

CRESCENTA VALLEY WATER DISTRICT

2700 FOOTHILL BOULEVARD
LA CRESCENTA, CALIFORNIA

To be held on
October 5, 2022 at 8:00 AM

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

Posted October 4, 2022 at 8:00 AM

TELECONFERENCING NOTICE

Under AB 361 and District Resolution No. 772, the District will continue to hold Board and Committee meetings by teleconference, due to the continuing State of Emergency for COVID-19 and the ongoing imminent risks to the health or safety of the attendees from COVID-19.

[This meeting will be held by teleconference only.]

Any member of the public may participate using a touchtone phone. You may select any of the following phone numbers (there are more than one for increased reliability during this time of increased phone traffic)

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Then, enter Access Code: 839 4889 7587

[Pursuant to the above Executive Order, the public may not attend the meeting in person]

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Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by contacting the District by phone or in writing at customerservice@cvwd.com. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.

Call to Order

Adoption of Agenda

Public Comment:

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. Under the provisions of the Brown Act, the Board is prohibited from taking action on items not listed on the agenda, except under certain circumstances.

Action Items

The public shall have an opportunity to comment on any action item as each item is considered by the Committee. This opportunity is non-transferrable, and speakers are limited to one two-minute (2) comment each.

1. Status of Local & Imported Water Supply
2. Annual Pump Maintenance Services
3. 2022 Wastewater Treatment & Disposal Alternative Study, Project M-1037B
4. Status Update - FY 21/22 & FY 22/23 Capital Improvement Project Budget

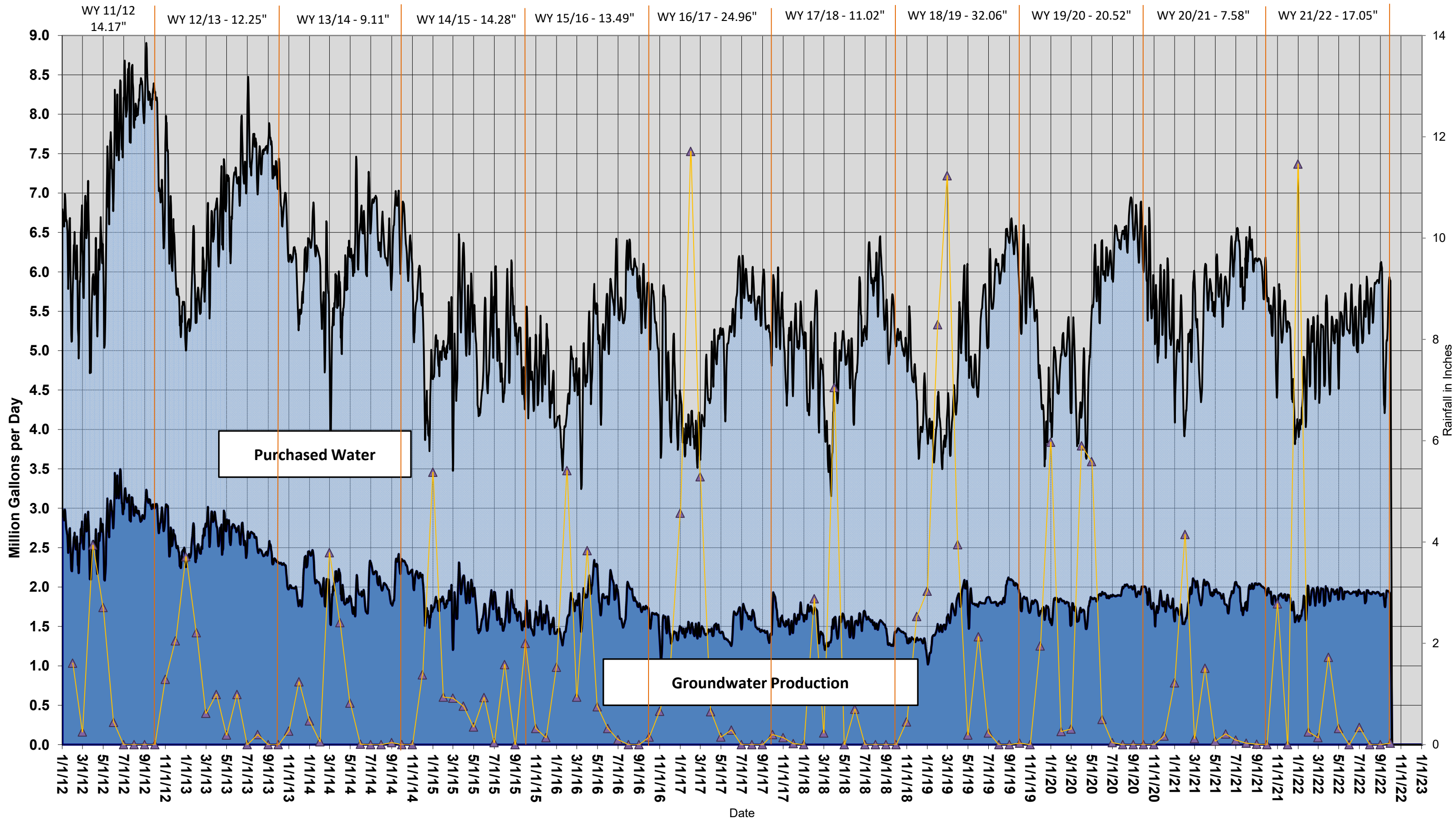
Committee Member's Request for Future Agenda Items

