

# CRESCENTA VALLEY WATER DISTRICT

2700 FOOTHILL BOULEVARD  
LA CRESCENTA, CALIFORNIA

Agenda for the Meeting of the Engineering Committee  
of the Crescenta Valley Water District

To be held on

June 28, 2017 at 9:00 AM

Posted June 26, 2017 at 10:00 am

## Call to Order

## Adoption of Agenda

## Information Items

1. Status of Water Quality Investigation
2. Status of Groundwater Wells and Well Capacity
3. Award of Contract – Well 5 Rehabilitation, Project E-983
4. Advertise for Bids – Construction of Well 2 and related facilities at 4209 Lowell Ave, Project E-956
5. Request for Proposal for Construction Management Services - Construction of Well 2 and related facilities at 4209 Lowell Ave, Project E-956
6. Purchase of New Compact Excavator, Project C-984
7. Discussion of Board Meeting - Project Schedule

## Public Comments

At this time, members of the public shall have an opportunity to address the Committee on items of interest that are within the subject matter jurisdiction of this Committee. This opportunity is non-transferable and speakers are limited to three (3) minutes each.

## Committee Member's Request for Future Agenda Items

## Next Engineering Committee Meeting – July 20, 2017

## Adjournment

# CRESCENTA VALLEY WATER DISTRICT

## STAFF REPORT

Information Item No. 1  
June 28, 2017

**To:** Engineering Committee  
**From:** Thomas A. Love – General Manager  
**Subject:** Water Quality Investigation Update

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### **INFORMATION ITEM:**

**Water Quality Investigation Update** – Status report on investigation of microbial test results for samples collected on April 25<sup>th</sup> and May 16<sup>th</sup>.

### **DISCUSSION:**

Staff is concluding the investigation into possible causes of the positive detection of total coliform and E. coli bacteria in test results received on April 26<sup>th</sup> and May 17<sup>th</sup>. Most of the corrective actions identified by staff and consultants have been completed (see attached matrix). Since May 17<sup>th</sup> there have been no positive test results for total coliform or E. coli bacteria.

As part of the investigation, on June 20<sup>th</sup> blank tests were conducted on samples stored in the laboratory refrigerator and on the laboratory counter at the Glenwood Plant. Both sample results had positive heterotrophic plate counts (HPC's) indicating the plant laboratory and refrigerator as possible sources of contamination. New procedures for disinfection of the plant laboratory and refrigerator have been implemented. The existing refrigerator used in the laboratory is a 20-year-old standard kitchen refrigerator. It will be replaced with a laboratory grade sample storage refrigerator.

Additionally, a new icemaker is on order for dedicated use by the system operators for sampling and transportation of samples to the contract laboratory. Staff also ordered dedicated sampling ice chests for the operators to use on the sampling route. Both of these changes will provide the proper temperature environment for the water samples and eliminate possible contamination from the contract lab's supplied ice chests and blue ice.

The next significant step in the investigation process will be to conduct the laboratory audit. This will take place on July 12<sup>th</sup>.

Prepared & Submitted by:

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Thomas A. Love  
General Manager

Water Quality Investigation of E. Coli. Positive Sample Results.

| Task | Potential Cause  | Description  | Factors/Variables   | Situational Summary  | Investigation Summary   | Corrective Action   | Conclusions  | Action Items   | Progress/Assignment  |
|------|--|--|---|--|---|---|--|--|--|
| 1    | Sample Port Contamination  | Debris, rodents, insects, other source contaminating sample port   | Exposure to environment. Flush time prior to sample. CL2 residual.  | Sample ports are in a locked enclosure protected from the environment. Sample port is flushed until water runs cool indicating the sample is representative of water in the main pipeline. Disinfect the sample port prior to sampling by either heat or a chemical agent.   | Sampling stations with positive results were inspected for potential causes of contamination. (include photos, notes)   | Update sample procedures to ensure sufficient torching of sampling line, and increase flush time. Consider additional sample port disinfection at time of sampling. Operators will pre-check the sampling ports for the next weeks sample route the prior week.         | Sample port contamination could likely have resulted in repeat positives at the same location. Unlikely to have occurred at 4 separate and widely dispersed locations.   | Flame sample ports where applicable. Operations to precheck all sample collection stations the week prior to sampling and record the total and residual Chlorine   | 1. Training has been conducted. A written sampling procedure is in progress. (Christy) 2. Operations has began prior week inspections and will begin measuring the chlorine levels this week.  |
| 2    | Contamination During Sample Collection   | Sample contaminated by sampler or environment during sample collection.  | Adherence to sampling procedures including protection of sample bottle and sampler hygiene.   | Procedures require the sample bottle remain sealed until sample is taken and is immediately re-sealed. Sampler takes precautions to avoid any contact with the interior of the sample bottle and lid. The April 26th and May 16th samples were taken by different staff.   | Staff responsible for sampling were interviewed to determine whether sampling procedures were followed. The sampling process was reviewed with the consultant. Sample procedures appear to have been followed and no environmental conditions were noted.   | Review sample procedures and consider adding additional precautionary measures such as sterile gloves. Environmental factors are such as wind or rain are noted on the COC. Sampling procedures will be reviewed with the use of a training video on order. (Completed) | Positive E. Coli (should be "coli" and not "Coli"... ) results occurred on the April 26th and May 16th samples. Different staff collected the samples on those two days indicating than an individual sampler not following sampling procedures was most likely not the cause. Environmental conditions at the time of sampling were calm and dry and not a likely factor. | Where disposable gloves and note any environmental factors on COC  | Completed  |
| 3    | Sample Bottle Contamination  | Bottles arrive by shipping courier form the lab and are presterilized, sealed and included sodium thiosulfate to neutralize the chlorine. All three labs surveyed use bottles prepared by IDEX (please check, but I think it is IDEXX). Bottles for the District are ordered approximately every other month and are located at the District's Glenwood Treatment Plant Lab. Sample bottles are inspected by the sampler. Sample labels arrive in bulk and are filled out by the sampler and attached to the sample at the lab to reduce the contact time with the sample container. | Bottles are batched and quality controlled by the shipper. The certified laboratory is required to test a random number of samples within each batch of bottles received. All bottles checks by the lab were fine. The laboratory reported they had not had any other questionable E. Coli results come through the lab.  | Samples were collected following the first E. Coli positive sample on April 25 using the same batch of bottles. The amount of follow-up samples in addition to the routine samples collected from the same batch between the Positive E. Coli events was over 50. Following the second E. Coli event, the remaining bottles from that batch were disposed and new bottles were acquired from two different sources. Note: That same batch was used to collect the 28 follow-up samples in duplicate; all results were not detected. Negative for total coliform and E. coli. | The opinion of a neutral third party microbiological laboratory manager indicated that contaminated bottles from the laboratory, while possible, are rare. (FYI only; you do not need to keep this! The counterpart of this is that airline fractures of these bottles have occurred in the past. Whether this can result in sample contamination is unknown, but cannot be ignored...)   | Staff will review the laboratory's written procedures and historical results during its laboratory audit. (A request has been made to the laboratory for written materials and a lab audit has been scheduled)  | All three outside laboratories surveyed use the same company (IDEX) to supply bottles. None of the labs had any concerns or bottle contamination issues with that company.   | Inspect Bottles prior to sampling. Any bottle with debris, cracks etc. Will be marked as bad and another sample will be collected. Both samples will be analyzed to test for bottle contamination. Collect documentation from laboratory regarding bottle handling and quality control check procedures. | Operators do inspect bottles but this will be included in the sampling procedure. Christy will work with the lab to verify procedures (Lab Audit has been scheduled)   |
| 4    | Contamination during transport from the sampling site to the Glenwood Plant      | The samples for the weeks route are carried in a District vehicle from site to site. After collection of the route, usually in no more than three hours, the samples are placed in the dedicated refrigerator located in the District's Glenwood Plant lab.  | The consultant claimed that the transportation time and temperature during the sampling process was not sufficient to create and E. Coli positive. (May need to rephrase this: keeping samples cold is necessary to prevent bacteria growth between sample collection and analysis. In this case, E. coli would have been in the bottle or sampled water at the first place; it would not appear during a 3-hour period... so there is a nuance there!) | The samples were collected in the field (field?) and transported to the Glenwood Plant in an ice chest and blue ice for cooling.   | Staff will review procedures and environmental factors to determine is multiple trips back to the District's Glenwood Treatment Plant is required during the coliform sampling route. (Personally, I don't think this is needed if samples are put on ice immediately after collection. Gary, you did not comment on this; any thoughts?) Staff will include the transportation of the samples to the Glenwood Plant in its sampling procedures | Samples can be bagged in zip lock freezer bags after collection as a double protection measure from contamination. Staff will investigate the Glenwood Plant refrigerator to see if a replacement is needed.  |  | Switch to using doubled bagged wet ice. Bag all sample bottles after collection. There will be additional discussion of switching to wet ice and the purchase of higher quality ice chests as well as a proper laboratory refrigerator.  | Bags were ordered for the sample bottles. Wet ice will be discussed at operations meeting. Dennis is looking into the cost of ice chests and Christy is working with Dennis and Dave in regards to a new refrigerator. (Ice machine has been ordered. Quites for a refrigerator are under review.) |
| 5    | Contamination during transport from the Glenwood Plant to the Outside Laboratory | Samples are collected by the outside laboratory courier in a ice chest with bagged blue ice that is provided by the outside laboratory.  | The courier from the outside laboratory may not go directly back to the certified laboratory, but the sample temperatures are check upon arrival.   | At this time courier records have been requested, but so far the only information received is the name of the courier and the temperature the samples were received. Note: The courier for the two separate events were not the same.  | Procedures from the certified laboratory are being requested for review. The District wants to ensure that samples from other sites are not placed in the same container as the District's samples.   | Samples can be bagged in zip lock freezer bags after collection as a double protection measure from contamination.  |  | Work with the laboratory to obtain courier procedures and verify that sample are isolated from other customer's samples  | Christy (Procedures from the laboratory have been requested and will be provided during the scheduled laboratory audit)  |

Water Quality Investigation of E. Coli. Positive Sample Results.

