



STAFF REPORT

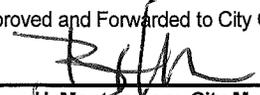
Date: Tuesday, October 14, 2014

To: Bryan Montgomery, City Manager

From: Kevin Rohani, Public Works Director/City Engineer

Subject: Agreement with Coleman Engineering for investigation and evaluation services for Cypress Grove Irrigation Well, CIP Project Number 148

Approved and Forwarded to City Council:


Bryan H. Montgomery, City Manager

Background and Analysis

The City's Capital Improvement Program for the 2014/2015 Fiscal Year includes a project to construct a well for the irrigation of the parks and public area landscaping in and around the Cypress Grove neighborhoods.

The development of the Cypress Grove subdivision in 2005 included the construction of a storm water pond and pumping systems that, along with other operations, were to provide irrigation water to the parks and public area landscaping. The irrigation system has not performed as well as planned since the system was put into service. Over the past few years there have been repeated system failures and repairs to the pumps that have prevented good operation of the system. The most recent pump failures necessitated removing the pumps from the irrigation system and utilizing water from Diablo Water District to provide irrigation water temporarily while other options were explored.

One of the options that has been explored, is to construct a new well dedicated to providing the irrigation water. A request for proposals was prepared but when proposals were reviewed the costs came in significantly higher than what was expected.

The next option being considered is to investigate and evaluate the existing pond recharge well to see if it can be altered to provide both irrigation water and recharge water. Staff has solicited the expertise of Coleman Engineering to assist in this process and has received a cost proposal in the not to exceed amount of \$31,300.

Upon completion of Coleman Engineering's work, staff will be better able to decide which direction to proceed, to complete the improvements to the irrigation system.

Fiscal Impact

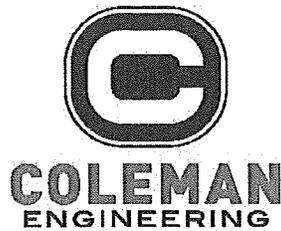
Approval of the resolution will authorize the City Manager to execute an agreement with Coleman Engineering for a cost not to exceed \$31,300. The 2014/15 Fiscal Year Capital Improvement Program budgeted \$250,000 from the Community Facility District fund for this project.

Staff Recommendation

Staff recommends that the City Council adopt the resolution approving the agreement with Coleman Engineering for investigation and evaluation services of the existing well at Cypress Grove, and authorizing the City Manager to enter into the agreement.

Attachments

- 1) Coleman Engineering Proposal
- 2) Resolution



September 30, 2014

Keith Coggins, PE
Senior Engineer
City of Oakley
3231 Main Street
Oakley, CA 94561

Re: **Cypress Grove Irrigation Well Investigation**

Dear Mr. Coggins:

Coleman Engineering is looking forward to the opportunity to assist the City of Oakley with the investigation and possible future conversion of the non-potable well at the Cypress Grove Lake.

The attached Scope of Services includes all known services required to determine if the existing well is suitable for use as an irrigation source that can provide 900 gpm at 90 psi. We plan to sub-consult for pump testing and video inspection of the well. In addition, our electrical engineer will be evaluating the existing electrical service to determine if it is sized sufficiently to power the new pump that will be required.

We sincerely appreciate the opportunity to assist the City of Oakley with this important project and look forward to getting started just as soon as you are ready.

Sincerely,

A handwritten signature in black ink that reads 'Chad R. Coleman'. The signature is written in a cursive, flowing style.

Chad R. Coleman, P.E.
Principal Engineer

Scope of Engineering Services

Client and Owner: City of Oakley

Project: Irrigation Well Modifications

Project Location: Ibis Drive, City of Oakley, CA

Summary of Services: Engineering Investigations and Evaluation

Utility Systems: Irrigation Well and Distribution System

Project Description

The City of Oakley requires modifications to the irrigation system that was constructed as part of the Cypress Grove development. The existing system relies on a filtered lake water intake and pumps to deliver water to an 8-inch diameter irrigation transmission pipe which feeds two parks and public area landscaping.