Next Engineering Committee Meeting – November 15, 2022, at TBD

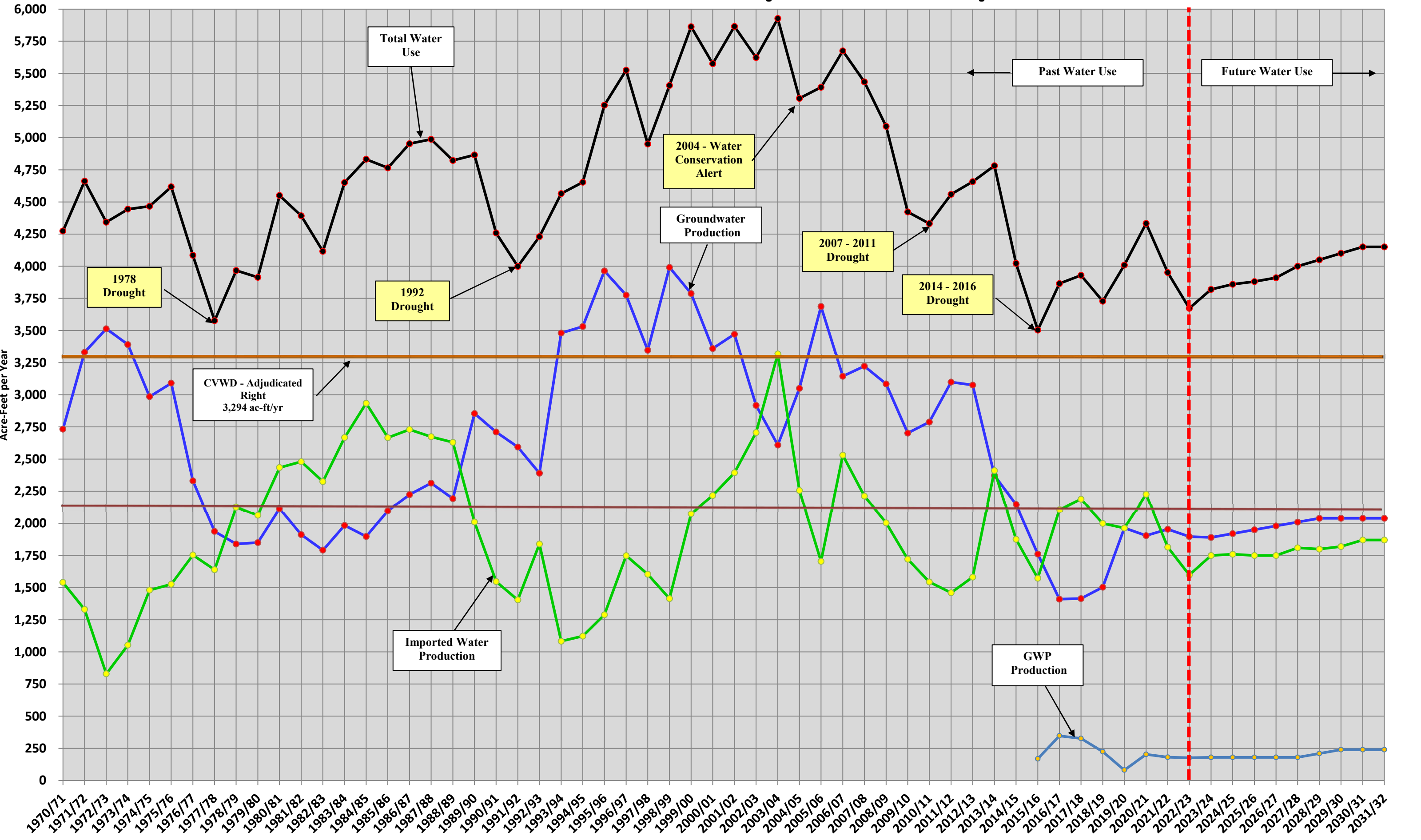
Adjournment

Water Production Chart w/ Rainfall 2012-2022

Groundwater Production (MGD) Total Water (MGD) Rainfall (in)



Total Water Use - FY 70/71 to FY 31/32



CRESCENTA VALLEY WATER DISTRICT

STAFF REPORT

Information Item No. 2
October 5, 2022

To: Engineering Committee
From: Brook Yared, M.S., P.E. – Engineering Manager
Subject: **Annual Contract for Booster Pump and Well Capital Improvement, Emergency Response, and Maintenance Services**

INFORMATION ITEM:

Annual Contract for Booster Pump and Well Capital Improvement, Emergency Response, and Maintenance Services – Discussion regarding utilizing a pump contractor to provide annual pump and well rehabilitation services, as well as annual pump capital improvement, emergency response, and maintenance services.

BACKGROUND:

CVWD has twelve (12) groundwater wells with pumps and thirty-four (34) booster pumps to access and transport local water supplies from the Verdugo Basin and lower pressure zones to reservoirs in higher-pressure zones, which is necessary to provide water throughout our diverse terrain. As staff prepared the annual Capital Improvement Project (CIP) program, projects are included for the replacement and rehabilitation of at least one well and at least one booster pump per year.

A goal of CVWD's strategic plan is for CVWD to become proactive on pump maintenance instead of being reactive when a pump or motor fails. To meet this goal, CVWD needs to partner with a knowledgeable pump contractor that has extensive field experience to provide the services described herein, including on-call inspection, analysis, and reporting on all CVWD's wells, pumps, and motors.

Another goal of CVWD's strategic plan is to have contractors available to provide emergency services during a man-made or natural emergency event. A great concern of staff is that, if an emergency event happens, contractors (not under contract) may not be available, as they will be serving other agencies experiencing the same disaster.

DISCUSSION:

Staff has developed a request for proposals (RFP) that details the limits of work for well rehabilitation as well as booster pump maintenance and replacement services, including emergency services and annual pump and motor maintenance. The proposal being requested shall include the following items and contractually guarantee that the work is done in accordance with CVWD's Rules and Regulations and all state and local regulations.

Annual Groundwater Well Rehabilitation:

Staff has developed a detailed standard approach to well rehabilitation that can be used by a pump contractor as part of an annual well rehabilitation program. These projects represent some of the most profitable for the District as they allow the community to access local water supplies stored in the Verdugo Basin. Staff has been investigating ways to improve our daily efficiency with respect to pump maintenance as we focus on our ever-increasing volume of annual pipeline replacements.

In a reactive maintenance approach, a well can fail and remain inactive for months representing a large cost increase as the District will need to source water from imported sources during this downtime. After a well pump has failed, staff requires time to design and resize the pump, publicly advertise for bids, and award a contract that take upwards of two or three (2-3) months before actual work, by a contractor, can begin. Rushed contracting of these critical services also poses a risk of having an underqualified pump contractor win the bid, which can result in delayed construction, poor pump selection due to lack of availability, and/or damage to the well casing.

Having an established Contractor for all planned and emergency work would allow for earlier materials procurement and reduce mobilization time, which reduces the downtime of any of our vital groundwater resources to between two and three (2-3) weeks.

Annual Booster Pump Rehabilitation

Staff has also developed a standard approach to booster pump replacement that a pump contractor could utilize as part of the annual booster pump rehabilitation so staff can focus on the annual pipeline replacement program.

As discussed above, with reactive maintenance there is a period of time, between two to three (2-3) months, before actual work by a contractor can begin. Therefore, staff is also recommending that we include this task as part of the RFP so the design work and materials procurement can take place in advance of construction. This will eliminate the time lag between the start of design and mobilization on-site.

Annual Booster Pump Inspection and Maintenance Service

As part of CVWD's strategic plan, staff's objective is to become proactive on pump maintenance. To meet this objective, staff will need the assistance of a pump contractor, to provide semi-annual maintenance and inspection services such as motor maintenance, pump efficiency, and visual inspection of all CVWD's pumps and motors at least twice a year. The pump contractor will also be required to provide an inspection report with recommendations that staff can use to prioritize pump and motor replacement or rehabilitation in the following years.

Emergency Pump & Motor Services

Finally, the RFP provides for critical emergency services during a man-made or natural emergency. A contractor must be able to provide emergency services and be responsive to an emergency event within 24 hours. The contract will be based on the agreed upon fee/rate schedule, response time, and availability of materials. Most importantly, it would eliminate the need to seek out an available pump contractor during an emergency.

Pump Contractors:

CVWD has utilized several pump contractors over the years. Some of the issues with pump contractors in the past include: overextension of contracted work, not providing timely service, not having materials on-hand, and failure of critical equipment. Conversely, General Pump Company has provided the best service compared to other contractors, and the last well rehabilitation they performed for CVWD was completed within two (2) months as compared to four to five (4-5) months with other contractors.

In addition, General Pump has demonstrated a high level of expertise with respect to knowledge on pump design and well rehabilitation. They have a large inventory of material and equipment that is dependable and stored locally. Finally, they are among a small group of firms that has engineers and hydrogeologists on staff to assist with testing, analyzing, and designing advanced well rehabilitations and booster pump replacements, including an approach and strategy in the face of unique challenge in the field.

FY 22/23 – CIP Contract Cost Estimate:

Staff reviewed General Pump's fee schedule and estimated the project costs for the rehabilitation of Well 9 and the replacement of Booster #26 at Cresta Heights, as discussed below.