| Task | Potential Cause                          | Description  | Factors/Variables   | Situational Summary   | Investigation Summary   | Corrective Action   | Conclusions              | Action Items   | Progress/Assignment  |
|------|--|--|---|---|---|---|--------------------------|--|--|
| 6    | Laboratory Contamination                 | The laboratory is regulated through the <a href="#">State Water Resources Control Board's Environmental Laboratory accreditation Program (ELAP)</a> . The methods used and the Quality Control procedures dictated are regulated by the State.   | The acceptable methods used to analyze water samples contain guidelines to protect against contamination. A Sample Duplicate, Sample Blank and Laboratory Blank are required to be completed for every set amount of samples completed by batch or by frequency.  | A review of the laboratory's quality control showed that all the measures were within acceptable range. The analyst from each separate E. Coli event were different. A Peer and management level review was performed by the laboratory of the positive coliform and E. C Coli results. <b>Make statement (if true) that no other samples analyzed by the lab for other utilities were positive that day for E. coli.</b>   | While laboratory contamination is always a possibility, all checks that are required were completed and within the acceptable range.  | <b>Sample duplicates are being collected and being sent to an alternate certified laboratory. Staff will conduct an outside laboratory audit to ensure that all records are maintained and acceptable and that the sample receiving and storage areas meet best management practices.</b> |                          | Obtain laboratory procedures from lab on sample receiving and microbiological room blanks. Conduct laboratory audit. change the method used to collect routine well samples. Ask laboratory to speciate all positives samples. | Christy (Procedures from the laboratory have been requested and will be provided during the scheduled laboratory audit).                               |
| 7    | Laboratory Contamination at Glenwood     | The samples are store at the laboratory located at the Glenwood Treatment Plant after collection and prior to transportation to the outside laboratory.  | As the Glenwood lab only contains drinking water samples and supplies. Contamination is not likely.   | The doors and windows at the Glenwood lab are often open. There is quite a bit of traffic in and out of the lab.  | The lab bottle storage area and sample holding refrigerator were inspected and cleaned.   | <b>To eliminate the Glenwood lab as a possible contamination source, blank samples of deionized water will be placed in the lab and the sample storage refrigerator and analyzed along with the weekly coliform samples.</b>  |                          | Setup Deionized water samples  | June 13, 217 (Christy) Completed   |
| 8    | Surface Contamination at wells           | <ol style="list-style-type: none"> <li>1) Located near septic system</li> <li>2) Located near existing sewer mains</li> <li>3) Location near active or abandon wells</li> <li>4) Surface water runoff draining into Concrete Well Pedestal or Surface Seal</li> <li>5) Lack of annular seal in upper 50' of Well</li> <li>6) Contamination in well column pipe</li> <li>7) Contamination through vent and sounder tubes including cap</li> <li>8) Contamination of sampling port</li> <li>9) Contamination of Well Level sounding equipment</li> <li>10) Cascading water into the well</li> <li>11) Oil lubrication from Pump</li> </ol> | <p>Septic tanks can contaminate drinking water wells with bacteria and in some cases, wells are contaminated as a result of recent service or pump repair work. Other sources of bacterial contamination may include run-off from yards, or canine runs, and other farm land areas where animal waste products are deposited. Insect pests, rodents and/or wildlife coming into the well can also be reasons for pollution. Harmful microorganisms can enter a water source thru infiltration by means of floods or possibly by surface run-off during heavy periods of rain.</p> | <p>While there has been historical rainfall, no flooding events or environmental factors were noted prior to or on the day of either sampling events.</p> <ol style="list-style-type: none"> <li>1) 2002 Sanitary Survey showed no active Septic Systems near CVWD's Wells</li> <li>2) 2002 Sanitary Survey showed no existing sewer mains within 50 feet of CVWD's Wells</li> <li>3) Surface Seal or Concrete Well Pedestals are typically 1.5' about the finish surface and drain away from the wellhead</li> <li>4) Well 7 &amp; 9 were constructed with no annular seal</li> <li>5) Well 9 - submersible pump, no oil lubrication</li> <li>6) Well 7 - vertical pump with oil lubrication</li> <li>7) Well 7 &amp; 9 are pumped to the Mills Plant and water is dosed with 5 - 7 ppm of Cl2 before leaving the Mills Plant</li> </ol> | <p>A visual inspection is made of the wells each time the operator visits. All wells are visited at least once a week, and some of them several times per day. At least quarterly, a formal well inspection sheet is completed. Staff has reviewed with operations the latest inspection results.</p> <ol style="list-style-type: none"> <li>1) Sampling ports were inspected on 5/17/17</li> <li>2) Rodent droppings observed in Well 9 housing on 5/18/17</li> <li>3) Vent and Sounding Tubes were secure</li> <li>4) No recent work or rehabilitation on Wells 7 or 9 within the last 6 months</li> <li>5) Well 7 &amp; 9 Static and Pumping water levels are below the perforations; cascading water</li> <li>6) Water level sounding equipment was used at the end of April 2017</li> <li>7) Chlorine level at the Mills plant was around 5 ppm during the period</li> </ol> | <b>Consider installing packers into wells with cascading water</b>  | Conduct Sanitary Survey. | Contractor / David / Christy   |  |
| 9    | Imported Water Contamination             | The District routinely receives imported water from two connections from Foothill Municipal Water District (FMWD). FMWD purchases water from Metropolitan Water District of Southern California.   | The District does not routinely test the imported water received from FMWD for Coliform or E. Coli. Staff discussed the situation with operational staff from FMWD to ensure that there were no positives samples found by MWD or FMWD. <ol style="list-style-type: none"> <li>1) Low Total Chlorine Level from FMWD/MWD</li> <li>2) Contamination at Briggs Meter Vault</li> <li>3) Contamination at Ramsdell/Mayfield Mixing Station</li> <li>4) Contamination at FMWD Reservoirs</li> <li>5) Contamination from MWD</li> </ol>   | While it is possible for imported water to reach most of the sites were Total and E. Coli were detected, it is not likely that imported water was the source of contamination. <b>The District will complete inspections at the vaults and mixing stations.</b>   | No Coliform or E. Coli. hits were detected in the imported water by either FMWD or MWD.   | <b>The District will begin collecting a sample of imported water to test for Total and Coliform and E. Coli. as well as NH<sub>3</sub> as N and Total Chlorine for comparison against data collected from FMWD..</b>  |                          | Sample FMWD imported water.  | Completed  |
| 10   | Treatment/Blending/ Chlorination process | <ol style="list-style-type: none"> <li>1) Age of 12.5% Solution - Sodium hydrochloride</li> <li>2) "Breakpoint" Chlorination Ratio</li> </ol>  | <ol style="list-style-type: none"> <li>1) Degradation of chlorine levels in sodium hypochlorite solution over time</li> <li>2) Variability of flow based on demand can change the "Breakpoint" Chlorination ratio</li> <li>3) Variability of Total Chlorine residual and ammonia residual from MWD can change the "Breakpoint" Chlorination ratio</li> </ol>  | 1. Reviewed residuals at sample collection points   | <b>In Process</b>   |   |                          | Verify Breakpoint chlorination process. Sample imported Water for Chloramines, and NH <sub>3</sub> , Raise the residual in the system to a minimum of 0.7  | Samples from Paschal are being collected. Flushing in zones with low chlorine residual (Operators). Chlorine and breakpoint analysis (David / Christy) |

Water Quality Investigation of E. Coli. Positive Sample Results.

| Task | Potential Cause                   | Description   | Factors/Variables  | Situational Summary  | Investigation Summary  | Corrective Action | Conclusions | Action Items  | Progress/Assignment         |
|------|-----------------------------------|---|--|--|--|-------------------|-------------|---|-----------------------------|
| 11   | Distribution System Contamination | Review records of distribution system maintenance, construction work, valve turning, flushing.                | Pipe breaks, leaks in low pressure zones, air-vacs, construction, fire flow from the Fire Department       | Staff is currently in the process of reviewing all maintenance work, leaks, valve exercising and flushing what was conducted by the District. In addition, contact will be made with all contractors who have checked out flooding meters, the fire department, and the county departments that may access the Districts water through fire hydrants. Locations will be plotted on a map in connection to Coliform hits. a visual inspection will be made of all air-vacs. | In Process   |                   |             | Modify the TCR sampling plan to reduced the number of sampling stations and remove sampling stations at dead ends.  | Christy                     |
| 12   | Reservoir Contamination           | Review reservoir inspection files. Review all reservoir levels and access points including vents and hatches. | Overflow piping, vents, cleaning operations  | A visual inspection is made of the reservoirs each time the operator visits. All Reservoirs are visited at least twice a week, and some of them several times per day. At least quarterly, a formal reservoir inspection sheet is completed. Staff has reviewed with operations the latest inspection results.   | Currently Staff is in the process of completing a completed assessment of all reservoir sites        |                   |             | Investigate the use of SolarBee mixers to prevent the loss of residual. Evaluate operations of competing sources and reservoirs in Zone 2. Investigate the operation of all 17 storage tanks and the age of the water and residual chlorine levels. | Dennis / David / Operations |
| 13   | Other access points               | Review cross connection control records.  | vaults, valves, hydrants, pump stations, commercial and irrigation services, temporary construction meters | The backflow inspection program is ongoing. Record were recently reviewed during the annual report process.  | No backflows were found out of compliance during the review of the last inspection in April of 2017. |                   |             | Verify the location of all flooding meters and usage. Contact the Fire Department, and County in regards to filling or flowing hydrants.  |                             |
| 14   | Vandalism                         | Intentional or un intentional damage that causes contamination  | The District has not had too many vandalism problems. Most are related to trash dumping and graffiti.      | During the current inspections or reservoirs, wells and other facilities, Staff will be looking for evidence of any tampering or vandalism.  | In Process   |                   |             | Continue routine Inspections of facilities.   | Ongoing                     |

