

Alternative #1: Continue to address asset/maintenance needs with existing systems.

Pro: No new investment is required.

Con: Numerous data management shortcomings would continue to hamper the Department's efforts to quantify, analyze and forecast the Plant's infrastructure asset condition and maintenance requirements.

Reason for not recommending: Failure to implement a comprehensive CMMS may result in higher future costs, inefficient operations, reduced Plant reliability, and unmet long-term capital needs.

Alternative #2: Implement the project utilizing City staff resources.

Pros: Cost savings may be realized by having a team of several staff members working on the project full time.

Cons: Internal staff is currently assigned to other projects. Reassignment of staff to this project would negatively impact other critical projects and interfere with support functions of servers, network, SCADA systems, etc. The length of the project's implementation schedule would also increase due to limited expertise of City staff with implementation of CMMS.

Reason for not recommending: Due to the possible negative impacts to existing technology operations and project schedule, this alternative is not recommended.

Alternative #3: Implement a vendor hosted CMMS solution

Although no hosted bids were received, City requested Westin, Inc. to provide cost information for this option in order to fully explore all possible alternatives.

Pro: Third party Server administration, resulting in decreased workload for existing staff.

Con: Westin's hosting model is to sell the software and offer a Hosting Service option.

Therefore, the hosting fee is additive to the perpetual software license already proposed. Based on the hosting proposal received, hosting services would cost an additional \$30,000 - \$50,000 annually.

Reason for not recommending: Net additional annual cost. Dependency on vendor for ongoing service complicates integration with other City systems.

Alternative #4: Reject the sole proposal received and re-advertise the RFP

Pro: Potential for more submittals.

Con: Timeline for the project would be extended while the Asset Management Program and the Preventive Maintenance Program are stalled due to the delay in the implementation of this essential software tool.

Reason for not recommending: Re-issuing does not guarantee better quality or lower cost. The selection of the consultant was based on the consultant's qualifications and extensive experience in the wastewater field.

PUBLIC OUTREACH/INTEREST

- Criterion 1:** Requires Council action on the use of public funds equal to \$1 million or greater. (Required: Website Posting)
- Criterion 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- Criterion 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This item does not meet any of the criteria above. However, this solicitation was advertised on the City's internet Bid-Line and the Department's website and is posted on the City Clerk's website for the April 22, 2008 City Council meeting.

COORDINATION

This project has been reviewed by the Architecture Committee of the (ITPB). The RFP and scope development activities of the project have been coordinated with ITD, GS, Airport, Procurement Division of Finance Department and the City Attorney's office. This memorandum has been coordinated with the City Attorney's Office, Finance Department, ITD and the City Manager's Budget Office and is scheduled to be heard at the April 10, 2008 Treatment Plant Advisory Committee (TPAC) meeting.

To maximize benefits of this system throughout the City, an inter-departmental CMMS Executive Steering Committee consisting of staff from IT, ESD, GS and Airport has been formed. This group will be supported by a staff level CMMS User Group consisting of functional and technical staff from these departments. The user group has started meeting and are exploring options to take advantage of commonalities such as training, workflow standardization, reports, and the development of key performance indicators. This effort will also identify costs savings through joint negotiations of licenses, upgrades, etc. between the various departments.

FISCAL/POLICY ALIGNMENT

This action is consistent with Council-approved budget strategy of focusing on protecting our vital core City services. It is also consistent with the City principles of continuing to streamline, innovate, and simplify our operation so that we can deliver services at a higher quality level, with better flexibility, at a lower cost.

COST SUMMARY/IMPLICATIONS

1. AMOUNT OF RECOMMENDATION:	\$861,000
2. COST ELEMENTS OF AGREEMENT	
System Development and Administration	\$185,590
System Implementation (Data Migration, Testing, Validation, Definitions)	\$414,840
Documentation and Training	\$82,450
Maintenance Support	\$98,120
Additional Services	<u>\$80,000</u>
TOTAL AGREEMENT AMOUNT	\$861,000
Software Cost	\$300,000 ^a
Hardware	\$20,000 ^b
TOTAL PROJECT COSTS	\$1,181,000

a. Estimate - To be purchased under a separate PO contingent upon approval of this agreement

b. Estimate - If required, based on consultants recommendation

3. SOURCE OF FUNDING: 512 – San Jose /Santa Clara Treatment Plant Capital Fund

4. FISCAL IMPACT: No additional funding is necessary to approve this project.

BUDGET REFERENCE

Fund #	Appn #	Appn. Name	RC #	Total Appn.	Amt. for Contract	Adopted CIP Budget Page	Last Budget Action (Date, Ord. No.)
Remaining Project Costs				\$861,000			
Current Funding Available							
512	5690	Plant Infrastructure Improvements	149755	\$12,690,000	\$861,000	V-160	10-16-2007, Ord. No. 28143
Total Current Funding Available				\$12,690,000			
Additional Funding Recommended							

CEQA

This is not a project.



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For questions, please contact Bhavani Yerrapotu, Division Manager, Environmental Services at 945-5321.