



# Memorandum

**TO:** HONORABLE MAYOR  
AND CITY COUNCIL

**FROM:** John Stufflebean

**SUBJECT:** SEE BELOW

**DATE:** 04-21-08

Approved

Date

4/21/08

**COUNCIL DISTRICT:** City-Wide

**SUBJECT: REPORT ON BIDS AND AWARD OF CONTRACT TO THE LOWEST RESPONSIVE BIDDER ANDERSON PACIFIC ENGINEERING CONSTRUCTION INC. FOR THE SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT, ALTERNATIVE DISINFECTION PROJECT**

## RECOMMENDATION

Report on bids and award of construction contract for the Alternative Disinfection Project to the lowest responsive bidder, Anderson Pacific Engineering Construction, Inc., in the amount of \$7,709,000 and approval of a 15% contingency in the amount of \$1,160,000.

## OUTCOME

Award of this construction contract will provide for the installation of a liquid chlorination and dechlorination system to disinfect the final effluent from the San José/Santa Clara Water Pollution Control Plant (Plant) in lieu of the existing gaseous chlorine and sulfur dioxide system. Approval of a 15% contingency will provide funding for any unanticipated work necessary for the completion of the project.

## BACKGROUND

Disinfection of the filtered effluent at the Plant is currently achieved through the use of gaseous chlorine and neutralization of the chlorine residual with sulfur dioxide prior to discharge to the bay. Chlorine and sulfur dioxide are brought to the site in railcars, which are also used as storage. Up to four chlorine railcars and three sulfur dioxide railcars can be onsite at any one time. The railcars each have a capacity of 90 tons. The presence of large quantities of sulfur dioxide and chlorine gas poses a high risk of a catastrophic event in an event of a large release. Since the terrorist attack event on September 11, 2001, the Plant has been looking at ways to

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reduce this risk. Three options were considered including 1) continued use of gaseous chlorine and sulfur dioxide but with added safety and security measures, 2) use of liquid sodium hypochlorite (similar to bleach) and liquid sodium bisulfite, and 3) ultraviolet disinfection. Various studies and research were performed prior to and even during the design phase of this project to further assess the viability and cost-effectiveness specifically related to ultraviolet disinfection system. The results of those analysis concluded that at this time, the sodium hypochlorite/sodium bisulfite system offers the most economical alternative for disinfection. This decision will allow the Plant to reduce the risk associated with gaseous chlorine, while allowing the development of the Plant Master Plan and its implementation over the next 10 to 15 years.

The Alternative Disinfection Project will replace the use of gaseous chlorine and sulfur dioxide with liquid sodium hypochlorite and sodium bisulfite, respectively. Chlorination for disinfection of the treated wastewater and dechlorination prior to discharge into the Bay is a regulatory requirement that must be met at all times per the Plant NPDES permit. As such the existing gaseous chlorination/dechlorination system cannot be completely taken out of service until the proposed new Alternative Disinfection project is completely built, tested, and fully operational.

The design phase of the project started in July 2005 and completed in October 2007. The project was advertised for bid in December 2007 and staff conducted extensive outreach to contractors to ensure competitive bidding.

### **ANALYSIS**

A total of six bids were received and opened on March 6, 2008 with the following bid results:

<u>Contractor</u>	<u>City</u>	<u>Bid Amount</u>	<u>Variance Over/(Under)</u>	
			<u>Amount</u>	<u>Percent</u>
Monterey Mechanical Co.	Oakland	\$9,444,000	\$1,444,000	18.05%
Shimmick Construction Co. Inc.	Hayward	\$9,325,000	\$1,325,000	16.56%
Gantry Constructors, Inc.	Clarkdale, AZ	\$9,006,000	\$1,006,000	12.58%
Pacific Infrastructure Corp.	Concord	\$8,782,000	\$782,000	9.78%
Proven Management, Inc.	San Francisco	\$8,264,997	\$264,997	(3.31%)
<b>Engineer's Estimate</b>		<b>\$8,000,000</b>		
Anderson Pacific Engineering Construction, Inc.	Santa Clara	\$7,709,000	(\$291,000)	(3.64%)

Staff reviewed and analyzed all of the six submitted bids and determined them to be responsive. Anderson Pacific Engineering Construction, Inc., with \$7,709,000 is the low bidder and is 3.64% less than the engineer's estimate.

Anderson Pacific Engineering Construction, Inc., has successfully completed various construction projects at the Plant in the past including the Process and Electrical System Improvements/Primary and Disinfection Modifications (also known as the Toxic Gas Ordinance Project) in 1994 and Headworks Redundancy Modification Phase IV project in 1997. Based on staff's experience with this contractor's performance on prior projects, staff believes that Anderson Pacific possesses suitable and adequate resources, knowledge and technical capabilities to implement this project.

Council Policy provides for a standard contingency of 10% on public works projects involving utilities. However, staff recommends a 15% contingency for this project. The existing gaseous chlorination/dechlorination system overlaps in service areas with proposed new Alternative Disinfection project. Therefore considerable challenges are expected to be encountered during construction and start-up of the new system, as described below.