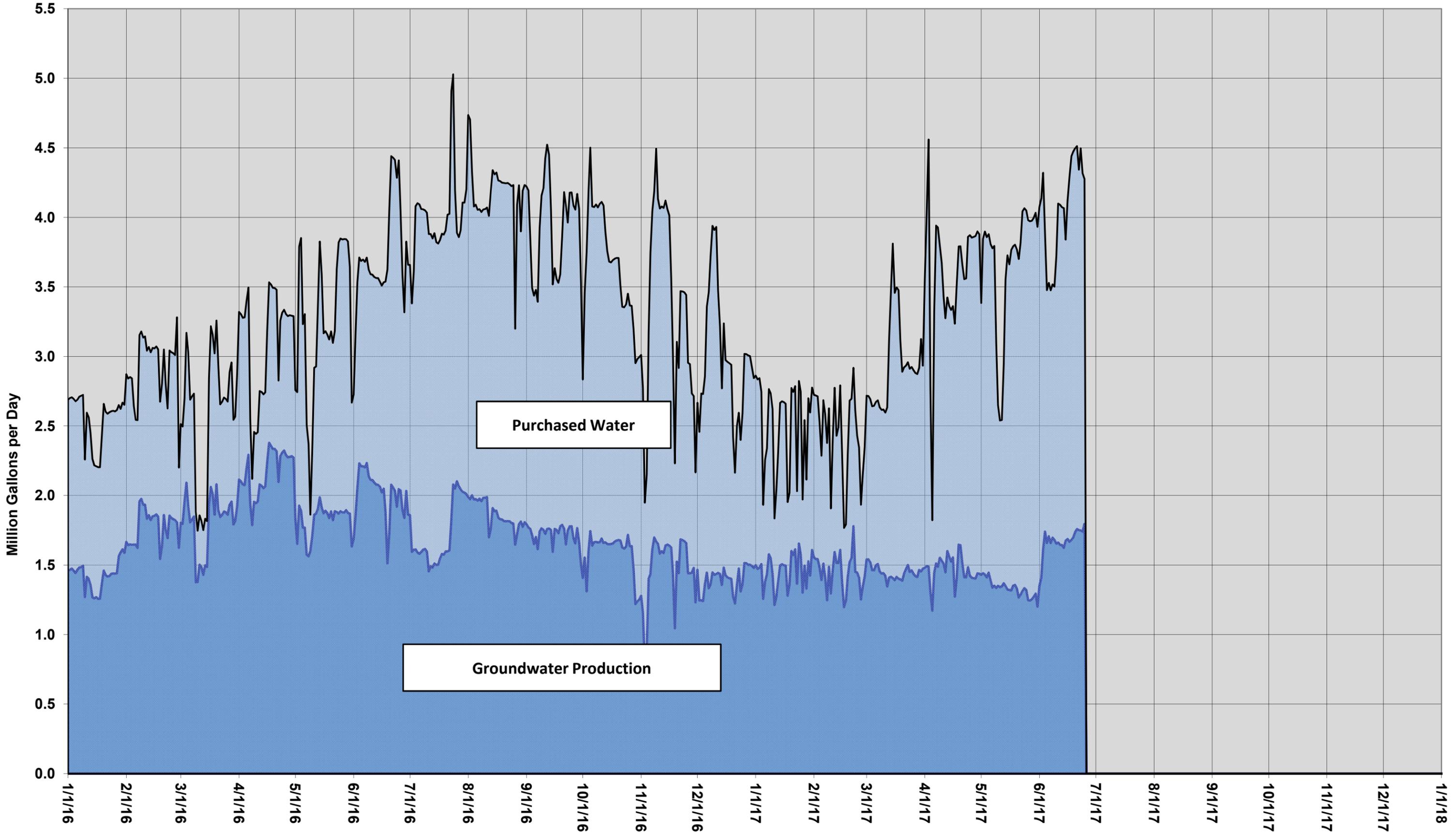
Level 1 Effort Level 2 Effort • Review all monitoring results from appropriate areas of the distribution system for the previous 12 months • Review all monitoring results from appropriate areas of the distribution system for the previous 12 months • Conduct additional investigatory monitoring • Review cross connection control records for • Review cross connection control records for

- Interview sample collectors, distribution system managers, other appropriate employees Consult with outside experts, professional engineers Interview residents and businesses in the area of the positive samples
- Review records of entry point and distribution system disinfectant levels
- Review records of entry point and distribution system disinfectant levels, including historical seasonal changes if any Conduct additional residual testing at the entry point and appropriate locations in the distribution system
- Review records of distribution system maintenance, especially in the area of the positive samples
- **Staff will be developing a low residual chlorine action plan.**
- Review records of distribution system maintenance, especially in the area of the positive samples Inspect on-going maintenance activities
- Notify the state of results state as needed and discuss with the
- Consult with the state about assessment plans and approach, especially if the assessment is triggered by detection of E. coli. Notify the state of results and discuss with the state

RTCR ACAGM - Interim Final 4-8  
 Level 1 Effort Level 2 Effort • Conduct on-site inspections as indicated by • Conduct on-site inspections as indicated above record reviews and interviews above

# Water Production Chart 2016 - 2017

■ Groundwater Production (MGD)    ■ Purchased Water (MGD)



# CRESCENTA VALLEY WATER DISTRICT

## STAFF REPORT

Information Item No. 3  
June 28, 2017

**To:** Engineering Committee  
**From:** Brook Yared, M.S., P.E. – Associate Engineer  
**Subject:** Request for Quote and Award of Contract - Rehabilitation of Well 5, Project E-983

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### **INFORMATION ITEM:**

**Advertise for Bid and Award of Contract - Well 5 Rehabilitation, Project E-983** – Request for Quote and Award of Contract for the Rehabilitation of Well 5 including replacement the pump and motor assembly at an estimated cost of \$58,900.

### **BACKGROUND:**

Well 5 was last rehabilitated and returned to service in June, 2014. Since then, Well 5 has been operating on a 24/7 basis with flows averaging 350 gpm. In November, 2016, the System Operators started seeing a drop off in production to 250 gpm. The pressure-sustaining valve was adjusted and the flows returned to 350 gpm. However, in May 2017, the flow in Well 5 again started to decrease to 150 gpm. Upon further investigation, it appears the pump assembly is experiencing mechanical problems.

### **DISCUSSION:**

Staff has a concern with the low capacity and the pump efficiency below 40% that a failure of the Well 5 pump could occur sooner than later. In addition, Well 5 typically runs at 350 gpm, which is about 25% of the total daily groundwater production. At its current flow rate of 140 gpm, its production is 11% of the total daily groundwater production. Staff's other concern is the possibility of losing the Well 5 pump during the high summer demand season and thereby have to take additional imported water from FMWD.

To be proactive, staff has prepared a request for quote (RFQ) to perform well rehabilitation and replace the pump at Well 5. The RFQ was sent to five (5) pump companies for quotes. Based on past experience from the last three (3) well rehabilitation projects, it will take about three (3) months for the project to be completed. Since time is of the essence for this project, staff's goal is for the contractor to pull the pump, videotape inspect the casing, perform cleaning of the casing and installing a new pump within a three-week period. The plan is to order a new pump and assembly before performing any work at the site, which typically takes about two (2) weeks such that the contractor can be ready to install the new pump immediately after cleaning the well casing.

Staff anticipates the contract to be awarded at the July 11, 2017 Board meeting. The pump should be available by July 25, 2017 and the work could commence starting the week of July 31, 2017 and completed by August 11, 2017. After staff completes a successful chlorination of the well, it possible to have Well 5 back in service by the week of August 18, 2017. The anticipated time Well 5 will be out of service will be three (3) weeks.

Another option would be to order the new pump assembly now and wait until the existing pump fails, then mobilize to perform well cleaning and installation of the new pump. This option may buy some time until the fall of 2017, when the water demands are lower, since it is unknown how long Well 5 can remain in operation at this time.

### **RECOMMENDATION:**

Staff recommends that the Engineering Committee approve the request for quote and awarding the contract for the new pump assembly and well rehabilitation at the July 11, 2017 Board meeting.

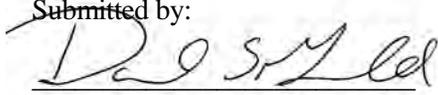
Prepared by:

\_\_\_\_\_  
Brook Yared, P.E.  
Associate Engineer

Attachments:

1 – Request for Quote

Submitted by:

  
\_\_\_\_\_  
David S. Gould, P.E.  
District Engineer



## CRESCENTA VALLEY WATER DISTRICT

# Request for Quotes

## Well 5 Pump and Motor Assembly Replacement, Project E-983

**Date:** June 19, 2017

**Proposal Documents:**

Contractors shall quote on providing labor, materials, and equipment for well rehabilitation, including brushing, chemical treatment, swabbing, and new pump procurement and installation at the District's Well No. 5 according to the following provisions. The project site is located at 3937 Pennsylvania Ave., Glendale, CA, 91214.

Contractors are required to include this page and the following bid proposal when submitting their quote. The attachments provided are the bid proposal, technical provisions and appendices shall be used by the Contractor in providing this quote. Engineer's Estimate for this project is \$59,700.

A mandatory pre-bid meeting will be held on Wednesday, June 28, 2017 at 10:00 a.m. at 3937 Pennsylvania Ave., Glendale, CA, 91214. Quotes shall be faxed to (818) 248-1659 before 2:00 p.m., Wednesday, July 5, 2017, and originals sent via U.S. Mail to the Crescenta Valley Water District (CVWD) at 2700 Foothill Boulevard, La Crescenta, California 91214, Attention: Brook Yared.

If you have any questions before opening of this quote, please contact Brook Yared at (818) 236-4117 or via e-mail at [byared@cvwd.com](mailto:byared@cvwd.com).

Sincerely,

CRESCENTA VALLEY WATER DISTRICT

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David S. Gould, P.E.  
District Engineer

BDY: syg

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**CRESCENTA VALLEY WATER DISTRICT**  
**REQUEST FOR QUOTES**  
**WELL 5 PUMP AND MOTOR ASSEMBLY REPLACEMENT,**  
**PROJECT E-983**

**SPECIAL PROVISIONS**

**SCOPE OF WORK**

Contractors shall quote on providing all materials, labor, equipment and work necessary to carry out the work as specified below on Well 5 located at 3937 Pennsylvania Ave., Glendale, CA, 91214. (site photos included in Appendix C).