Two submersible pumps driven by VFD's were used to provide a total design capacity of 900 gpm at 90 psi.

Since the system came on line in later 2005, poor water quality and multiple pump failures have prevented efficient use of the system. At this time, the City has ceased all use of the designed irrigation system and connected the irrigation system to a fire hydrant which supplies drinking water.

The City has considered drilling a new, dedicated irrigation well but that appears to be too costly. The purpose of this scope of services is to detail services that Coleman Engineering will provide to assist the City to repurpose its existing non-potable well at the south end of the lake into an irrigation well.

The intended use of the existing non-potable well is to provide make-up water to fill the lake. Record Drawings for the existing non-potable well show that it has the following characteristics:

- 300-feet deep
- 12-inch diameter casing
- 150-feet of well screen (type not specified)
- 600 gpm capacity

No Well Completion Report is available from the City, County, or State DWR. Given the known information from the Record Drawings, it appears that it is reasonable to assume that 900 gpm may be a possible well yield. Therefore, the purpose of this scope of

services is to assist the City to complete an assessment of the existing non-potable well in anticipation of a future project that may include providing design services required to make modifications and put the well in service as a dual-use facility: for continued use as pond make-up water, and as an irrigation well.

Scope of Services

TASK 1 – Evaluate the Existing Well

1.1 **Well Pump Removal, Replacement, and Pump Testing:** Coleman Engineering will sub-contract with a Well Pump Contractor to provide the following services:

- Remove the existing well pump, motor, and appurtenances.
- Complete well pump testing. Pump testing is assumed to include one 12-hour day of step pump tests, and one 12-hour day of constant rate pump tests.
- Replace the well pump, motor, and appurtenances.

It is assumed that water from pump testing can be discharged directly into the lake. No provisions will be made for permitting, temporary piping, etc. for discharge at any location other than the lake.

It is also assumed that the well equipment will be removed using a crane that is parked on Ibis Drive so that damage to the landscaping, sidewalks, and other improvements will be minimized.

Coleman Engineering will be on site during the pump testing set up only. The purpose of this visit will be to insure that pump testing procedures are clear and that pump testing equipment and instruments are set up sufficient to capture the required data.

1.2 **Downhole CCTV Inspection:** Coleman Engineering will sub-contract to obtain a color closed circuit television (CCTV) inspection of the existing well. The inspection is intended to confirm the condition of the existing well and the quantity and condition of screen that is installed.

Coleman Engineering will be on site during the CCTV inspection to observe the inspection in real time and to give direction as needed.

For budgeting purposes, it is assumed that the CCTV inspection vehicle can drive onto the sidewalk and grass areas immediately adjacent to the well. No special provisions or protections have been assumed to be required. In the event that any mitigation measures are required, it is

assumed that the City will provide crews and materials and set up the desired measures for the CCTV operator.

- 1.3 Preliminary Electrical Service Evaluation: Coleman Engineering will sub-consult with an Electrical Engineer who will evaluate the existing electrical service to determine if it is likely to be sufficient for service to a larger pump motor. In addition, the Electrical Engineer will prepare a preliminary design for electrical supply and for powering new automated valves that will allow the repurposed well to operate to fill the lake as well as to supply irrigation water.
- 1.4 Summary Well Condition Analysis and Memo: Coleman Engineering will prepare a hydraulic model of the irrigation distribution system from the repurposed well to each of eight delivery points identified by the City. The purpose of the water modeling effort will be to select the pump design point and confirm that the required operational pressures will be provided throughout the irrigation distribution system.

Coleman Engineering will summarize the well evaluation activities in a brief memo. The purpose of the memo will be to confirm initial design assumptions and to communicate recommendations to the City.

One review meeting has been budgeted to review the summary memo with the City.

