

CITY COUNCIL/REDEVELOPMENT AGENCY

TUESDAY, OCTOBER 4, 2011

ITEM No. 13

CONSENT CALENDAR

Issue an RFP for Gloria Way Well Water Production Alternatives Analysis and Water Security Feasibility Study

(Sean Charpentier, Redevelopment Project Coordinator II & Kamal Fallaha, City Engineer)

RECOMMENDATION:

1. By Motion authorize City Manager to release a Request for Proposals for Professional Services to prepare a Gloria Way Well Project Alternative Analysis and Water Security Feasibility Study

MISSION STATEMENT

The City of East Palo Alto provides responsive, respectful, and efficient public municipal services to enhance the quality of life and safety of our multi-cultural community



CITY OF EAST PALO ALTO
COMMUNITY DEVELOPMENT DEPARTMENT
REDEVELOPMENT AGENCY
1960 Tate Street • East Palo Alto, CA 94303

DATE: October 4, 2011
TO: Honorable Mayor and Members of the City Council
VIA: ML Gordon, City Manager
FROM: Sean Charpentier, Redevelopment Project Coordinator II
Kamal Fallaha, City Engineer
SUBJECT: Gloria Way Well Water Production Alternatives Analysis and Water Security Feasibility Study

RECOMMENDATION

Staff recommends that the City Council:

1. By Motion authorize the City Manager to issue a Request for Proposals (RFP) for Professional Services to prepare a Gloria Way Well Production Alternatives Analysis and Water Security Feasibility Study

ALIGNMENT WITH COUNCIL PRIORITIES

This recommendation is primarily aligned with:

- Priority #2 – Enhance Economic Vitality
- Priority #4 – Improving Public Facilities and Infrastructure
- Priority #6 – Create a Healthy and Safe Community

BACKGROUND

The City of East Palo Alto receives the majority of its water supply from the SFPUC. East Palo Alto owns the distribution system (the pipes in the ground) and then hires American Water Company to manage the system. There are two small private water companies, the Palo Alto Park Mutual Water Company and the O'Connor Tract Water Cooperative (the Private Water Companies) which augment the supply.

East Palo Alto requires additional water supplies and emergency storage. East Palo Alto has an annual allocation of between 2,033 to 2,199 Acre Feet per Year (AFY) from the San Francisco Public Utilities Commission (SFPUC). In a year of normal precipitation, East Palo Alto's allocation is 2,199. In a dry year, East Palo Alto's allocation is 2,033. Water planning uses the Dry Year as a benchmark because it is the worst case scenario. East Palo Alto has exceeded its dry year allocation in 8 of the last 9 years. See Table 1.

Table 1. Historical SFPUC Purchases and EPA Dry Year Water Allocation

Year	Net Purchase from SFPUC	Dry Year Allocation	Over/Under Allocation	% Over/Under
2002	2,110	2,033	77	4%
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2006	2,113	2,033	80	4%
2007	2,291	2,033	258	13%
2008	2,284	2,033	251	12%
2009	2,147	2,033	114	6%
2010	1,935	2,033	(98)	-5%
Average	2,156	2,033	123	6%

(1) All numbers in AFY

(2) 2010 Urban Water Management Plan

On average, East Palo Alto has exceeded its Dry Year Allocation by 6% per year over the last 9 years. Staff speculates that East Palo Alto used less than its Dry Year Allocation in 2010 because of the downturn in the economy and the relatively high number of empty foreclosed housing units.

Over the next 25 years, East Palo Alto will need to acquire an additional 1,201 AFY to meet future projected demand. The potential sources are an additional allocation from the SFPUC or other water provider, Gloria Way Well, additional groundwater sources, the purchase of outside water, and recycled water. Recycled water is not feasible because there are not large consumers of water strictly for irrigation. The 2010 Urban Water Management Plan (UWMP) identified the estimated supply and demand through 2035. At current levels of supply, the City has a projected shortfall of 1,201 AFY in 2035. The UWMP recommends developing an additional 1,630 AFY in groundwater. See Table 2.

Table 2: Demand/Supply Calculation Through 2035

	2015	2020	2025	2030	2035
Supply Totals (Normal Water Year)	2,199	2,199	2,199	2,199	2,199
Demand Totals	2,658	2,780	2,960	3,161	3,400
Surplus or (Shortfall)	(459)	(581)	(761)	(962)	(1,201)
Potential New Supply Sources					
Gloria Way Well	420	420	420	420	420
New Groundwater Wells	1,210	1,210	1,210	1,210	1,210
Recycled Water		125	150	150	150
Transfers/Exchanges					
Total Potential Additional Supplies	1,630	1,755	1,780	1,780	1,780
Surplus or (Shortfall)	1,171	1,174	1,019	818	579

(Source: UWMP page 1)

The lack of water supply poses a serious threat to East Palo Alto's ability to develop new projects of any type, whether the projects are office, industrial, retail, residential, affordable housing, or community oriented. Major new projects in East Palo Alto will need to show an existing water allocation or a new source of water to meet the additional water needs of the project.