The work to be done under this contract will include the following:

**Bid item No. 1** **New Pump & Motor Assembly Procurement:** The cost for this bid item, new pump & motor assembly procurement, shall include all labor and incidentals necessary for the procurement of a new pump and motor assembly all associated plumbing and fittings needed to properly operate the pump.

**Bid item No. 2** **Mobilization and Demobilization:** Mobilization shall include all activities and costs for transportation of personnel, equipment, and supplies/materials to the job site. Demobilization shall include all activities and costs for transportation of personnel, equipment and supplies/materials, including the disassembly, removal and site cleanup.

**Bid Item No. 3** **Remove Existing Pump & Motor Assembly, Line Shaft and Column Pipe:** Pump and motor assembly removal shall include all labor, equipment and materials needed to completely remove the existing vertical turbine pump and motor assembly, existing column piping, line shaft and appurtenances.

**Bid Item No. 4** **Wire Brush Casing & Bailing:** Wire brush casing shall include all activities and equipment needed to thoroughly brush the well casing and remove loose sediment from the casing, a minimum of sixteen (16) hours of brushing is estimated for bidding purposes. This work will be performed before and after chemical treatment for eight (8) hours.

**Bid Item No. 5** **Chemical Treatment & Mechanical Development:** Chemical treatment shall include all labor, equipment, and incidentals necessary to implement the most effective remedy to chemically treat the perforated well casing. Including, swabbing across the perforated casing (mechanical development) to ensure the introduced chemicals effectively remove scaling, bacteriological and/or mineral, from the well casing liner, and neutralization of discharge water into temporary storage in a Baker Tank or equivalent onsite containment vessels.

**Bid Item No. 6** **New Pump & Motor Assembly Installation:** The cost for this bid item, new pump & motor assembly installation, shall include all labor, equipment and incidentals necessary for the installation of the new pump and motor assembly including all associated plumbing, couplings and fittings, connection to the existing discharge head, and any other appurtenances needed to properly operate the pump. As-built drawings of the new pump and motor assembly shall be provided to the District at the completion of installation providing all equipment information and well depth dimensions of the assembly.

## CRESCENTA VALLEY WATER DISTRICT

### REQUEST FOR QUOTES

#### WELL 5 PUMP AND MOTOR ASSEMBLY REPLACEMENT, PROJECT E-983

- Bid Item No. 7** **Column Piping, Line Shaft and Chemical Feed Tube:** The cost of this bid item shall include all labor, equipment and incidentals necessary for the inspection, procurement, and installation of column piping and line shaft, as well as the installation of the chemical feed tube for the pump and motor assembly.
- Bid Item No. 8** **Start-up and Testing:** Start up and testing shall include all labor, equipment and incidentals necessary to test and establish all applicable benchmarks for the new pump assembly after all rehabilitation work is completed and provide all necessary supporting documentation to the District.

#### MANDATORY PRE-BID CONFERENCE

A mandatory pre-bid meeting will be held on Wednesday, **June 28, 2017 at 10:00 a.m.** at 3937 Pennsylvania Ave., Glendale, CA, 91214. Contractors shall attend this meeting and perform a site visit before the bid opening. **Contractors must attend this meeting to qualify to submit a bid for this project. Any bid submitted from a contractor who has not attended this meeting shall be rejected and returned unopened.**

#### DATE OF BID OPENING

Proposals shall be faxed to (818) 248-1659 by **Wednesday, July 5, 2017 at 2:00 p.m.**, and originals sent via U.S. Mail to the Crescenta Valley Water District (CVWD) at 2700 Foothill Boulevard, La Crescenta, California 91214, Attention: Brook Yared.

#### AWARD OF CONTRACT

The Contract will be awarded on **Tuesday, July 11, 2017 at 7:00 pm** during a public Board of Directors meeting held at CVWD's main office, 2700 Foothill Boulevard, La Crescenta, California 91214. CVWD reserves the right, after opening bids, to reject any or all bids, or to make award to lowest responsible bidder and reject all other bids. Bids will be compared on the basis of the Engineer's estimate of the quantities of bid items of work as shown on the Bid Proposal. A good faith determination by CVWD as to whether a bid is not responsive or whether a bidder is responsible shall be final, conclusive and binding, and shall not be the basis of a claim for lost profits or other damages by a bidder to whom the contract is not awarded.

#### PRE-CONSTRUCTION MEETING

A mandatory pre-construction meeting will be scheduled at least 72 hours prior to start of work with the following people present: CVWD Personnel, Constructor's Project Manager and Foreman. At this meeting the coordination and logistics of unloading material, Contractor work area, scope of work and other related matters will be discussed.

## BID PROPOSAL

Crescenta Valley Water District  
 2700 Foothill Boulevard  
 La Crescenta, California 91214

Sir or Madam:

The undersigned declares that he or she has carefully examined the location of the work, has read the Proposal, has examined the General Provisions, Technical Provisions and appendices, and hereby proposes to furnish all materials, labor and equipment to complete the bid proposal in accord with these contract documents, and will take in full payment therefore the following unit prices for the material, complete and in place, to wit:

NOTE: All applicable sales taxes, State and/or Federal, and any other special taxes, patent rights or royalties shall be included in the prices quoted in this proposal.

| Item No. | Approximate Quantity | Description   | Unit Price | Total |
|----------|----------------------|---|------------|-------|
| 1        | Lump Sum             | New Pump & Motor Assembly Procurement                     | \$         | \$    |
| 2        | Lump Sum             | Mobilization and Demobilization                           | \$         | \$    |
| 3        | Lump Sum             | Remove Existing Pump Assembly, Line Shaft and Column Pipe | \$         | \$    |
| 4        | 16 hours             | Wire Brush Casing Airlifting/Bailing                      | \$         | \$    |
| 5        | 16 Hours             | Chemical Treatment & Mechanical Development               | \$         | \$    |
| 6        | Lump Sum             | New Pump & Motor Assembly Installation                    | \$         | \$    |
| 7        | 220 ft.              | Column Piping, Line Shaft and Chemical Feed Tube          | \$         | \$    |
| 8        | Lump Sum             | Start-up and Testing                                      | \$         | \$    |

# CRESCENTA VALLEY WATER DISTRICT

## STAFF REPORT

Information Item No. 4  
June 28, 2017

**To:** Engineering Committee  
**From:** David S. Gould, P.E. – District Engineer  
**Subject:** Advertise for Bids – Advertisement for bids for the Construction of Well 2 and Related Facilities, Project E-956

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### **INFORMATION ITEM:**

**CVWD's Well 2 and Related Facilities, Project E-956** – Advertise for bids for the construction of the Well 2 and related facilities with an engineer's cost estimate of \$907,000.

### **BACKGROUND:**

CVWD received a grant from the Department of Water Resources (DWR) to reactivate Well 2 and construct a new nitrate removal treatment facility. The project will utilize a local water resource, increase CVWD's ability to use its adjudicated rights within the Verdugo Basin, reduce CVWD's dependence on imported water from MWD and reduce nitrate levels within the Verdugo Basin.

### **DISCUSSION:**

Staff has been working with SA and Associates, which have completed the design of the project and is ready to advertise for bids. The project will include installation of a new 150 gpm submersible pump and motor, onsite piping, a pre-fabricated operations building, electrical and telemetry system, on-site storm drain line, on-site sewer line drain to waste, and on-site improvements. The project will also include the installation of a nitrate removal treatment facility (by APTwater) within a pre-fabricated "carport-type" structure, which will treat the groundwater below the MCL and remove nitrates from the Verdugo Basin. See attached Site Plan.

As part of the project, Royal Wholesale Electric was awarded a contract to provide the electrical Motor Control Center (MCC), which has a long lead-time and will assist with the project schedule. Staff and John Robinson Consulting have been working with the City of Glendale and Glendale Water & Power on permits for the project as well as providing a new electrical service.

### **Project Schedule:**

The anticipated project schedule is as follows:

| <u>Task</u>                                | <u>Date</u>       |
|--|-------------------|
| Advertisement for Bids                     | July 11, 2017     |
| Bid Opening                                | August 30, 2017   |
| Award Contact                              | September 5, 2017 |
| Mobilization by Contractor                 | October 30, 2017  |
| Install Buildings & APTwater System        | December 15, 2017 |
| Complete APTwater Nitrate Treatment System | March 15, 2018    |
| Testing & DDW approval                     | April 15, 2018    |
| Well 2 in Service                          | May 1, 2018       |

Staff is also working on a public outreach program for the project including sending letters to the residents in the area notifying them of the upcoming project, holding a public meeting about the project and sending a second letter two weeks before construction begins.

### **Construction Cost Estimate**

The engineer's cost estimate for this portion of the project is \$907,000. The entire project costs including construction management, soils engineer, staff engineering, inspection, procurement of equipment and contingencies is estimated at \$2,025,000 which is \$200,000 over the original budget of \$1,825,000. See the cost breakdown below.

Staff is planning to reduce the amount of pipeline replacement budget for FY 17/18 by deferring the 3200 & 3300 Blocks of Brookhill to FY 18/19 to make up for the additional costs of this project. The total amount to be transferred to this project is \$235,000. In addition, Staff revised the original benefit-cost analysis with the adjusted total budget and it showed that the project will have a payback period of 13 years instead of the original payback period of 10 years.

**RECOMMENDATION:**

Staff recommends that the Engineering Committee approve advertising for bids for the project and for this item to be placed on the July 11, 2017 Board agenda. Staff will advertise the project in the McGraw-Hill Dodge Construction News and will send out plans to selected contractors.