Well Rehabilitation:

Past well rehabilitation projects for the District, which require large contributions of staff's time, have cost between \$95,000-\$120,000. Based on estimates of General Pump's past fee schedule, staff estimates the cost for the rehabilitation of Well 9 to be around \$165,000. The scope of work for the rehabilitation of Well 9 would include the following:

- Removal of the existing pump and motor assembly
- Wire brushing & removal of sediment by bailing
- Pre-rehabilitation CCTV inspection of well casing
- Review inspection data and make rehabilitation recommendations
- Procurement of a new pump and motor assembly
- Mechanical development of the well
- Chemical treatment of well casing using acids and dispersants
- Advanced treatment, options of the well casing (i.e., Sonar Jetting, Air Bursting)
- Post-rehabilitation CCTV of well casing
- New pump and motor assembly installation
- Discharge requirements per NPDES best management practices
- Pump startup and testing
- Return well to service: well disinfection and DDW approval
- As built and report submission

Booster Pump Rehabilitation

Booster Pump rehabilitation or replacement does not involve as much rehabilitation work. However, booster pumps are generally larger, more expensive, and require a longer lead time to procure. Historically, the average booster pump replacement cost ranges from \$25,000 to \$45,000, depending on the size and capacity of the pump. To replace Booster #26 at Cresta Heights, staff estimates the cost to be around \$60,000. The scope of work for Booster 26 at Cresta Heights includes the following:

- Assessment of pump failure at the site, if necessary (vibration analysis, power surge)
- Remove pump and motor assembly
- Perform inspection of existing pump and motor for reporting
- Review inspection data and make rehabilitation recommendations

- Assess line shaft and column pipe for refurbishment or replacement
- Procure the new pump & motor assembly plus all necessary column piping or appurtenances
- Install new pump and motor after staff review.
- Start up and testing
- As built and report submission

Annual Booster Pump Inspection and Maintenance Service

Staff reviewed General Pump's rate schedule for providing semi-annual maintenance and inspection services for all CVWD's pumps and motors and provide an inspection report with recommendations based on industry best practices. Staff has estimated the annual cost for pump maintenance and inspection services for FY 22/23 (one inspection per site) to be approximately \$65,000 and will be drawn from Operating Budget under the Booster Pump Maintenance account.

Emergency Pump & Motor Services

Staff reviewed General Pump's rate schedule for providing emergency pump and motor services and estimated the annual cost to be around \$25,000, on an as-needed basis.. Any services incurred will be drawn from the Operating Budget under the Emergency Operations account.

SUMMARY & RECOMMENDATION:

Staff put together a preliminary cost estimate for an Annual Contract for Booster Pump and Well Capital Improvement, Emergency Response and Maintenance Services for FY 22/23 at \$315,000 by General Pump (see table below).

Id No.	FY 22/23 Booster Pump and Well Emergency and Maintenance Services	Estimated Annual Cost
1	Well Rehabilitation (CIP)	\$165,000
2	Booster Pump Rehabilitation (CIP)	\$60,000
3	Annual Booster Pump Inspection and Maintenance Service (Expense)	\$65,000
4	Emergency Pump & Motor Services (Expense)	\$25,000
	FY 22/23 Total	\$315,000

This brings the cost for the planned booster pump and well CIP in FY 22/23 to a conservative estimate of \$225,000, which is \$31,000 above the budgeted amount of \$194,000. An additional \$105,000 is budgeted for booster pump and well maintenance, which will be covered by the work in this annual contract. That brings the total budgeted amount available for this work to \$299,000. The actual cost for the proposed work will only be determined once a proposal has been submitted.

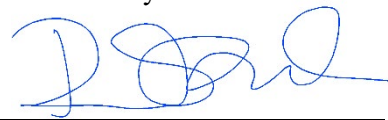
It is staff's recommendation to solicit a proposal from General Pump Company to provide services to accomplish the work described above. Proposals will be due by the end of the month and brought to the Board of Directors for award of contract in November. Once the contract is awarded, staff can proceed with the rehabilitation of Well 9 during the winter months when demands are lowest.

Prepared by:



Brook Yared, M.S., P.E.
Engineering Manager

Submitted by:



David S. Gould, P.E.
Director of Engineering & Operations

Attachments:

1. CVWD's Request for Proposals

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FY 22/23
ANNUAL WELL AND PUMP MAINTENANCE
&
EMERGENCY SERVICES

Request for Proposal

Proposal Delivery Due Date:

Wednesday, October 28, 2022

12:00 PM PST

Delivery Address:

Crescenta Valley Water District
2700 Foothill Blvd
La Crescenta, CA 91214
Attention: Brook Yared
Engineering Manager

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I. INTRODUCTION

Crescenta Valley Water District (CVWD) is seeking construction, maintenance, and professional services for annual Well and Pump Maintenance and Emergency Services as outlined in this RFP.

Crescenta Valley Water District (CVWD or the District) was formed as a "County" Water District in 1950 to provide water and wastewater services to the La Crescenta area (unincorporated Los Angeles County) and portions of Glendale and La Canada Flintridge. CVWD serves water to approximately 32,500 people and has about 8,000 service connections. CVWD's service area covers approximately four (4) square miles in the foothills between Pasadena on the east and Glendale on the south and west. To the north are the San Gabriel Mountains.

CVWD water supply includes local groundwater from the Verdugo Basin and imported water from Foothill Municipal Water District (FMWD). FMWD is a member agency of the Metropolitan Water District of Southern California (MWD).

CVWD's water distribution infrastructure includes 11 pressure zones, approximately 95 miles of pipeline, 13 booster stations with 34 booster pumps, 12 groundwater wells, and 17 storage reservoirs. As a major part in the ongoing effort to maintain a safe, secure, and reliable water service, CVWD performs annual maintenance of its booster pump and well facilities located throughout its service area.

1) CONTACT INFORMATION:

Project Manager:

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Email: byared@cvwd.com
Phone: Office (818) 236-4117; Cell (626) 590-1020

Operations:

Mr. Kellen Boyce, Production Manager
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La Crescenta, CA 91214
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Timeline

Request for Proposal Sent:	October 12, 2022
Question Submittal Deadline	October 21, 2022
Proposal Due	October 28, 2022
Award of Contract	November 8, 2022

II. SCOPE OF REHABILITATION AND REPLACEMENT WORK

1) SUMMARY OF REHABILITATION AND REPLACEMENT SCOPE OF WORK

The work shall include routine and emergency pump pulling and installations, water well rehabilitations, well casing repairs and installations, well abandonments, well video inspections, and/or repair services on various types of pumps on an as-needed basis. The responsibilities of the Contractor under this RFP shall include but are not limited to the following requirements:

The work shall include:

- a) Baseline assessment
- b) Routine and emergency pump and motor removal, inspection, and installation
- c) Water well rehabilitation activities:
 - brushing
 - bailing by pumping
 - chemical treatment
 - mechanical development
 - Start up and testing
- d) Well casing repairs and installations
- e) Static well CCTV inspection & reporting
- f) MCC Power Connection
- g) Repair services on various types of pumps on an as-needed basis.

The results of inspection reports may call for advanced methods of well rehabilitation at times. CVWD will rely on recommendations from the selected Contractor to provide options should any of the following non-standard repair/rehabilitation steps be deemed necessary.

- a) Variable Frequency Drive (VFD) Maintenance
- b) Dynamic well CCTV inspection & reporting
- c) Advanced Well Analysis (Spinner logs, casing analysis)
- d) Advanced Well Rehabilitation recommendations (i.e., sonar jetting, air bursting)
- e) Vibration Analysis
- f) Test/rental pump and motor assembly installation, piping, electrical starter, and removal
- g) Constant Rate and Step Drawdown testing
- h) Well abandonments

See section XII for proposal requirements.

