

City of Woodland

REPORT TO MAYOR AND CITY COUNCIL

AGENDA ITEM

TO: THE HONORABLE MAYOR
AND CITY COUNCIL

DATE: April 21, 2009

SUBJECT: Water Tank Replacement Project 07-49, Award Construction Contract

Report in Brief

The City of Woodland advertised for bids to replace the existing 300,000 gallon water tank on Beamer Street with a 400,000 gallon Pedesphere tank to comply with the current Seismic Code as identified in the technical report submitted by Brown and Caldwell Engineering Inc.

The existing multi-column tank is 45 feet in diameter and 115 feet-tall. The replacement tank would be approximately 135 feet above natural ground level. The new tank will meet the current building code seismic requirements. Staff believes it is necessary to replace the existing tank in order to facilitate improved City-wide water pressure and to prevent structural failure of the existing tank due to its inability to withstand current seismic loading requirements as outlined in the updated building code.

Staff recommends that City Council authorize the award of a construction contract to Chicago Bridge and Iron Inc in the amount of \$2,390,000; and authorize the use of the total project contingency of \$404,000 as needed, for potential change orders during the Water Tank Replacement Project, Project No 07-49.

Background

In August 2006, a technical evaluation of the existing City's 300,000 gallon elevated storage tank prepared by Brown and Caldwell Engineering Inc indicated that the tank does not meet current seismic requirements. The study also revealed that it is not economically viable to retrofit the existing tank.

West Yost and Associates Engineering, Inc. have provided hydraulic modeling to evaluate the existing tank. The model results revealed that the tank is not able to meet the current water supply requirements for fire flow and peak hour demand. The proposed size and height of the new tank was also evaluated to confirm that it is sufficiently designed to meet current average and peak flow.

The proposed tank is sufficiently similar in size to the existing tank to allow the replacement work to be classified by California Environmental Quality Act (CEQA) as a facility replacement, therefore

categorically exempt from CEQA requirements. The proposed tank will be located at the former site of the National Guard Armory building site on Beamer Street. Ultimately the site will be developed into a parking lot for the adjacent athletic fields.

The proposed 400,000 gallon tank will increase the City's water pressure, especially in the south west corner of the City and also during peak hour flows. Peak hour flows and fire flow capability will increase from the current 2,400 gallons per minute (gpm) to 4,200 gpm when the project is completed. To realize this increase flow capacity, larger pipelines will be installed on Beamer Street and extended to the existing well. The bid documents for the pipeline work will be submitted to Council at a later date for approval.

In order to facilitate the successful implementation of this project, the City Council took the following previous actions:

- October 21, 2008- City Council approved plans and specification and authorize funding for the Water Tank Replacement Project, Project No 07-49.
- January 20, 2009- City Council approved the updated funding budget for the Water Tank Replacement Project, Project No 07-49.

Discussion

City staff advertised and solicited bids from February 23, 2009 until 2:00 p.m on March 31, 2009. Three bids were received; the results of the three bids are summarized below:

Table 1

Engineer's Estimate	\$2,640,000
Bidder's Name	Bid Amount
Chicago Bridge and Iron Inc.	\$2,390,000
Phoenix Fabricators and Erectors Inc.	\$2,896,050
Caldwell Tanks Inc.	\$2,909,900

The award is based on total bid cost (base bid plus the alternate items). The apparent low bidder is Chicago Bridge and Iron, Inc.

Accordingly, it is staff's recommendation that Council award the construction contract to Chicago Bridge and Iron, Inc. in the amount of \$2,390,000 for the Water Tank Replacement Project. Construction is anticipated to begin in May 2009 with a completion date of around December 2010. The contract working time is 315 work days which excludes weekends and holidays and allows for no cost weather delay time extensions.

A notice of exemption has been filed by City staff with the Yolo County Clerk for the construction of the replacement tank. A historical analysis was also conducted, it was concluded that the tank is of no historical significance.

To minimize impacts and concerns over the use of the ball field at Clark Field, it was decided to move the tank east to be located at the center of the Armory Building site. The Amory Building was demolished at a cost of about \$42,400; related engineering management and hazardous waste removal required an additional \$38,600.