**ENVIRONMENTAL REVIEW:**

N/A

**FUNDING AVAILABILITY:**

| Account Description  | Grant Cost Breakdown |
|--|----------------------|
| Greater Los Angeles County IRWM 2015 Solicitation Implementation Grant   | \$1,825,000          |
| <i>Amount reimbursed from Grant (39%)</i>  | <i>\$705,775</i>     |
| <i>CVWD Costs (61%)</i>  | <i>\$1,119,225</i>   |
| Engineering Services   | <\$160,000>          |
| Quote for MCC Procurements   | <98,547>             |
| Engineer Cost Estimate – Building & Facilities   | <\$907,000>          |
| Construction Management Services   | <\$120,000>          |
| Estimate for Soil Inspection, Permitting Fees, and Misc  | <\$114,453>          |
| Total Estimated Cost for Design & Construction   | <\$2,025,000>        |
| Amount Remaining for Well 2 Project  | <\$200,000>          |
| Transfer of funds from Pipeline Replacement<br>(Move the replacement of the pipeline on 3200 & 3300 Blocks of Brookhill to FY 18/19) | <b>\$235,000</b>     |
| Remaining Funds  | <b>\$35,000</b>      |

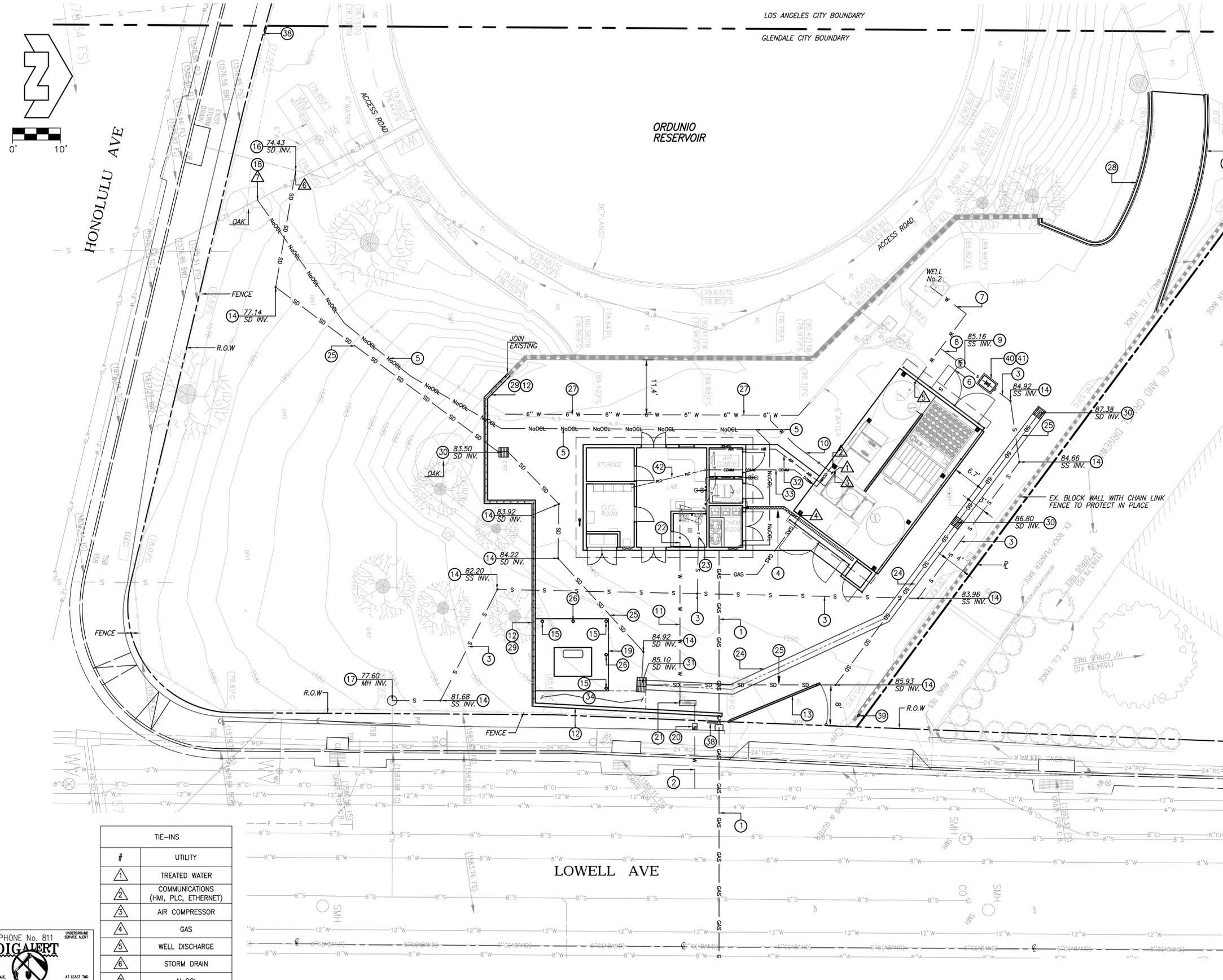
Prepared & Submitted by:



David S. Gould, P.E.  
District Engineer

Attachment:

1. Site Plan for Well 2



**CONSTRUCTION NOTES**

- 1 FURNISH AND INSTALL 3/4" GAS SERVICE. FINAL LOCATION DEPENDING UPON COORDINATION WITH UTILITY
- 2 1" COPPER WATER SERVICE FROM EXISTING GWP - 8" CI MAIN TO METER. FURNISHED AND INSTALLED BY GWP
- 3 FURNISH AND INSTALL 6" ABS SEWER
- 4 FURNISH AND INSTALL UNDERGROUND PREFABRICATED CONCRETE DUCT COVERED WITH DIAMOND PLATES AND STEEL GRATES (AS INDICATED IN PLANS) TO CARRY NaOCl, COAGULANT, PHOSPHATE, AND H2 LINES - SEE DETAIL FOR CHEMICAL TRENCH ON SHEET 14
- 5 FURNISH AND INSTALL 1" SCHEDULE 80 PVC SOCKET WELDED NaOCl LINE
- 6 FURNISH AND INSTALL 4" ABS SEWER
- 7 FURNISH AND INSTALL 4" ABOVE GROUND WELDED STEEL WELL DISCHARGE PIPE TO NITRATE REMOVAL SYSTEM (FEED TANK) - SEE SHEET 8
- 8 FURNISH AND INSTALL 4" WELL WATER BYPASS - SEE SHEET 8
- 9 FURNISH AND INSTALL 36" RCP PIPE (MANHOLE) WITH GRATE AND INNER CAP MANHOLE COVER PER SECTION B ON SHEET 8
- 10 FURNISH AND INSTALL 4" ABOVE / BELOW GROUND WELDED STEEL WATER MAIN FROM NITRATE REMOVAL SYSTEM TO EX. 6" WATER MAIN. SEE DETAIL ON SHEET 15
- 11 FURNISH AND INSTALL 1" COPPER WATER SERVICE - SEE DETAIL ON SHEET 14
- 12 FURNISH AND INSTALL RETAINING WALL - SEE PROFILES AND DETAILS ON SHEET 7
- 13 FURNISH AND INSTALL AUTOMATIC CHAIN LINK SWING GATE - SEE DETAIL ON SHEET 13
- 14 FURNISH AND INSTALL CLEANOUT PER CWVD-STD. PLAN.
- 15 FURNISH AND INSTALL PERMANENT BOLLARDS - SEE DETAIL ON SHT. 13
- 16 FURNISH AND INSTALL STORM DRAIN CONNECTION TO EX. TANK OVERFLOW - SEE DETAIL ON SHEET 15
- 17 FURNISH AND INSTALL NEW 48-INCH INSIDE DIAMETER SEWER MANHOLE PER CWVD STD. PLAN AND CONNECT TO EX. LATERAL
- 18 FURNISH AND INSTALL CHLORINE LINE CONNECTION TO EX. WATER MAIN
- 19 FURNISH AND INSTALL 15' X 15' CONCRETE TRANSFORMER PAD - SEE DETAIL ON SHEET 15
- 20 1" WATER METER AND BOX FURNISHED AND INSTALLED BY GWP - SEE DETAIL ON SHEET 14
- 21 FURNISH AND INSTALL A BACKFLOW PREVENTER ASSEMBLY - SEE DETAIL ON SHEET 14
- 22 FURNISH AND INSTALL 1" WATER SERVICE THRU FLOOR SLAB - SEE SHEET 10
- 23 FURNISH AND INSTALL SEWER DRAIN THRU FLOOR SLAB - SEE SHEET 10
- 24 FURNISH AND INSTALL CONCRETE SWALE - SEE DETAIL ON SHEET 6
- 25 FURNISH AND INSTALL 12" PVC STORM DRAIN
- 26 FURNISH AND INSTALL REMOVABLE BOLLARD - SEE DETAIL ON SHT. 13
- 27 FURNISH AND INSTALL 6" CMC & CML STEEL WATER MAIN - SEE DETAIL ON SHEET 15
- 28 FURNISH AND INSTALL 6" AC BERM - SEE DETAIL ON SHEET 6
- 29 FURNISH AND INSTALL HANDRAIL - SEE DETAIL ON SHEET 18 (S-3)
- 30 FURNISH AND INSTALL OLDCASTLE PRECAST CATCH BASIN MODEL 1818-CB-DIC, INVERT PER SHEET 6 - SEE DETAIL ON SHEET 15
- 31 FURNISH AND INSTALL CATCH BASIN PER CALTRANS STANDARD PLANS D73, TYPE G1, INVERT PER SHT. 6 - SEE DETAIL ON SHEET 15
- 32 FURNISH AND INSTALL 1" CARBON STEEL OR COPPER AIR PIPE THRU FLOOR SLAB
- 33 FURNISH AND INSTALL PVC CONDUIT THRU FLOOR SLAB FOR COMMUNICATION CABLES (HMI, PLC, CABLE ETHERNET)
- 34 FUTURE LANDSCAPED AREA BY OTHERS
- 35 FURNISH AND INSTALL SOLID METAL PLAQUE WITH PROPERTY NUMBER "4029" MOUNTED ON THE CHAIN LINK USING VERSATILE SIGN HOLDER BRACKETS.
- 36 FURNISH AND INSTALL KNOX-BOX 3200 SERIES RECESSED ON EXISTING CMU WALL
- 37 FURNISH AND INSTALL 6" MUNICIPAL / INDUSTRIAL SEWER MAGMETER
- 38 FURNISH AND INSTALL 2' X 3' X 6 DEEP FLAT WALL PREFAB CONCRETE VAULT - SEE DETAIL ON SHEET 8
- 39 FURNISH AND INSTALL 3-PVC CONDUITS ON ROOF FOR PLC-PLC, 120V, 489V