A. Technical Requirements – Wells

1) Pump and Motor Removal and Inspection

Contractor shall disconnect all electrical wiring and appurtenances necessary for the pulling of a well pump (maximum 500-feet below ground surface). Contractor shall remove the motor, discharge head, oil tubing or submersible motor cable, shafting, column, bowl assembly, strainer, and airline.

All component parts shall be closely inspected for excessive wear, cracks, holes, corrosion, or any type of damage, which would necessitate any repairs or replacement parts.

Contractor shall sound total well depth from surface and provide a depth to the bottom of the well along with detailed reports of the well inspection.

2) Well CCTV Inspection

- a) Static Video Inspection:
 - i. After removal of the pump and upon CVWD's direction, Contractor shall perform well video inspection using color video equipment with side scan.

- ii. The Contractor shall furnish all labor, materials and equipment required to provide a color video survey of the well after preparation of the water to produce clear viewing conditions.
 - iii. If necessary, the Contractor will introduce a polymer type flocculant into the well, followed by water. Contractor will allow water to flow into the well for a 24 to 48-hour time period in advance of the video survey to produce clear viewing conditions.
 - iv. Should a clear video picture of the internal casing conditions not be achieved, additional clear water preparations shall be instituted, and additional video surveys conducted until a clear video picture record is obtained. This work shall be accomplished at the Contractor's expense.
 - v. As the camera probe surveys the full casing interval in the well, a digital depth record shall be recorded on the video survey log for reference. The video camera shall be capable of providing both vertical and horizontal (side) viewing of the entire casing as it descends into the well.
 - vi. When a successful video survey log has been acquired, one copy in CD/DVD format shall be provided to CVWD. Contractor shall submit a written report to accompany the video survey log, documenting survey date, static water level, perforation depth intervals and conditions, and total well depth.
- b) Dynamic Video Inspection
- i. Dynamic Video inspections are performed while the pump is still in operations.
 - ii. The Contractor is responsible for any damage to the dynamic well CCTV equipment that may occur during inspection of an operating pump.
 - iii. As the camera probe surveys the full casing interval in the well, a digital depth record shall be recorded on the video survey log for reference. The video camera shall be capable of providing a vertical viewing of the entire casing as it descends into the well.

3) Wire Brushing and Bailing

Wire brushing shall be carried out in such a manner as to clean the existing casing perforations and to remove scale and tubercles attached to the inside wall of the casing. The Contractor shall furnish the appropriate wire brush. If the well casing screen is wire wrapped, then Contractor shall use an approved stiff nylon brush.

The brush barrel shall be not less than 6 inches smaller in diameter than the well casing. The brushing elements inserted into the barrel shall consist of 7/8-inch diameter minimum stiff steel cable adequately spaced to clean the entire well. A minimum of 1500 pounds shall be required to drive the brush down the well.

After sufficient wire brushing, the well will be allowed to sit for a 24-to-48-hour time period and debris in the water column will be allowed to settle to the bottom of the well during this period. Sediment fill shall be removed from the bottom of the well to the maximum extent possible using a bailer or scow or equivalent retrieval device.

The total depth of the well shall be measured shortly following bailing. This operation will be performed only if the casing appears to be in relatively good condition. Should it appear that there is any damaged casing, or any sections of casing appear to be in a state of detachment from the well, the bailing should not be performed.

If bailing is performed, then all bailed material (water and sediment) shall be placed in steel drums or appropriate containers. The sediment, after separation from the water, shall be placed in the containers, properly labeled, and eventually removed from the well site for disposal by the Contractor.

The Contractor will be responsible for manifesting the bailed material for disposal at an appropriate and approved landfill. The District shall be onsite to collect a sample of the bailed material for possible laboratory analysis.

4) Advanced Well Inspection & Rehabilitation

Advanced Inspection: Determining the best approach to the rehabilitation of a well can require advanced inspection methods. This can include spinner logs, dynamic well videos, and vibration analysis.

Advanced Rehabilitation: At times, wells require additional work to restore the screen efficiency or repair damage to the casing. When necessary, the Contractor shall recommend advanced rehabilitation repairs to CVWD before any work is allowed to proceed. After reviewing the rehabilitation method CVWD staff will either approved the recommended work or propose an alternative based on the best available technology at the time.

5) Temporary Test Pump Mobilization/Demobilization

If requested, the Contractor shall furnish, install, and remove a deep-well turbine pump, prime mover, column assembly, and all appurtenances necessary for developing and/or test pumping the well.

The pump and prime mover shall have a capacity to pump a maximum of 1,000 gallons per minute with a total dynamic head of 250 feet of head in order to provide an ample range to perform Constant Rate and Step drawdown testing when necessary.

- a) The prime mover shall be a variable speed type.
- b) Contractor shall furnish all fuel or power required to operate the pumping unit.
- c) A temporary 2 to 3-inch I.D. access tube shall be installed during pump installation and will provide access for water level sounders into the well casing during pumping, to measure water levels.
- d) The prime mover shall be a variable-speed type with a gear ratio of 1 to 2, in order to overdrive the pump to attain the desired pump rate. The prime mover shall meet all noise regulation requirements during development and subsequent testing operations.
- e) Discharge piping shall be provided for the pumping unit and be of sufficient size and length to conduct water according to the Special Provisions in these Specifications.
- f) The Contractor shall provide orifices, meters, or other approved devices that will accurately measure the flow rates, in total amount of water pumped (in gallons) and the instantaneous discharge (in gpm).
- g) The discharge line shall be provided with suitable equipment for sand testing, such as the Rossum Centrifugal Sand Sampler.

6) Well Abandonment

The minimum procedure for decommissioning a well in an area with a single aquifer is:

- a) Assemble all known information about the well. A CCTV inspection of the well is required if one has not been recently performed.
- b) Using the known data, develop a work plan to restore, as far as feasible, the controlling geological conditions that existed before the well was constructed. Work plans shall consist of well log, video log, water level, vulnerability to contamination, details or original construction, specifications of materials to be used, cement formulations, placement of material, perforator and pressure sealing method, calculations as to volume of grout required to seal the casing and voids.
- c) Complete the well permit application form. File a service request and pay the required fee.

- d) Review the work plan with the local Environmental Health inspector and reach an agreement as to the scope of the work.
- e) Remove obstructions and contaminants.
- f) Fill the casing up to 150 feet below grade with at least a six-sack fine sand mix. Used drilling mud or drill cuttings are not acceptable. Perforate the casing from 150 feet up to the bottom of the annular seal, if any. Pressure grout (20-40 psi) with neat cement from 150 feet up 4 feet below grade. Pressure shall be maintained for a length of time sufficient for the cementing mixture to set. Cut the casing at 5 ft. and mushroom a cap over the casing. Cover with fill material up to grade. If the developer needs to cut the casing deeper than 4 feet, OSHA requirements shall be considered.
- g) The placement of all materials shall prevent free fall, dilution, and/or separation of aggregates from cementing materials by pumping through a tremie tube.
- h) As a rule of thumb, divide the diameter of the casing by 2 to get the minimum number of perforations required per round per foot.
- i) Verify that the volume of material placed in the well at least equals the volume of the hole.
- j) Arrange for an appointment with the local environmental health inspector to witness the placement of the annular seal.
- k) Submit a copy of the well completion report including as-built and pump curve to CVWD's Engineering Department.

Dry holes or exploratory borings are to be destroyed by the placement of approved fill up to a maximum of 50 feet below ground surface. The upper 50 feet is to be sealed using neat cement pumped from the bottom up through a tremie tube. Approved fill material is defined as any inert material equal or finer than native material such as cement, sand-cement grout, concrete, clay, silt or sand. Used drilling mud and drill cuttings are not acceptable.