While staff has made efforts during the design phase to locate all existing underground utilities and structures by reviewing existing record drawings and performing site surveillance, experience on recent projects has shown that the complex web of underground utilities at the Plant and limited clearances have resulted in a high number of change orders due to unknown conditions. Recognizing the inadequacy of the record drawings and the complexity of the existing utilities, City staff is currently embarking on several efforts, including the Record Drawing program, the Asset Management Program, and the Geographic Information System to identify and locate underground piping along with other assets of the Plant.

The tank farms to store disinfection and dechlorination chemicals are located very close to the existing 108-inch diameter filter influent concrete pipes, which are critical to the Plant process. The tank farms are designed to be supported on concrete piles 45 to 60 feet deep. To mitigate the possibility of joint-separation of these existing concrete pipes due to vibrations from pile driving operations, construction management staff will need to closely monitor for any potential impacts to the concrete pipes and take appropriate mitigation measures during construction, if necessary, adding to the cost of the project. Other challenges expected to be encountered during construction are the scheduling for switch over from the existing system, unit by unit, to the new system without affecting the treatment process and possible violation of the NPDES permit.

The 15% contingency will cover for any unanticipated work necessary for the proper completion of this project.

### **EVALUATION AND FOLLOW-UP**

The project is currently within budget with a projected completion date of December 2009. Should additional changes to the project be required due to change orders executed beyond the appropriated contingency, Staff will bring forward those changes for approval by Council.

## **POLICY ALTERNATIVES**

***Alternative: Reject bid and drop the project.***

**Pros:** Cost saving as the project is not implemented

**Cons:** The large quantities of gaseous chlorine and sulfur dioxide used at the Plant poses a high risk of a major catastrophe in an event of massive sudden release.

**Reason for not recommending:** If the project is not implemented, the Plant will continue to use gaseous chlorine and gaseous sulfur dioxide, necessitating additional funding for security and safety improvements against accidental release and potential purposeful acts.

## **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 action meets Criterion 1 above. Accordingly, "Notice to Contractors" inviting qualified contractors to submit bids was published by the Office of the City Clerk in the *San José Post Record*, and by the City's Project Engineer on Environmental Services Department website and Public Works Department Bid Hotline. This memo will be posted on the City's website for May 13, 2008 Council Agenda.

## **COORDINATION**

This project and memorandum have been coordinated with the Office of Risk Management, Equality Assurance, City Manager's Budget Office, and the City Attorney's Office. As a part of the "contracting-in" evaluation, this project has been approved for outsourcing by the City's Contracting-In Committee due to the lack of technical skills required to implement this project within the City. This item is scheduled to be heard at the May 8, 2008 Treatment Plant Advisory Committee meeting.

**FISCAL/POLICY ALIGNMENT**

This project is consistent with the Council-approved Budget Strategy to focus on rehabilitating aging Plant infrastructure, improve efficiency, and reduce operating costs. The project is also consistent with the budget strategy principle of focusing on protecting our vital core services.

1. AMOUNT OF RECOMMENDATION/COST OF PROJECT: \$7,709,000

Project Delivery	\$561,800
Construction	\$ 7,709,000
Contingency	<u>\$1,160,000</u>
<b>TOTAL PROJECT COSTS</b>	<b>\$ 9,430,800</b>

Prior Year Expenditures (\$561,800)

**REMAINING PROJECT COSTS \$ 8,869,000**

2. COST ELEMENTS OF PROJECT:

3. SOURCE OF FUNDING: 512 – San José-Santa Clara Treatment Plant Capital Fund. Existing funds are available for this project. No additional appropriation action is required

4. OPERATING COSTS: This project is projected to impact the Treatment Plant Operations and Maintenance Fund (513) by approximately \$2.5 million with the additional costs for liquid chlorine. These costs have previously been included in long-term budget and revenue projections.

**BUDGET REFERENCE**

Fund #	Appn #	Appn Name	RC #	Total Appn.	Amt. for Contract	Proposed Budget Page	Last Budget Action (Date, Ord. No.)
<b>Remaining Project Costs</b>				<b>8,869,000</b>			
Current Funding Available							
512	4679	Alternative Disinfection Project	130301	10,326,000	<b>8,869,000</b>	V-150	2/12/2008, 28241
<b>Total Current Funding Available</b>				<b>10,326,000</b>			
<b>Total Funding for Remaining Project Costs</b>				<b>10,326,000</b>	<b>8,869,000</b>		

HONORABLE MAYOR AND CITY COUNCIL

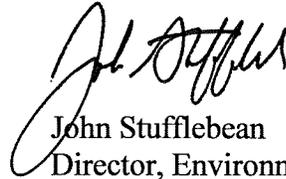
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**CEQA**

Exempt, PP07-145.



John Stufflebean

Director, Environmental Services Department

For questions please call Ting Ong, Senior Engineer, Technical Support Services, Environmental Services Department, at (408) 945- 5132.