Staff believes it is necessary to replace the existing tank in order to facilitate improved City-wide water pressure and to prevent structural failure of the existing tank due to its inability to withstand current seismic loading requirements as outlined in the updated building code. For these reasons, any alternatives focused on renovating the existing tank were evaluated as infeasible. In addition, if the work is delayed, additional cost of repainting the tank would be required to maintain the current tank and steel prices could be on the rise again when the economy improves.

Fiscal Impact

The updated total engineer’s estimate for the project is \$4,565,500 as indicated in Table 2; the current approved and requested appropriations for the project budget estimate by fiscal year is indicated in Table 3 below:

Table 2

Items	Vendor	Services	Updated Engineer’s Estimate
1	West Yost Associates	Tank Modeling and Planning	\$676,000
2	Brown and Caldwell Engineering Inc.	Tank Design	\$232,000
3	Brown and Caldwell Engineering Inc.	Pipeline Improvements Design	\$30,000
4	Ponticello Engineering Inc.	Armory Demolition/Haz Mat	\$81,000
5	Chicago Bridge and Iron Inc.	Tank Construction	\$2,390,000
6	Brown and Caldwell	Inspection and testing	\$137,500
7	Pipeline Contractor	Pipeline installation	\$460,000
8	Parson Brinckerhoff.	Construction Management	\$155,000
9		Contingency	\$404,000
10		Total	\$4,565,500

Table 3

Approved and Requested Appropriations by Fiscal Year					
	FY 07/08	FY 08/09	FY 09/10	FY 10/11	Total
Total	\$308,596	\$1,600,000	\$2,376,904	\$280,000	\$4,565,500

This project is fully funded by the water enterprise funds. The estimated total cost for the Water Tank Replacement Project as provided to Council on January 20, 2009 was \$4,830,000; the updated estimate is \$4,565,500 as indicated in the Table 3 above. This includes cost for design, tank construction, inspection and testing, pipeline improvement, construction management and a provision for contingency. The bid results reflect the recent fall in steel prices.

In order to consider the request for the project budget to include a contingency allocation of \$404,000, it is important to note the following information. This project includes massive foundation work and other unique features. Some examples of these unknown factors associated with the work are irregularity in the soils conditions, pipeline and utility crossings, surface conditions to allow for contiguous use during and after construction and previously unidentified underground obstacles. It is critical that an appropriate and sufficient contingency fund is available during the construction to allow for change orders for these types of unknown circumstances. Having the advanced authorization to accomplish change order work would avoid costly construction delays and stoppages that would be required if staff needed to return to the City Council in order receive an additional allocation. The 14% project contingency fund is for both the tank and its related pipeline work which will soon be out for bid. This contingency amount is appropriate and typical for this point in the project.

Public Contact

The Public Works Department held a neighborhood meeting on May 8, 2008 outside the Armory building to present the project and provide community members with an opportunity to ask questions and share any concerns they may have. A meeting notice was mailed to property owners within 500 feet of the project site and the notice was published in the Woodland Daily Democrat. Approximately ten residents attended the meeting. They asked a number of questions regarding the project and the construction of the future parking lot. There were some concerns expressed regarding the visual impact of the tank being at somewhat of a new location.

The project has been presented to and unanimously approved by the Parks & Recreation Commission and the Planning Commission. At the June 5, 2008 Planning Commission meeting a review of the preliminary design of the new elevated water storage tank was presented. The Commission unanimously supported (with Commissioner Barzo absent) both designs proposed for the new water storage tank (pedosphere and multi-column).

Alternative Courses of Action

1. Authorize the award of a construction contract to Chicago Bridge and Iron Inc in the amount of \$2,390,000; and authorize the use of the total project contingency of \$404,000, as needed, for potential change orders during the Water Tank Replacement Project, Project No 07-49.
2. Do not authorize the award of construction contract and give directions to staff for changes to be made for the Water Tank Replacement Project, Project No 07-49.

Recommendation for Action

Staff recommends that the City Council approve Alternative No. 1.