7) Groundwater Well Pump and Motor Assembly Installation:

Contractor shall furnish all incidental materials to bring the project to a satisfactory completion. Whenever possible, pumps shall be manufactured by Hydroflo, Goulds, or Flowserve or an approved equal.

After completion of any necessary well repairs or rehabilitation work, the Contractor shall reinstall the bowl assembly, column, shafting, oil tubing or submersible motor cable, airline, level transducer, discharge head, and motor, making all joints and connections in a workmanlike manner.

All materials and rehabilitation processes recommended must be National Sanitation Foundation approved and/or certified by the National Groundwater Association and/or American Ground Water Trust. Maintaining these practices and materials standards does not waive final approval of all rehabilitation processes by CVWD.

CVWD will chlorinate the well in accordance with DDW regulations when Contractor has completed the rehabilitation and pass series sampling before the Well is allowed to be returned to service.

The Contractor shall coordinate with CVWD to ensure that all discharges associated with the rehabilitation of the well, at all steps of the project, meet NPDES permit requirements and shall bear the cost for all discharges not in compliance with and/or exceeding the discharge limitations of the NPDES permit.

8) Well Rehabilitation Project Completion

Prior to official completion of a well rehabilitation project, CVWD will provide the Contractor with the results of the passing set of water quality series samples. After all sampling has been complete and the

Well is approved by CVWD to be returned to service, the contractor shall submit a letter summarizing the rehabilitation steps taken to improve the well. CVWD will provide this letter and the final passing series sample to DDW.

The Contractor is also required to provide a well casing profile update, pump and motor as-builts summarizing the location of the pump in the well and the pertinent pump and motor information, and all pump and motor performance documentation to the satisfaction of CVWD.

2) TECHNICAL REQUIREMENTS - BOOSTER PUMPS:

A. Removal of Existing Booster Pump

Before the booster pump is removed from the pump can the Contractor is responsible for coordinating with CVWD's water Production Manager and disconnecting all power from the booster pump in coordination.

1) Pump Pulling and Inspection

- a) Contractor shall disconnect all electrical wiring and appurtenances necessary for removal of the booster.
- b) Remove the unit and inspect all component parts for excessive wear, cracks, corrosion, or any type of damage, which would necessitate any repairs, or replacement parts.
- c) Send a completed pump inspection report to CVWD including recommendations for repair.

2) Mobilization and Demobilization

The Contractor shall load, transport and unload pumping unit and all the miscellaneous pulled equipment from jobsite to Contractor's yard and back again to the job site upon repair or arrival of the replacement. The cost of freight, transportation and any associated taxes shall be included in the Contractors proposal ahead of the work being approved.

B. Booster Pump installation:

After completion of any necessary well repairs or rehabilitation work, the Contractor shall reinstall the bowl assembly, column, shafting, oil tubing or submersible motor cable, airline, level transducer, discharge head, and motor, making all joints and connections in a workmanlike manner.

Contractor shall furnish all incidental materials to bring the project to a satisfactory completion. Whenever possible, pumps shall be manufactured from

Prior to installation, Contractor shall adequately disinfect the pump assembly, discharge head and column pipe assembly. After installation, Contractor shall test for rotation and operation of the completed installation to the satisfaction of CVWD.

Booster Pump: Contractor shall move back onto the booster station site and shall reinstall the pump and motor, electrical connections, making all joints and connections in a workmanlike manner. Contractor shall restart the motor to make sure it is operating properly.

C. Booster Pump Repairs

The Contractor shall accomplish any repairs or replacements authorized by CVWD in accordance with one of the following:

- 1) Utilization of Contractor's own labor and equipment in accordance with Bidder's Proposal.
- 2) The securing of materials and/or outside services. Materials and outside services shall be paid for at actual invoice plus percentage mark-up in Bidder's Proposal.
- 3) Any suitable combination of the above.

CVWD reserves the right to have any necessary repairs and/or replacement parts furnished by others. At the discretion of the Director of Engineering and Operations, the Contractor's crew may be required to leave the job site until the necessary repairs are accomplished and/or replacement parts are procured.

III. WELL AND BOOSTER PREVENTATIVE MAINTENANCE SERVICES

1) BASELINE ASSESSMENT

- a) Review of District Practices
- b) Review of Existing pump and well infrastructure records
- c) Calculations of wire to water efficiency of pump and motor assemblies while they are in service
- d) Perform Maintenance per manufacturers recommendation
 - i. Make sure machines are properly shutdown before performing your maintenance and/or systems check. Proper isolation is important not only for electrical systems, but for hydraulic systems as well.

2) MECHANICAL INSPECTION

- a) Check that mounting points are secure
- b) Inspect the mechanical seal or packing gland
 - i. Perform packing gland maintenance
- a) Inspect the pump flanges for leaks
- b) Inspect the couplings
- c) Inspect and clean filters

3) LUBRICATION

Lubricate the motor and pump bearing per manufacturer's guidelines. Be sure not to over lubricate. More bearing damage occurs as a result of over greasing than under greasing. If the bearing has a vent cap, remove the cap and run the pump for 30 minutes before reinstalling cap. This will allow excess grease to work its way out of the bearing.

4) ELECTRICAL/MOTOR INSPECTION

- a) Check that all terminations are tight
- b) Inspect motor vents and windings for dust/dirt build-up and clean according to manufacturer's guidelines
- c) Inspect starter/contractor for arcing, overheating, etc.
- d) Use a megohmmeter on the windings to check for insulation failure

5) REPLACE DAMAGED SEALS, PACKING GLANDS AND HOSES

If any hoses, seals, or O-rings show wear or damage, replace immediately. Using a temporary rubber assembly lubricant will ensure a tight fit and prevent leaks or slips.

6) STAFF TRAINING

CVWD may require additional knowledge and skill on the part of its regular employees, such employees shall be given the opportunity to study, practice, and train alongside the Contractor's staff while work is being performed to acquire the knowledge and skill necessary to accomplish routine and advanced maintenance tasks.

IV. ON CALL EMERGENCY SERVICES

1) FIRM COMMITMENT OF AVAILABILITY OF SERVICE

Once a proposal is accepted, a Contractor is expected to maintain an availability of service as set forth in its proposal for at least four months after date of being awarded this annual contract. Under emergency

circumstances, the District may request emergency services. In the event of such request, the contractor shall mobilize within 24 hours or less to perform the required task.

In the event of any emergency constituting an immediate hazard to health, safety, property, or licensees, when caused by Work of the Contractor not in accordance with the Contract requirements, the City may undertake at Contractor's expense, and without prior notice, all Work necessary to correct such condition.

All work performed responding to an emergency will be paid on a time and material basis at the rates established in the Rate Sheet provided by the Contractor as part of their proposal.

2) RATE SHEET SUBMITTAL

Emergency work will be paid on a time and material basis. The Contractor shall submit their rate sheet for equipment and personnel along with their contractor license and insurance information to CVWD along with the finalized agreement for the work under this contract. All emergency work will be paid for on a time and material basis utilizing the information provided in the submitted rate sheet.

V. NPDES DISCHARGE REQUIREMENTS

It is the selected company's responsibility to comply with local NPDES requirements and attain any necessary permits for discharges related to Wells being removed from or returned to service. All of the well wastewater generated as part of this annual contract shall be disposed of by the Contractor in compliance with all applicable State and Federal laws. The Contractor shall request approval by the Director of Engineering and Operations as to the location and estimated volume of the disposal prior to the discharge. The Contractor shall be responsible for monitoring, treating, testing, and disposing of the wastewater.