The City of East Palo Alto requires emergency storage. There are no emergency storage facilities in the City of East Palo Alto. If the SFPUC system were to experience a catastrophic disruption, East Palo Alto would be without water for consumption and emergency (fire suppression) uses. Typically, emergency storage is provided by water tanks, and/or emergency wells. The UMWP recommends a storage capacity of 4.2 million gallons. A local groundwater source increases East Palo Alto's water security and land use control independence.

OVERVIEW OF WATER DELIVERY

There are four components to ground water delivery. First, is the well itself; which consists mainly of the boring that brings the water from the underground aquifer to the surface. It includes a casing that is driven into the earth and a pump. The second is the treatment to safety standards. This treatment ensures that the water is safe for human consumption. This treatment consists of filters or additives at the well head or in separate tanks. The third component is treatment for visual aesthetics, odor, and taste. Well water that is safe for human consumption can have an undesirable odor or flavor or can be "hard." This treatment often consists of filtering out the chemical elements that originate the odor or flavor, and diluting the remaining unpleasant aspects by blending the well water with water from other sources. This treatment often consists of tanks for mixing. The fourth component is distribution, which is the pipe that carries the water from one place to another. The pipes are pressurized pipes. Distribution pipes can carry the water from the well to the treatment site and then into the existing water system.

GLORIA WAY WELL

The City owns the Gloria Way Well, which is located along Gloria Way at Bay Road. Gloria Way Well is a groundwater well. Its use was discontinued in the past after aesthetic complaints. A well development feasibility analysis was conducted in 2004. Gloria Way Well water has elevated concentrations of manganese and iron. The depth of the well is 351 feet, according to the original well driller's log. The stratum of the aquifer is within the range of 319-325 feet. The casing is 12-inch, spiral seam, steel. The estimated yield is between 350 gallons per minute (gpm) and 450 gpm. The well is occasionally used for non potable uses. Gloria Way Well could potentially meet between 47% and 60% of the potential shortfall. See Table 3.

Table 3. Gloria Way Well's potential contribution to EPA Estimated 2035 water shortfall need in GPM

	Gloria Way Well Low End Range	Gloria Way Well High End Range	Source
Shortfall in 2035 in AFY	1,201	1,201	2010 UWMP
Shortfall in 2035 in GPM	745	745	AFY*.62
Gloria Way Well GPM	350	450	Gloria Way Well 2004 Study
Surplus/(Deficit) GPM	(395)	(295)	Calculated
% of Shortfall provided	47%	60%	Calculated

The improvement of Gloria Way Well is a City priority. Improving Gloria Way Well will have major benefits to the City. It is likely that the improvement will have to occur in phases. However, each phase will confer significant benefits on the City. Expanding or rehabilitating, and stabilizing Gloria Way Well will provide at a minimum, a source of non potable water for use in an emergency. Adding the aesthetic and taste treatment component will provide the City with a potable water source that can be used in an emergency. Connecting the treated water to the distribution system will provide an independent source of potable water other than the SFPUC system, which, with the exception of the Private Water Companies, is currently the sole source of potable water. Developing the treatment for aesthetic reasons will provide potable water that is acceptable to consumers.

The Study would further 3 projects in the adopted Capital Improvement Plan.

1. WS-02 Gloria Way Well Assessment and Rehabilitation
2. WS-04 Storage Tanks
3. WS-08 Groundwater Well and Iron and Manganese Treatment System

THE RFP

The RFP has two Phases. Phase I prepares the analysis necessary to define the Gloria Way Well project and the necessary treatment and distribution projects to support Gloria Way Well. Phase II consists of the design and environmental review and clearance for the recommended Gloria Way Well project. Phase III is the construction of the Gloria Way Well project.

Phase I

Phase I has 8 discrete tasks. The Study is intended to evaluate potential alternatives and recommend for City selection the best option to maximize well production for water treatment and distribution. There are two project options. Project A: Rehabilitate Gloria Way Well, and Project B: Expand Gloria Way Well. In addition, the Study will provide the City with the recommended management system for city owned groundwater systems, and a strategic plan for the potential new groundwater wells and emergency storage.

Groundwater planning requires a comprehensive approach. Any treatment facility should be sized to accommodate the maximum demand of 1,200 AFY. The potential expansion of Gloria Way Well should be analyzed as well as the rehabilitation of Gloria Way Well. It would not be strategic of the City to invest significant resources in rehabilitation Gloria Way Well, which will only meet 47% to 60% of our future need, when the possible expansion of Gloria Way Well may be able to meet 100% or more, of the City's future need.

There are eight major tasks for Phase I of the RFP.