**LEGEND**

-  DIAMOND PLATES
-  STEEL GRATE

| TIE-INS |                                     |
|---------|-------------------------------------|
| #       | UTILITY                             |
| 1       | TREATED WATER                       |
| 2       | COMMUNICATIONS (HMI, PLC, ETHERNET) |
| 3       | AIR COMPRESSOR                      |
| 4       | GAS                                 |
| 5       | WELL DISCHARGE                      |
| 6       | STORM DRAIN                         |
| 7       | NaOCl                               |

PHONE No. 811  
**DIG ALERT**  
UNDERGROUND SERVICE ALERT  
PLAY IT SAFE, DIG BEFORE YOU DIE  
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING

**SA ASSOCIATES**  
CONSULTING ENGINEERS  
1661 N. Raymond Ave., Suite 100, Anaheim, CA 92801  
714 871-9083 FAX 714 871-3652



| REV. | DATE | REVISION | REV. BY | CKD. BY | APP'D |
|------|------|----------|---------|---------|-------|
|      |      |          |         |         |       |

| DISCLAIMER   |             |  |
|--|-------------|--|
| Approval by C.V.W.D. does not constitute a representation as to the accuracy of design or the existence and location of underground utilities, structures, and conditions within the limits of this project. |             |  |
| CHECKED BY: JL   | DATE: --/-- |  |
| APPROVED: ----   | DATE: --/-- |  |
| AS BUILT:  |             |  |

|                   |             |
|-------------------|-------------|
| SCALE: AS SHOWN   | DATE: --/-- |
| DRAWN BY: PT / JL | DATE: --/-- |
| APPROVED: ----    | DATE: --/-- |
| AS BUILT:         |             |

**CRESCENTA VALLEY WATER DISTRICT** 

WELL NO. 2 AND RELATED FACILITIES

**SITE PLAN & PIPING LAYOUT**

SHT. 4 OF 29 SHTS.

|                  |             |
|------------------|-------------|
| COMPLETION DATE: | LINEAR FT.: |
| JOB NO. E-956    | FILE NO.:   |

FINAL SUBMITTAL - 06/19/17

# CRESCENTA VALLEY WATER DISTRICT

## STAFF REPORT

Information Item No. 5  
June 28, 2017

**To:** Engineering Committee  
**From:** David S. Gould, P.E. – District Engineer  
**Subject:** **Request for Proposal** – Construction Management Services for Construction of Well 2 and Related Facilities, Project E-956

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### **INFORMATION ITEM:**

**CVWD's Well 2 and Related Facilities, Project E-956** – Request for proposal for Construction Management Services for the Construction of the Well 2 and Related Facilities, Project E-956

### **BACKGROUND:**

CVWD received a grant from the Department of Water Resources (DWR) to reactivate Well 2 and construct a new nitrate removal treatment facility. The project will utilize a local water resource, increase CVWD's ability to use its adjudicated rights within the Verdugo Basin, reduce CVWD's dependence on imported water from MWD and reduce nitrate levels within the Verdugo Basin.

SA and Associates and staff have completed the design of the project, which should be advertised for bid at the next Board meeting. It is anticipated that construction will begin in late September 2017 and be completed by May 2018.

### **DISCUSSION:**

Staff needs the services of a construction management firm to coordinate the project in the field and to provide oversight during construction. Staff prepared a request for proposal (see attached) that including the following tasks:

- Provide field reports to the District's project manager on a weekly basis.
- Provide on-site field inspection and quality control for all construction activities including project start up.
- Provide coordination and represent CVWD for all change orders.
- Coordination of shop drawing submittals with consultants and CVWD.
- Coordination with Glendale Water and Power (GWP), City of Glendale, Southern California Gas Company, CVWD's soils and materials testing firm and CVWD's construction staking firm.
- Coordination with APTwater for the new nitrate removal treatment system.
- Observe all deliveries for conformance to contract documents and shop drawings.
- Provide input and recommendations regarding the contractor's construction schedule.
- Assist District in processing monthly progress pay estimates including review of contractor's work progress with the District's project manager.
- Provide guidance and recommendations to the District with respect to the contractor's general conformance to Contract Documents.
- Coordination with City of Glendale and GWP for all permits and inspection.
- Coordination of construction administration and project schedule with District Personnel.
- Project Close-Out.

Staff estimates that the consultant fee for Construction Management Services will be around \$120,000, which is based on past consultant cost for construction of Well 16 and the overall project schedule.

The RFP outlines a proposed schedule, which anticipates less man hours during the startup and shop drawing review phase, full-time services during construction and decreased hours during the project closeout.

Staff will be sending the RFP to four (4) firms qualified to provide construction management services, which does not include the design-engineering firm. The firms are Butier Engineering, Tetra-Tech, Civiltec Engineering and Cannon. Staff has worked with these firms on past projects and is well versed in these firm's capabilities.

Staff is requesting that these services be provided by an outside firm since CVWD's inspector will be involved in other CIP projects such as the pipeline construction on Brookhill Ave, the re-coating of the Oak Creek Reservoirs and pipeline replacement at the Ramsdell Mixing Station.

**RECOMMENDATION:**

Staff recommends that the Engineering Committee approve sending the RFP for Construction Management services to the four (4) firms. The proposal will be due on August 9, 2017 and placed on the August 15, 2017 Board agenda.

Prepared & Submitted by:



David S. Gould, P.E.  
District Engineer

Attachments:

1. Request for Proposal for Construction Management Services

g:\engineering committee\2017 ec memo\06-28-17 ecm memo - well 2 - construction management.docx



R E Q U E S T F O R P R O P O S A L  
QUALITY CONTROL INSPECTION SERVICES FOR CONSTRUCTION OF  
CVWD'S WELL No. 2 AND RELATED FACILITIES AT  
4029 LOWELL AVENUE, PROJECT E-956  
PROPOSAL DUE DATE: August 9, 2017

**INTRODUCTION**

Crescenta Valley Water District (CVWD) project is to reactivate its Well 2 and install a new nitrate removal treatment facility at CVWD's Ordunio Reservoir site located at 4029 Lowell Avenue. The project will utilize a local water resource, increase CVWD's ability to pump its adjudicated rights within the Verdugo Basin, reduce CVWD's dependence on imported water from MWD and reduce nitrates levels within the Verdugo Basin. Well No. 2 was drilled in 1927 and was taken out of service in 1977 due to nitrate levels above the MCL and lack of a nitrate removal treatment facility

The project will include installation of a new 150 gpm submersible pump and motor, onsite piping, an pre-fabricated operations building, electrical and telemetry system, on-site storm drain line, on site sewer line drain to waste, and on-site improvements. The project will also include the installation of a nitrate removal treatment facility (by APTwater) within a pre-fabricated "carport-type" structure, which will treat the groundwater below the MCL and remove nitrates from the Verdugo Basin.

CVWD's Ordunio Reservoir is also located at the site, which is a 2.75 MG steel tank that provides water to CVWD's Zone 2. There are two booster pumps that move water within Zone 2 from Ordunio Reservoir to Williams Reservoir. Ordunio Reservoir is controlled by an altitude valve, which opens and closes as the reservoir fills with water. There is an existing chlorine analyzer that provides chlorine levels to CVWD's SCADA system.

A portion of the site is located within the City of Glendale and a portion of the site is located within the City of Los Angeles and the project will be located within the City of Glendale.

This project will not include the installation of new landscaping or irrigation system. CVWD will perform this work under another contract and at a later date.

**PROJECT OBJECTIVE**

The District requests the services of a consulting firm to full time quality control inspection services in connection with construction of the Well 2 facilities that will include installation of underground and above ground piping, grading, overexcavation, retaining walls, installation of two (2) concrete building pad, installation of pump and assembly, installation of two (2) pre-fabricated building, installation of a new MCC, connection to the SCADA system, coordination with utilities, coordination for the new nitrate removal treatment system and project start up for the Well 2 project.

**1. Construction Services**

- A. Provide field reports to the District's Project Manager on a weekly basis.
- B. Provide on-site field inspection and quality control for all construction activities including project start up in accordance with the Contract Documents.
- C. Provide coordination and represent CVWD for all change orders.
- D. Coordination of shop drawing submittals with consultants and CVWD

- E. Coordination with the following:
  - a. Glendale Water and Power (GWP) for new electrical service and water service
  - b. City of Glendale for sewer service
  - c. Southern California Gas Company for new natural gas service
  - d. APTwater for the new nitrate removal treatment system
  - e. CVWD's soils and materials testing firm
  - f. CVWD's construction staking firm
- F. Observe all deliveries of MCC, switchboard, pump and motor assembly, pre-fabricated buildings, nitrate removal treatment system, and other project materials for conformance to contract documents and shop drawings.
- G. Provide input and recommendations regarding the contractor's construction schedule.
- H. Assist District in processing monthly progress pay estimates including review of contractor's work progress with the District's project manager.
- I. Provide guidance and recommendations to the District with respect to the contractor's general conformance to Contract Documents.
- J. Coordination with GWP connection to the new GWP meter and other upgrade necessary for the project.
- K. Coordination with City of Glendale and GWP for all permits and inspection.
- L. Coordinate construction administration and project schedule with District Personnel.

## **2. Project Close-out**

- A. Observe and coordinate that all testing for the new facility has been successfully completed and is satisfactory.
- B. Prepare final punch list of deficiencies relative to the project.
- C. Observe contractor's successful completion of all work required by the final punch list.
- D. Obtain from the contractor any written documents required by the Contract Documents for project close-out relative to the MCC replacement and related facilities.
- E. Deliver all project records to the District including daily logs and photographs.

## **PROPOSAL REQUIREMENTS:**

### **1. Scope of Work**

The proposal shall include a detailed list itemizing the tasks required to complete a scope of work addressing all project criteria outlined above. Each task shall include a detailed estimate of man-hours required to complete each task.

### **2. Construction Schedule**

The construction schedule for inspection of the project (See attached schedule) will be as follows:

- a. August 1, 2017 to September 5, 2017 - Consultant will assist with the pre-bid meeting and coordination of request for information during the bidding process.
- b. September 5, 2017 to October 30, 2017 – Coordination of shop drawings and fabrication.
- c. October 30, 2017 to April 18, 2018 – Contractor mobilization and on-site inspection.
- d. April 18, 2018 – May 7, 2018 – Project testing and project close out.