Prepared by: Akin Okupe
Senior Civil Engineer

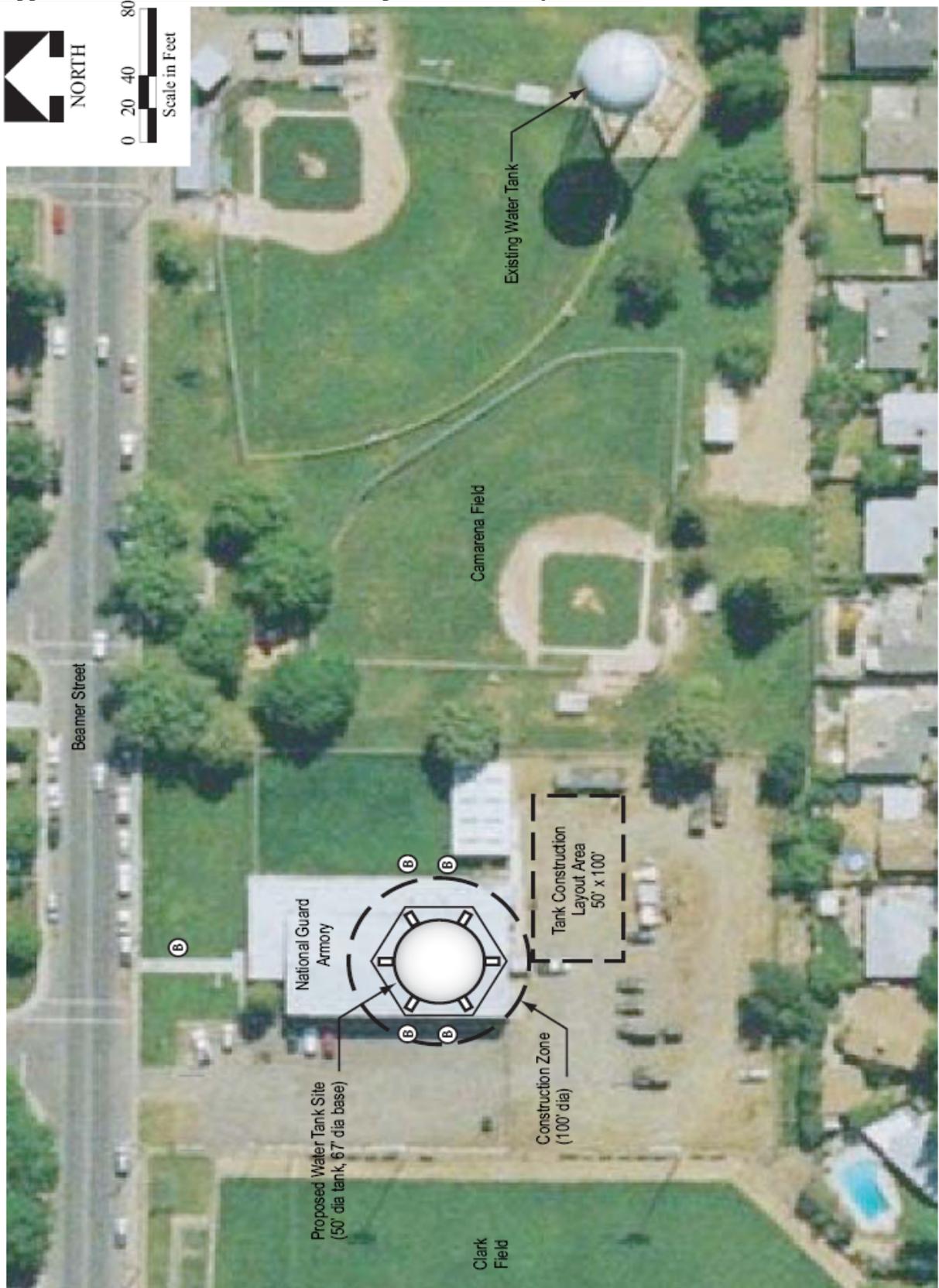
Reviewed by: Doug Baxter
Principal Civil Engineer

Reviewed by: Greg Meyer
Director of Public Works

Mark G. Deven
City Manager

Attachments: Appendix 1- Tank location
Appendix 2- Pedesphere Tank Style Picture

Appendix 1 – Elevated Water Tank Replacement – Project 07-49



Appendix-2 – Elevated Water Tank Replacement – Project 07-49

(Pedosphere tank style)