1. Task 1 is a summary of existing groundwater conditions.
2. Task 2 is the creation of a groundwater model and the use of electro seismic testing to determine if a test boring at Gloria Way Well is warranted. The groundwater model is used to estimate the potential impacts of a rehabilitated or expanded Gloria Way Well. Three impacts are critical: saltwater intrusion, subsidence, and effect on other wells.

3. Task 3 updates the Gloria Way Well study from 2004 and determines the sustainable yield for a rehabilitated Gloria Way Well. It also recommends a treatment methodology and produces a rough order of magnitude capital and operating budgets.
4. Task 4 analyzes Project B, the Expansion of Gloria Way Well. If warranted by Task 2, a test boring would be conducted. The water would be tested and sustainable yield would be calculated. The maximum optimal depth of maximum sustainable yield would be estimated.
5. Task 5 would recommend either rehabilitating Gloria Way Well or expanding Gloria Way Well. It would provide a feasible phasing option.
6. Task 6 would recommend a governance and management structure for a city-owned groundwater system and provide an estimate of funding sources. The City currently owns the distribution pipes. The City does not own groundwater sources. This task will recommend a management structure and the appropriate legal aspects.
7. Task 7 would identify other potential sites for freshwater or brackish water wells.
8. Task 8 would be a strategic roadmap to meet the City's need for emergency storage.

The deliverable for Phase I will be a Gloria Way Well Feasibility and Water Security Report.

Phase II

Phase II will consist of the preparation of construction documents and environmental and regulatory approvals for the construction of the recommended Gloria Way Well project. There are two major tasks in Phase II.

1. Task 9 would secure the necessary environmental approvals and regulatory permits for the recommended Gloria Way Well project.
2. Task 10 would prepare the Construction drawings for the Gloria Way Well project.

Phase III will be the construction of the recommended Gloria Way Well project.

FISCAL IMPACT/BUDGET/SCHEDULE

The budget is not known at this point. The bulk of the scope of work and the budget will be for the Gloria Way Well project. The full cost of the RFP will not be known until the consultants respond. The respondents to the RFP will probably consist of a water planning or engineering firm as the prime consultant, and several sub consultants to perform specific tasks. The RFP is structured so that certain tasks can be deleted or reduced in scope to accommodate available funding sources. The scope includes the identification of the phasing of the Gloria Way Well project and the identification of other potential sources of funding.

The award of any contract will be contingent upon the United States Environmental Protection Agency (USEPA) appropriating several STAG grants that the City has received. The USEPA has indicated that it cannot appropriate the funding for the Phase II until Phase I is completed.

The RFP is clear that both Phases are contingent upon USEPA approval and that Phase II will require a separate appropriation.

The schedule is in Exhibit A. The schedule assumes that staff will return with a request to award the contract in December 2011. This assumes that there will be adequate engineering resources to evaluate the proposals and that the USEPA has appropriated the STAG Grant. The schedule assumes that construction will start on the Gloria Way Well project in December 2012. However, this schedule is conservative. It assumes 6 months for environmental review and regulatory approvals. A more accurate schedule will be created once consultants respond. There is no fiscal impact. It is assumed that the Study will be paid for by USEPA STAG funds. The Study will identify a phasing strategy for Gloria Way Well that might have future impacts on the City's Capital Improvement Plan.

Attachments:

1. DRAFT RFP
 - Exhibit A Budget
 - Exhibit B Schedule
 - Exhibit C City Contracting Standards

DRAFT RFP

DRAFT RFP

October 4, 2011



CITY OF EAST PALO ALTO Request for Proposals

Gloria Way Well Water Production Alternatives Analysis & EPA Water Security Feasibility Study

RFP Issued: October 7, 2011
Deadline for submittal:
November 4, 2011 at 12:00 noon

TENTATIVE DATES

Interviews: Nov. 14-18
Council approval: Dec. 6

All responses to be submitted to:

Attn: Mr. Kamal Fallaha, P.E.
City Engineer
1960 Tate Street
Engineering Division
East Palo Alto, CA 94303

Gloria Way Well Alternatives Analysis and EPA Water Security Feasibility Study

Background: The City of East Palo Alto receives the majority of its water supply from the SFPUC. East Palo Alto owns the distribution system (the pipes in the ground) and then hires American Water Company to manage the system. There are two small private water companies, the Palo Alto Park Mutual Water Company and the O'Connor Tract Water Cooperative, (the Private Water Companies) which augment the supply. East Palo Alto requires additional water supplies and emergency storage. East Palo Alto has an annual allocation of between 2,033 to 2,199 Acre Feet per Year (AFY) from the SFPUC. In a year of normal precipitation, East Palo Alto's allocation is 2,199. In a dry year, East Palo Alto's allocation is 2,033. Water planning uses the Dry Year as a benchmark because it is the worst case scenario. East Palo Alto has exceeded its dry year allocation in 8 of the last 9 years. See table 1.

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Exhibit C City Standard Contract Language

TO BE ADDED

DRAFT