### **3. Proposal Fee Schedule**

The proposal shall include a "Fee Schedule" outlining all applicable hourly rates and costs for the inspection services. The proposal shall provide a breakdown of fees associated with the project task as specified above. The proposal shall also include a "not-to exceed" total fee, which shall include all work necessary to complete the project objective.

### **4. Consultant's Representative**

The proposal shall name a responsible representative, an alternate, and all sub-consultants to perform the assigned tasks. The chosen Consultant's representative will remain in responsible charge of all duties from contract negotiations through project completion. If the primary representative is unable to continue with the project, then the alternate representative will become the primary representative.

The District must approve any other changes in responsible representative, in advance. The District will have the right to reject other proposed changes in personnel, and may consider any other changes in responsible personnel a breach of contract.

## **ADDITIONAL INFORMATION**

### **1. Professional Service Agreement**

The Consultant shall be responsible for completing the specified services in accordance with the District's standard "Professional Services Agreement," which will be prepared by the District. Services specified in this agreement shall be taken directly from the Consultant's accepted proposal and from this "Request for Proposal", if applicable.

### **2. Insurance Requirements**

The District will require employer's liability, comprehensive commercial liability insurance, and errors and omissions insurance coverage for at least \$1,000,000 and comprehensive automobile liability for at least \$1,000,000. Also, we required that the District be named as additional insured on the policy and such insurance policy shall not be terminated or canceled without thirty (30) days prior written notice to the District.

### **3. District Reimbursements**

The District normally reimburses consultants for the actual cost (plus 15%) for all outside expenses, including those for material costs authorized in advance by the District. Automobile travel will be reimbursed at the rate of 53.5 cents per mile or the latest rate per the IRS, which shall not be subject to the 1.15 factor. Other reasonable expenses will be reimbursed where such costs have been advanced by Consultant and approved by the District.

The Consultant shall not be compensated for use of computers, office equipment, hardware, or software materials. Said costs are non-compensable. Time expended by Consultant's personnel on such equipment shall be paid on an hourly rate based on the Consultant's fee schedule.

## **PROPOSAL DUE DATE**

One (1) copy of the quote should be submitted as a PDF file and emailed to David Gould at dgould@cvwd.com before 12:00 p.m. Wednesday, August 9, 2017, and originals sent via U.S. Mail to the Crescenta Valley Water District at 2700 Foothill Boulevard, La Crescenta, California 91214, Attention: David Gould.

# CRESCENTA VALLEY WATER DISTRICT

## STAFF REPORT

Information Item No. 6  
June 28, 2017

**To:** Engineering Committee  
**From:** David S. Gould, P.E. – District Engineer  
**Subject:** Award of Contract – Purchase of a Compact Excavator, Project C-983

### ACTION ITEM:

1. **Purchase of New Compact Excavator, Unit #54, Project C-983** – Discussion regarding the purchase of a new compact excavator from Quinn Company for a new Caterpillar excavator model No. 303.5E2 for a total cost of \$60,545.

### BACKGROUND:

The District has as part of its fleet, two (2) tractors that are used on a daily basis for excavating purposes to replace water service laterals and/or water mains among other necessary tasks. One tractor (Unit #15) is typically used for most projects within the District. However, there are areas within the District where a smaller or mini-excavator has to be used due to site constraint and limited room to maneuver the equipment.

In 2004, the District purchased a Komatsu hydraulic mini-excavator (Unit #21) from Claremont Equipment for \$29,150.

Unit #21 has been in service for the past 13 years and has reached the point where the costs to maintain the tractor are greater than the value of the mini-excavator as shown on the attached chart.

Unit #21 is currently in need of repairs to the two (2) drive motors and the hydraulic pump, which runs the tractor. The estimates for these repairs are about \$35,000 and the parts would have to be shipped from the factory in Japan, since the parts are not stocked locally. The lead time for the new parts is 8 to 12 weeks and CVWD would have to rent a compact excavator during the interim period at \$250/day or an additional \$21,000.

As shown on the attached graph, the District has spent over \$46,000 to maintain Unit #21 over the last 13 years with the bulk of the maintenance costs occurring in the last five (5) years. The graph also shows that the depreciated value of Unit #21 is less than the cost to maintain it.

### DISCUSSION:

Staff started researching purchasing a new compact excavator in March 2017 and included a cost of \$60,000 in the FY 17/18 water budget. Staff prepared a list of criteria for the new compact excavator as shown below:

- Manufacturer has to be a local dealership that can provide annual maintenance service and repairs
- Replacement parts must be non-proprietary and shall be obtained within 5 working days to reduce down time for the equipment.
- The diesel engine shall meet the Air Resources Control Board Tier 4 Final requirements for emission controls.
- The unit shall weigh a maximum of 8,000 lbs., which is a higher class of excavator from Unit #21.
- The lifting capacity shall be a minimum of 3000 lbs.
- The breakout force required shall be a minimum of 6,000 lbf
- Maximum ground pressure that the legs can apply to the ground shall be 4.5 psi
- The unit shall be equipped with a standard power angle blade for grading
- The unit shall have a hydraulic flow control system for the auxiliary excavator controls



- Manufacturer shall provide three (3) buckets – 12”W, 18”W & 24”W attachments; Anti-Theft options & hydraulic bucket coupler for changing buckets
- Provide a 12-month powertrain & hydraulic warranty

The attached comparison chart for compact excavators shows a breakdown of information from the five (5) leading excavator companies represented in Southern California. Staff met with representatives from Caterpillar and John Deere, who also provided a field demonstration of their equipment.

Staff received quotes from three of the five companies as shown in the chart (Caterpillar, John Deere and Volvo). Volvo provided a quote but did not meet the District’s criteria with respect to the ARCB Tier 4 requirements and the hydraulic bucket coupler. Also, after repeated attempts, Volvo did not provide a field demonstration of their compact excavator.

Staff reviewed the two remaining quotes from Caterpillar and John Deere with respect to meeting the District’s criteria and budget. Both Caterpillar and John Deere provided a compact excavator for a week for the field crews to become familiar with their capabilities. The crews indicated that the Caterpillar was easier to maneuver in the field and was a better “balanced” machine. Also, the Caterpillar had additional power to break through pavement and rocky soils. Staff expressed concerns with the John Deere having a smaller hydraulic system capacity and a lower bucket breakout force.

**RECOMMENDATION:**

It is staff recommendation to the Engineering Committee to add the purchase of the new Caterpillar Excavator Model No. 303.5E2 from Quinn Company to the July 11, 2017, Board agenda for a total cost of \$60,545. While the John Deere excavator is \$1,276 less, the field crews believe that the Caterpillar will provide a better product in the long-term.

Prepared & Submitted by:

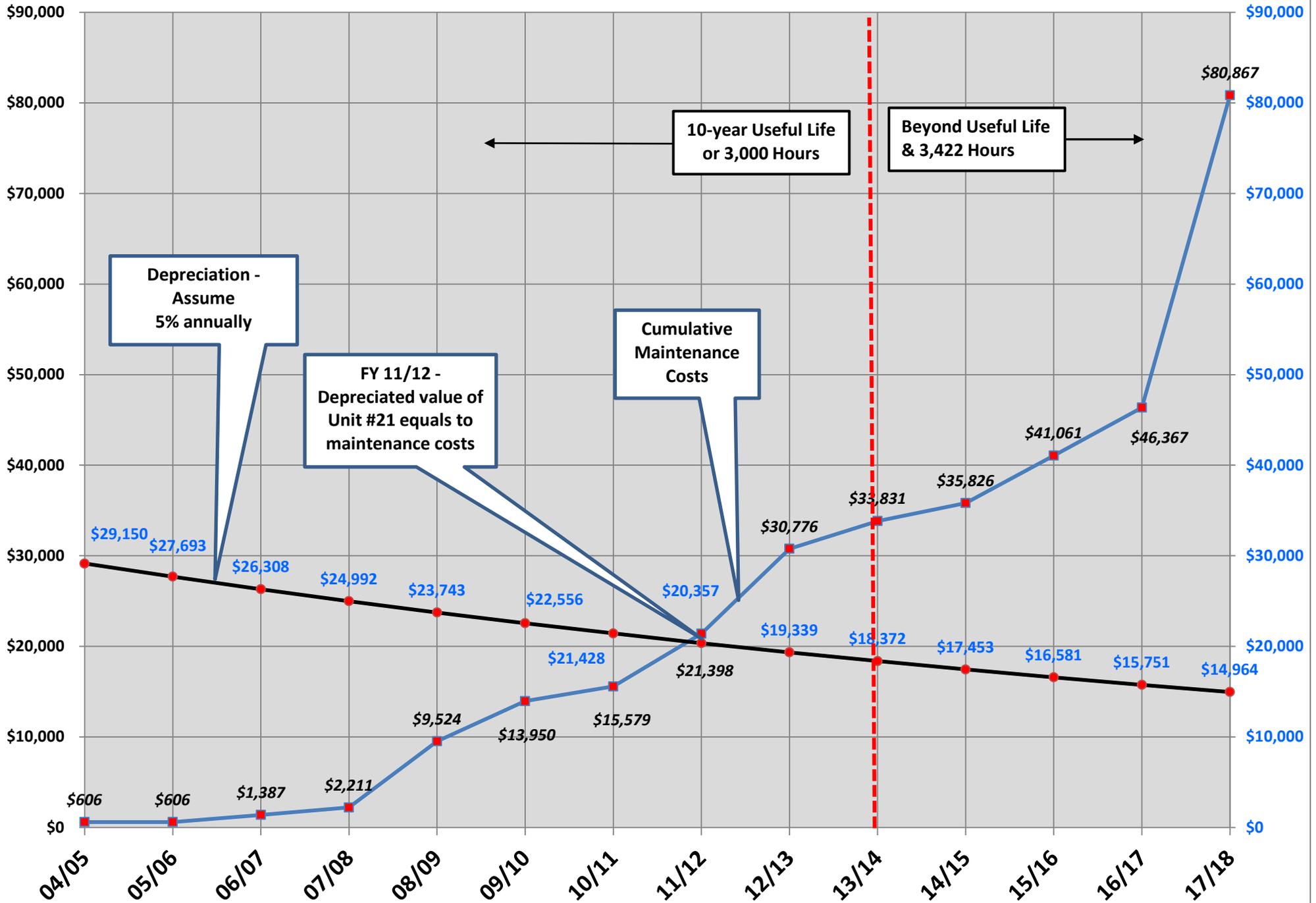


David S. Gould, P.E.  
District Engineer

Attachments:

1. Request for quotes from Caterpillar, John Deere & Volvo
2. Unit #21 – Depreciation vs. Maintenance Cost Chart
3. Comparison Chart for Compact Excavators

# Unit #21 - Depreciation vs. Maintenance Cost



## Crescenta Valley Water District Comparison Chart for Compact Excavators

| Rank | Manufacturer/ Company | Model No.  | Engine Manufacturer | Air Resources Board Certified (Tier Level) | Horsepower Gross (Hp) | Operating Weight (lbs.) | Overall Dimensions         | Bucket Rotation (Note 1) | Lifting Capacities (Note 2) | Bucket Breakout Force (lbf) | Hydraulic System Capacity (Note 3) | Swing RPM (Note 4) | Boom Swing Left (Note 5) | Boom Swing Right (Note 5) | Ground Pressure (psi) | Power Angle Blade (Note 6) | Hydraulic Bucket Coupler (Note 7) | Bucket Lifting point              | Warranty                                     | Quote - Including Taxes & Delivery | Comments  |
|------|-----------------------|------------|---------------------|--|-----------------------|-------------------------|----------------------------|--------------------------|-----------------------------|-----------------------------|------------------------------------|--------------------|--------------------------|---------------------------|-----------------------|----------------------------|-----------------------------------|-----------------------------------|--|------------------------------------|---|
| 1    | Caterpillar           | 303.5E2 CR | Kubota              | Tier 4 Final                               | 24.8                  | 7,803                   | 15'-6" long x 5'-10" wide  | 200 Degrees              | 3462 lb.                    | 7,419                       | 17.2 gal                           | 10                 | 80 Degrees               | 50 Degrees                | 4.6                   | Yes                        | Yes                               | Permanent mount on bucket linkage | Base: 1-year<br>Extended: 2 year             | <b>\$60,545</b>                    | Local dealership; Parts available in USA; Provides hydraulic bucket coupler; Demo by Crews; easy to use   |
| 2    | John Deere            | 35G        | Yanmar              | Tier 4 Final                               | 23.3                  | 7,760                   | 15'-3" long x 5'-10" wide  | N/A                      | 3453 lb.                    | 6,085                       | 8.5 gal                            | 9                  | 72 Degrees               | 62 Degrees                | 4.6                   | Yes                        | Yes                               | Not available                     | Base: 1-year<br>Extended: 2 year/2,000 hours | <b>\$59,269</b>                    | Local dealership; Parts available in USA; Provides hydraulic bucket coupler; Smaller hydraulic system capacity and bucket breakout force, Demo by Crews |
| 3    | Volvo                 | EC35D      | Volvo               | No Information Found                       | 25.0                  | 7,782                   | 14'-11" long x 5'-10" wide | 199 Degrees              | 2108 lb.                    | 7,394                       | 16.3 gal                           | N/A                | 76 Degrees               | 56 Degrees                | 4.7                   | Yes                        | Not available                     | Welded on back of bucket          | Base: Not Provided                           | <b>\$45,942</b>                    | Local Dealership, Does not provide hydraulic bucket coupler; Parts made out of country, provides 24-hour guarantee on parts; Did not provide a demo     |
| 4    | Case Excavators       | CX37C      | Yanmar              | Tier 4 Interim                             | 24.4                  | 7,990                   | 15'-9" long x 5'-9" wide   | 180 Degrees              | 2410 lb.                    | 6,900                       | 15.9 gal                           | 8                  | 75 Degrees               | 50 Degrees                | 4.8                   | Not available              | Not available                     | Welded on back of bucket          | Base: 2-year/3,000 Hours                     | <b>No Quote</b>                    |   |
| 5    | JCB Machines          | 8035 ZTS   | JCB                 | Tier 3                                     | 31.6                  | 8,049                   | 14'-7" long x 5'-5" wide   | 186 Degrees              | 2350 lb.                    | 7,194                       | 18.5 gal                           | 9                  | 45 Degrees               | 60 Degrees                | N/A                   | Not available              | Not available                     | Not available                     | Base: 1-year                                 | <b>No Quote</b>                    |   |

### NOTES:

1. Bucket rotation is a measurement of how far the bucket opens and close's relative to the arm. In practical terms the more the bucket opens the more efficient for tunneling and the more the bucket close's the less material falls out when loading in to the truck.
2. Lifting capacities are measured from the center of the swing pin with load over the blade to a 10' radius at ground level and are based on ISO standard 10567
3. The larger the hydraulic fluid system capacity, the lower oil temperature which results in lower maintenance cost
4. Swing arm RPM and bucket breakout force work together to reduce cycle times (cycle time is a measurement of how long it takes to remove a bucket of material from the trench and load it in the truck)
5. On this class of tractor, the boom arm can be offset from the housing unit ( the housing unit is the part of the tractor where the operator sits and is mounted on the undercarriage)
6. The angle blade increases the operator's efficiency when backfilling the trench, laying down temporary AC pavement, and grading.
7. The hydraulic bucket coupler permits the operator to change the bucket from the housing unit without assistance from personal on the ground. Basically taking a task that use to take two (2) people and making it a one person task. This also reduces potential finger/hand injuries from not having to manually insert and remove pins .

# CRESCENTA VALLEY WATER DISTRICT

## STAFF REPORT

Information Item No. 7

June 28, 2017

**To:** Engineering Committee  
**From:** David S. Gould, P.E. – District Engineer  
**Subject:** **Preliminary Board and Engineering Committee Project Schedule**

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### **INFORMATION ITEM:**

Discussion of Board Meeting and Engineering Project Schedule

### **DISCUSSION:**

Staff has put together a preliminary project schedule relative to upcoming Board Meetings and Committee Meetings for discussion. See attached table

Prepared & Submitted by:



David S. Gould, P.E.  
District Engineer

Attachments:

1. preliminary project schedule

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| Board Meetings |  | Committee Meetings |                   |  |
|----------------|--|--------------------|-------------------|--|
| Date           | Agenda   | Date               | Committee Meeting | Agenda   |
| 7/11/2017      | E-956 - Well 2 - Advertise for Bid                                 | 6/28/2017          | Engineering       | Water Quality Investigation  |
|                | E-956 - Well 2 - Construction Management - Award Contract          |                    |                   | Status of Groundwater/Water Production                             |
|                | E-983 - Well 5 Rehabilitation - Award Contract                     |                    |                   | E-956 - Well 2 - Advertise for Bid                                 |
|                | C-984 - New Compact Excavator - Award Contract                     |                    |                   | E-956 - Well 2 - Construction Management - Award Contract          |
|                |  |                    |                   | E-983 - Well 5 Rehabilitation - Award Contract                     |
|                |  |                    |                   | C-984 - New Compact Excavator - Award Contract                     |
| 7/25/2017      | No Meeting   | 7/20/2017          | Engineering       | Status of Groundwater/Water Production                             |
|                |  |                    |                   | Finalize FY 16/17 CIP Costs  |
|                |  |                    |                   | Discuss FY 17/18 CIP - Schedule & Costs                            |
|                |  |                    |                   | Update Summary of Grant Cost and Reimbursements                    |
| 8/15/2017      | S-962 - Sewer Lift Station Emergency Generator - Advertise for Bid | 8/10/2017          | Engineering       | Status of Groundwater/Water Production                             |
|                | E-970 - Oak Creek Reservoirs - Design - Award Contract             |                    |                   | S-962 - Sewer Lift Station Emergency Generator - Advertise for Bid |
|                |  |                    |                   | E-970 - Oak Creek Reservoirs - Design - Award Contract             |
|                |  |                    |                   |  |
| 9/5/2017       | E-956 - Well 2 - Award Contract                                    | 8/31/2017          | Engineering       | Status of Groundwater/Water Production                             |
|                |  |                    |                   | E-956 - Well 2 - Award Contract                                    |
|                |  |                    |                   |  |
|                |  |                    |                   |  |
| 9/19/2017      | E-970 - Oak Creek Reservoirs - Advertise for Bid                   | 9/14/2017          | Engineering       | Status of Groundwater/Water Production                             |
|                | S-962 - Sewer Lift Station Emergency Generator - Award of Contract |                    |                   | E-970 - Oak Creek Reservoirs - Advertise for Bid                   |
|                |  |                    |                   | S-962 - Sewer Lift Station Emergency Generator - Award of Contract |
|                |  |                    |                   |  |
| 10/3/2017      |  |                    |                   |  |
|                |  |                    |                   |  |
|                |  |                    |                   |  |
| 10/17/2017     | E-982 - Pipeline Replacement - Brookhill - Advertise for Bid       | 10/12/2017         | Engineering       | Status of Groundwater/Water Production                             |
|                | E-970 - Oak Creek Reservoirs - Award Contract                      |                    |                   | E-982 - Pipeline Replacement - Brookhill - Advertise for Bid       |
|                |  |                    |                   | E-970 - Oak Creek Reservoirs - Award Contract                      |
|                |  |                    |                   |  |
| 11/7/2017      | E-985 - Well 10 Rehabilitation - Advertise for Bid                 |                    |                   |  |
|                |  |                    |                   |  |
|                |  |                    |                   |  |
| 11/21/2017     | E-982 - Pipeline Replacement - Brookhill - Award Contract          | 11/15/2017         | Engineering       | Status of Groundwater/Water Production                             |
|                |  |                    |                   | E-982 - Pipeline Replacement - Brookhill - Award Contract          |
|                |  |                    |                   |  |
|                |  |                    |                   |  |
| 12/12/2017     | E-985 - Well 10 Rehabilitation - Award Contract                    |                    |                   |  |
|                |  |                    |                   |  |
|                |  |                    |                   |  |