Task 1 Deliverables:

- *Summary Well Condition Memo – pdf file*

Task 1 Information to be Provided by the City:

- *Record Drawings of the well, including electrical design plan sheets*
- *Record Drawings of the irrigation distribution system, including identification of demands and minimum pressures at each delivery point*
- *Access to the site, including permission to cross and close landscape and sidewalk sections for the duration of the preliminary analysis*
- *Access to the electrical panels*
- *Comments on the Summary Well Condition Memo*

Schedule

It is understood that the City is anxious to move the Irrigation Well Investigation forward in an efficient manner. Coleman Engineering will advance the investigation as efficiently as possible. The following table shows target completion dates for each project milestone.

Milestone	Target Completion Date
Assumed Start Time	Mid-October 2014
Evaluate Existing Well	End of November 2014

Budgets

Coleman Engineering will provide the services outlined above according to the terms of payment outlined in the Agreement. Coleman Engineering will contract the following tasks on a Time and Materials basis as stated in the Agreement. Coleman Engineering reserves the right to transfer budgets between tasks while maintaining the total budget of the project.

Task	Scope Item	Budgets
1	Evaluate the Existing Well	\$31,300
TOTAL BUDGET =		\$31,300

Tasks Not Included in this Scope of Services

This Scope of Services is intended to outline the services offered to the City by Coleman Engineering. The list below is offered as a clarification of the services that are not included, not anticipated, or that will be completed by others.

1. Design Engineering – assumed to be provided under a future Scope.
2. Engineering Services During Construction – assumed to be provided under a future Scope.
3. Geotechnical engineering – not assumed to be required.
4. Coordination with the power providers – assumed to be PG&E. This service is not assumed to be required.
5. Construction Cost Opinions.
6. Landscape design – not assumed to be required.
7. Corrosion Engineering (to be provided by others if needed).
8. SCADA System is existing and functioning.
9. No SCADA or PLC programming is included in this scope of services.

10. No major utility service upgrades are assumed to be required.
11. Radio path survey is not required - Communication to SCADA central assumed feasible via hardwired connection on the site.
12. Obtaining any required construction permits.
13. Legal review of bidding documents.
14. Expert witness services (may be offered under a separate contract).
15. Environmental and cultural review or clearances.
16. The only coordination for approvals that will be made are with the City. No other agencies will be consulted, coordinated with, or sought out for approvals.
17. Obtaining NPDES permits for discharges from sites – not assumed to be required.
18. Hazardous materials permits or approvals.

RESOLUTION NO. __-14

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF OAKLEY
APPROVING AN AGREEMENT WITH COLEMAN ENGINEERING FOR
INVESTIGATION AND EVALUATION SERVICES OF THE CYPRESS GROVE
IRRIGATION WELL FOR CIP PROJECT 148**

WHEREAS, in 2005 with the development of the Cypress Grove subdivision, a storm water pond and pumping systems were constructed to provide, along with other operations, irrigation water to the parks and public area landscaping;

WHEREAS, since the irrigation system was put into service it has not performed as well as planned, and repeated equipment failures have necessitated the removal of the pumps from the irrigation system; requiring utilizing water from Diablo Water District temporarily for irrigation while other options were explored;

WHEREAS, one of the options being considered is to investigate and evaluate the modification of the existing pond recharge well to provide both pond recharge water and irrigation water;

WHEREAS, Staff has solicited a cost proposal in the not to exceed amount of \$31,300.00 from Coleman Engineering to provide professional services related to the investigation and evaluation of the existing well;

NOW, THEREFORE, BE IT RESOLVED AND ORDERED, by the City Council of the City of Oakley that the Agreement with Coleman Engineering for investigation and evaluation services for the Cypress Grove Irrigation Well - CIP 148, for an amount not to exceed \$31,300.00 is approved, and the City Manager is authorized to execute said Agreement

PASSED AND ADOPTED by the City Council of the City of Oakley at a meeting held on the 14th of October, 2014 by the following vote:

AYES:
NOES:
ABSENT:
ABSTENTIONS:

APPROVED:

ATTEST:

Randy Pope, Mayor

Libby Vreonis, City Clerk

Date