The Contractor shall be responsible for implementing a storm water pollution plan and to utilize best management practices (BMP) when de-watering the pipeline, flushing the pipeline, de-watering the trench and any other operation that discharges water to the storm drain. The best management practices required to be used by the Contractor shall be as follows:

- a) Contractor shall not be allowed to wash down A.C. saw cuttings into the storm drain. Contractor shall vacuum and dispose of A.C. saw cuttings to an approved location.
- b) Contractor shall install and maintain sandbag de-silting basins around each catch basin in the construction area. Contractor shall be required to remove trapped sediment to an approved location a minimum of once a week or sooner if flow is impeded.
- c) Contractor shall de-chlorinate with sodium thiosulfate any chlorinated water that is discharged from the pipelines during the entire construction period.
- d) Contractor shall regularly sweep the construction area to prevent dirt and rocks from entering the storm drain system.

VI. MAINTENANCE RECORD KEEPING

Contractor shall prepare, maintain, and preserve all reports and records that may be required by federal, state, and district rules and ordinances related to services provided under this Agreement. Contractor shall maintain records for a period of at least 3 years after receipt of final payment under this Agreement.

CVWD shall have the right to examine, monitor and audit all records, documents, conditions, and activities of the Contractor and its subcontractors related to services under this Agreement. Pursuant to Government Code Section 8546.7, if this Agreement involves the expenditure of public funds in excess of \$10,000, the Parties to this Agreement may be subject, at the request of the district or as part of any audit of the District, to the examination and audit of a third party Auditor pertaining to matters connected with the performance of this Agreement for a period of three years after final payment under the Agreement.

VII. GENERAL CONTRACT REQUIREMENTS

1) HOURS OF LABOR

Contractor shall forfeit as a penalty to Owner the maximum amount provided by statute for each worker employed in the execution of the contract by the Contractor or any of their subcontractors for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code and, in particular, Section 1810 to Section 1815 thereof, inclusive, except that work performed by employees of Contractors in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay as provided in Section 1815.

2) APPROVAL OF SCOPE OF WORK

The Contractor shall submit a scope of work, including a cost estimate for performance, to the District, in writing. District staff will review the scope of work and respond, in writing, in regard to any changes in scope. The Contractor shall do and perform such work and furnish such materials and equipment. Such labor, materials, and/or equipment shall be ordered in writing before such work is started. No work shall be paid for unless ordered in writing.

The District's Representative may order minor changes in the Work not involving an increase or decrease in the contract amount, not involving a change in the time for completion, and not inconsistent with the purposes for which the Work is being constructed. If the Contractor believes that any order for minor changes in the Work involves changes in the contract amount or time for completion, they shall not proceed with the minor changes so ordered and shall within seven (7) days of the receipt of such order notify the Owner's Representative in writing of their estimate of the changes in the contract amount and time for completion they believe to be appropriate.

3) PREVAILING WAGE

The Contractor shall comply with Labor Code Section 1775. In accordance with said Section 1775, the Contractor shall forfeit as a penalty to the Owner, a penalty of up to \$200 per day per worker, in such amount as the Labor Commissioner shall determine for each calendar day or portion thereof for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any work done under the contract by them or by any subcontractor under them in violation of the provisions of the Labor Code and, in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor. Moreover, failure to pay the prevailing wage may subject the Contractor to debarment, as provided in Labor Code Section 1777.1.

Failure to pay workers at the appropriate overtime rate for work of more than 8 hours per day or 40 hours per week, shall incur a penalty pursuant to Labor Code Section 1813 of \$25 per day per worker.

4) CONTRACTOR'S RESPONSIBILITY FOR THE WORK

Until the acceptance of the Work, the Contractor shall have the responsible charge and care of the Work and of the materials to be used therein (including materials for which partial payment has been made or materials which have been furnished by the Owner) and shall bear the risk of injury, loss, or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the Work.

The Contractor shall rebuild, repair, restore, and make good all damage to any portion of the Work or the materials occasioned by any cause before its completion and acceptance and shall bear the expense thereof. Where necessary to protect the Work or materials from damage, the Contractor shall, at their

expense, provide suitable drainage and erect such temporary structures as are necessary to protect the Work or materials from damage. The suspension of the Work or the granting of an extension of time from any cause whatever shall not relieve the Contractor of the responsibility for the Work and materials as herein specified.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without special instructions or authorizations, is authorized to act at their discretion to prevent such threatened loss or injury.

1) INSPECTION AND TESTS OF MATERIALS

A. Readiness for Inspection

The Contractor shall furnish the Owner full information as to the progress of the work in its various parts and shall give the Owner timely notice of the Contractor's readiness for inspection. When practicable, inspection will be made during the manufacture of articles. The Contractor shall furnish, without additional charge, all reasonable facilities and assistance for the safe and convenient inspection and tests required by the Owner.

B. Final Inspection and Acceptance

Final inspections and acceptance of the articles or materials may be made after delivery at the work site at the Owner's expense. In the event that any material at the work site is rejected on account of failure to pass the inspection or test, the Contractor shall replace same promptly. Final inspection will be made as promptly as practicable but may not in all cases be made prior to erection or final assembly.

C. Right to Reject Articles and/or Materials

The Owner shall have the right at all times and places to reject articles and/or materials to be furnished hereunder which in any respect fail to meet the requirements of the specifications, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the work at the site.

If the inspector, through an oversight or otherwise, has accepted material or work which is defective or which is contrary to the specifications, such materials, no matter in what state or condition of manufacture, delivery or erection, may be rejected by the Owner.

Compliance with the specifications is distinctly a duty of the Contractor and shall not be avoided by act or omission on the part of the Owner's inspector.

5) SUB-CONTRACTING

The Proposer may utilize the services of specialty sub-contractors on those parts of the work that, under normal contracting practices, are performed by specialty sub-contractors. Unless a specific sub-contractor is listed by Proposer, Proposer is representing to District that Proposer has all appropriate licenses, certifications, and registrations to perform the work hereunder. After submission of his/her proposal, the Proposer shall not award work to any unlisted subcontractor(s) without prior written approval of the District. The Proposer shall be fully responsible to the District for the performance of his/her sub-contractors and of persons either directly or indirectly employed by them.

6) TAXES

The Contractor shall pay all sales, consumer, use, and other taxes.

7) CLAIMS

As provided in Public Contract Code Sections 20104, et seq., claims by the Contractor shall be in writing and include the documents necessary to substantiate the claim. Prior to submitting a claim under this Section 3-9, the Contractor shall comply with all applicable notification requirements under the Contract Documents. All claims must be filed with the Owner on or before the date of final payment.

For claims of less than fifty thousand dollars (\$50,000.00), the Owner shall respond in writing to any written claim within forty-five (45) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim any additional documentation supporting the claim or relating to defenses to the claims the Owner may have against the Contractor. The Owner's written response to the claim shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

For Claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the Owner shall respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner may have against the Contractor. The Owner's written response to the claim shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or request documentation, whichever is greater.

If the Contractor disputes the Owner's written response, or the Owner fails to respond within the time prescribed, the Contractor may so notify the Owner, in writing, either within fifteen (15) days of receipt of the Owner's response or within fifteen (15) days of the Owner's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the Owner shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute. Submittal

8) PROTESTS

If the Contractor considers any work required by the Owner to be outside the requirements of the Contract Documents, or if the Contractor considers any record or ruling of the Owner, the Owner's Representative or any governmental inspector to be unfair, the Contractor shall immediately upon such work being demanded or such record or ruling being made, ask for written instructions or decision, and within ten (10) days after receipt thereof file a written protest with the Owner, setting forth each objection and the reasons therefor. The Contractor shall, whether or not a written protest will be filed, immediately upon receipt of written instructions or decision proceed without delay to perform the work or conform to the record or ruling. The Contractor hereby agrees that, unless a specific objection or protest has been made as provided herein, the Contractor waives all grounds for protests or objections to the records, rulings², instructions, or decisions of the Owner or the Owner's Representative, and further agrees that as to all matters not included in such objections or protests the records, instructions and decisions of the Owner or Owner's Representative shall be final and conclusive. Such protests shall proceed in accordance with the procedures set forth in Section 3-9 entitled CLAIMS.

9) QUALITY AND SAFETY OF MATERIALS AND EQUIPMENT

All equipment, materials, and supplies to be incorporated in the Work shall be new, unless otherwise specified. All equipment, materials, and supplies shall be produced in a good and workmanlike manner. When the quality of a material, process, or article is not specifically set forth in the plans and specifications, the best available quality of the material, process, or article shall be provided.

Whenever any material, process, or article is indicated or specified by grade, patent or proprietary name, or by name of manufacturer, such specification is for the purpose of facilitating description of the materials, process, or articles desired and the Contractor may offer any material, process, or article which shall be substantially equal or better in every respect to that indicated or specified; provided, however, that if the material, process, or article offered by the Contractor is not, in the sole discretion of the Owner, equal or better in every respect to that specified, then the Contractor must furnish the material, process, or article specified or one that in the sole discretion of the Owner is the substantial equal or better in every respect. If the Contractor-furnished material, process, or article is more expensive than

that specified, or involves additional labor or other cost, then such difference in cost shall be borne by the Contractor.

In accord with Section 3400 of the Public Contract Code, the Contractor shall submit data substantiating requests for substitution of "equal" items within thirty (30) days after award of the contract. This 30-day period is included in number of days allowed for completion of Work.

10) SAFETY AND PUBLIC CONVENIENCE

The Contractor shall conduct their operations to avoid injury or damage to any person or property, and to minimize any obstruction and inconvenience to the public. The Contractor shall comply with the requirements of the Contract Documents relating to safety measures applicable in particular operations or kinds of work. The Contractor shall have under construction no greater amount of Work than can be prosecuted properly with due regard to the rights and safety of the public and the workers.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the Work, and the Contractor shall fully comply with all state, federal and other laws, rules, regulations, and orders relating to safety of the public and workers, including State of California, Division of Industrial Safety (Cal/OSHA) regulations. Safety precautions as applicable shall include, but not be limited to, adequate life protection and lifesaving equipment; adequate illumination for underground and night operations; instructions in accident prevention for all employees such as machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accident or injuries; and adequate facilities for the proper inspection and maintenance of all safety measures.

The names and telephone numbers of at least two medical doctors practicing in the vicinity and the telephone number of the local ambulance service shall be prominently displayed adjacent to telephones.

The right of the Engineer or the Owner's Representative to conduct construction review or observation of the Contractor's performance will not include review or observation of the adequacy of the Contractor's safety measures in, on, or near the site of the Work. However, in the event that the Owner determines that the Contractor has failed to ensure the safety of the public and the workers or has failed to take reasonable steps to protect the workers and the public, the Owner may give the Contractor 72-hours written notice to take appropriate action to ensure their safety. In the event the Contractor fails to comply, and the Owner takes such steps as are reasonably necessary to ensure the safety and protection of the public and the workers, the Contractor shall pay the cost and expenses incurred in taking such action.

11) NON-COLLUSION AFFIDAVITS

In accordance with the provisions of Section 7106 of the Public Contract Code, each bidder shall execute and submit with their bid a Non-Collusion Affidavit in the form attached to the Proposal. Additionally, the principal contractor shall secure from each proposed subcontractor a Non-Collusion Affidavit in the form attached to the Proposal.

VIII. PROPOSAL REQUIREMENTS

1) ANNUAL SCOPE OF NON-EMERGENCY SERVICES, FY 22/23

Under this current contract CVWD plans to rehabilitate one of its production wells, well 9, and intends to perform the planned replacement of Booster 26 at Cresta Heights Reservoir with the standard SOWs presented here. Please submit a scope of work and cost estimate as part of the response to this request for proposal.

Familiarity with Work: By executing this Agreement, Contractor represents that: (1) it has investigated the work to be performed; (2) it has investigated the site of the work and is aware of all conditions there; and (3) it understands the difficulties and restrictions of the work under this Agreement. Should Contractor discover any conditions materially differing from those inherent in the work or as represented by District, it shall immediately inform District and shall not proceed, except at Contractor's risk, until written instructions or submittal approvals are provided by District.

Well 9: A well log and as built have been included with this year's annual maintenance. Please submit a proposal detailing the work to be performed and provide a quote for the performance of said work.

Booster #26 at Cresta Heights: An as built has been included with this year's annual maintenance. Please submit a proposal detailing the work to be performed and provide a quote for the performance of said work.

2) ADDITIONAL WELL REHABILITATION PROPOSALS

For all proposed rehabilitation work the Contractor shall submit a written report to CVWD stating the total well depth, current water level, general condition of component parts, and recommendations for repairs and/or replacements from the options provided above.

This report shall contain an itemized labor and material cost estimate of any necessary repairs to the well casing, well pump, electrical wiring, and any app and a proposed schedule for the completion of the work.

3) ADDITIONAL BOOSTER PUMP REPAIR/REHABILITATION PROPOSAL

Contractor shall submit a written proposal to CVWD stating the general condition of component parts, recommendations for repairs and for replacements, and the advisability of pump rehabilitation.

This proposal shall contain an itemized labor and material cost estimate of any necessary repairs to, or replacement of, any of the component parts, and a proposed schedule for the completion of the work.

4) REQUIRED STATEMENTS

A statement that all charges for services will be a "Not-To-Exceed" fee, as submitted with and made part of said contractor's cost proposal.

A copy of the contractor's hourly rate schedule and a written statement that states hourly rate schedule is part of the contractor's cost proposal for use in invoicing for progress payments and for extra work incurred that is not part of this RFP.

A written statement by the contractor that all federal laws and regulations shall be adhered to notwithstanding any state or local laws and regulations. In case of conflict between federal, state, or local laws or regulations, the strictest shall be adhered to.

A written statement by the contractor shall allow all authorized federal, state, county, and City officials access to place of work, books, documents, papers, fiscal, payroll materials, and other relevant contract records pertinent to this project. All relevant records shall be retained for at least three (3) years.

A sample of record keeping practices for both wells and booster pumps.

Provide at least three (3) references, past and present, using the same service being proposed and indicate the scope of work, date, and the name, email address, and telephone number of the client contact. Also, provide a complete list of other municipalities in California utilizing your services over the past five (5) years.

A current California contractor class "A" license and a current California C-57 license shall be included with proposal submittal. Include any other licenses as appropriate.

A written statement that the contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

A written statement that the contractor shall comply with the California Labor Code pursuant to said regulations entitled: Federal Labor Standards provisions; Federal Prevailing Wage Decision; and State of California Prevailing Wage Rates, respectively.

A written statement that the contractor shall comply with the Copeland Anti-kickback Act (18 USC 874 C) and the implementation regulation (29 CFR 3) issued pursuant thereto, and any amendments thereof.

CRESCENTA VALLEY WATER DISTRICT

STAFF REPORT

Information Item No. 3

October 5, 2022

To: Engineering Committee
From: David S. Gould, P.E. – Director of Engineering & Operations
Subject: Award of Contract - of Wastewater Treatment & Disposal Alternative Study- Project M-1037B

BACKGROUND:

Staff previously discussed that the Wastewater Master Plan (WWMP) was divided into separate RFPs, 1) Wastewater system analysis, and 2) Wastewater treatment & disposal alternative study. The WWMP was awarded to Kennedy Jenks in April 2022, however staff did not receive any proposals for the Wastewater Treatment & Disposal Alternative Study (Study) at that time. The Study included elements that needed to be investigated to develop an overall strategy for CVWD's wastewater treatment and disposal.

DISCUSSION:

Staff met with John Robinson Consulting (JRC) in August 2022 about the Study's original RFP and asked him to prepare a proposal based on the following scope of work.

Wastewater Treatment & Disposal Alternative Study

1. Prepare a Study including the following:
 - a) Determine wastewater characteristics based on information from the WWMP.
 - b) Identify potential wastewater treatment technologies and options including:
 - i. Identify potential permitting issues and regulatory requirements.
 - ii. Perform a preliminary site study to evaluate potential locations for alternative wastewater treatment systems.
 - iii. Evaluate potential uses of advanced treated, tertiary recycled water effluent for application within CVWD's service area or other benefit to CVWD via regional stakeholder partnerships such as groundwater recharge and large-scale irrigation.
 - iv. Identify potential stakeholders and partnerships that would impact project implementation and/or project costs for possible grant opportunities.
 - v. Identify potential CEQA considerations and requirements including a cursory environmental and public health risk assessment.
 - vi. Investigate the availability of grant funding options for the project.
 - vii. Develop multiple alternatives to consider (including status quo) to collect, treat, dispose, or reuse treated wastewater effluent.
 - viii. Determine a preliminary project implementation schedule, a not-to-exceed project cost estimate, and a preferred project delivery method.
 - ix. Update CVWD Groundwater Model, prepare recycled water model simulations, and estimate potential flows and storage.
2. Study should include recommendations for reducing CVWD's overall treatment costs and reducing annual costs to the City of Los Angeles.
3. Review CVWD's existing contract with the City of Los Angeles for treatment and disposal costs with respect to less wastewater going LA and future contract negotiations.

JRC provided a proposal (see attached) to prepare the Study utilizing a team from Kennedy Jenks and WSP Environment and Infrastructure, Inc. to accomplish the scope of work for the Study. The proposal also included a project schedule for the Study to be completed by July 2023, and a proposed fee of \$336,083. The budget for the Study was \$200,000 for FY 22/23 as part of the Sewer Expense for Administrative Consultants.

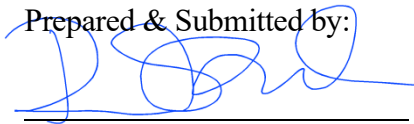
Staff has met with Glendale Water and Power (GWP) about participating in the Study since one of the alternatives would be to inject recycled water into the Verdugo Basin, which would benefit both CVWD and GWP. In addition, there was discussion about how Glendale could also reduce their flow to the City of Los Angeles bringing down their overall treatment expense. GWP indicated that they will be willing to share some of the costs of the Study. Staff plans to meet with GWP & Glendale Public Works to further discuss their involvement and cost sharing.

RECOMMENDATION:

It is staff's recommendation to bring this discussion to the Board of Directors for consideration regarding the scope of work and cost of the Study, including participation from GWP.

CVWD has also created a Water Supply Development & Management group that is looking into ways to sustain or increase CVWD's local water supply today and into the future. One of the elements the group is focusing on is utilizing available recycled water rights in exchange for access to storm water to recharge the Verdugo Basin.

Prepared & Submitted by:



David S. Gould, P.E.

Director of Engineering & Operations

Attachments:

1. John Robinson Consulting Proposal dated September 29, 2020.



September 29, 2022

Mr. David Gould
Director of Engineering and Operations
Crescenta Valley Water District
2700 Foothill Boulevard
La Crescenta CA 91214

Subject: Letter Proposal for 2022 Wastewater Treatment & Disposal Alternative Study
Crescenta Valley Water District Project M-1037B

Dear Mr. Gould:

John Robinson Consulting, Inc. (JR Consulting) and our subconsultants Kennedy Jenks Consultants, Inc. (KJ) and WSP Environment & Infrastructure Inc. (WSP) is pleased to offer is letter proposal to Crescenta Valley Water District (CVWD) based on our discussion on August 18th which reviewed the concept of a 2022 wastewater treatment and disposal alternative study that was advertised in March 2022 for CVWD's service area. The Study's goal is to prepare a wastewater treatment & disposal alternative study to investigate and review potential alternatives for future treatment and disposal systems that could reduce CVWD's costs to the City of Los Angeles while recharging the Verdugo Basin to assist offset imported water costs.

Our firm is a California S Corporation, is certified as Small Business Enterprise (SBE) by State of California Department of General Service and is located locally in Pasadena. This letter proposal outlines our recommended scope of service, schedule and compensation.

SCOPE OF SERVICES

Task 1 – Wastewater Characterization

Wastewater Flows: The Project Team will utilize data from the Wastewater Master Plan project currently under development by KJ to determine available current and future wastewater flows for the alternatives under evaluation for this Study. Dry weather and wet weather flows will be identified for 2025 and 2045 conditions.

Wastewater Quality: It is assumed that wastewater quality information is not available for the Study. Typical industry standards for urban wastewater will be utilized for the purposes of defining potential treatment systems with a focus on Los Angeles-Glendale Wastewater Treatment Plant since that is the discharge location for CVWD's wastewater. The Project will evaluate CVWD data for water quality characteristics of the nitrate system treatment brine that is disposed to the wastewater collection system.

Deliverable: *Data tables describing flow and quality characteristics (PDF).*

Task 2 – Preliminary Alternatives Development and Fatal Flaw Analysis

Task 2.1 Alternatives Development

Up to 12 project alternatives will be developed for the purposes of treatment and reuse of wastewater flows generated within CVWD's service area. The project alternatives may include the following potential concepts:

- Centralized or decentralized wastewater treatment for recycled water irrigation reuse
- Centralized wastewater and advanced water purification treatment for groundwater recharge
- Centralized wastewater treatment for recycled water sales to other utilities
- Nitrate treatment plant brine separation and treatment for irrigation or potable use
- Status quo – do nothing

The Project Team will coordinate with CVWD on the development of the project alternatives. Conceptual treatment technologies, design capacities, and project locations will be provided. Potential permitting issues and requirements will be identified. Potential stakeholders and partnerships that would impact project implementation and/or project costs will be identified. Potential CEQA considerations and requirements will be identified. An order-of-magnitude cost estimate, in \$10M increments, will be developed for each alternative.

For Status Quo project alternative, the Project team will determine estimated cost projections for wastewater treatment rates from City of Los Angeles and imported water rates (MWD) in order to provide comparisons for other alternatives lifecycle costs.

Task 2.2 Fatal Flaw Analysis

A fatal flaw analysis will be conducted on the preliminary project alternatives with input from CVWD staff, based on technical, institutional, regulatory, and financial criteria. The fatal flaw analysis will develop a short list of up to three (3) project alternatives for further analysis.

Deliverable:

- *One (1) table and up to two (2) figures will be developed to describe the initial alternatives (PDF)*
- *The fatal flaw analysis will be summarized in a table (PDF)*

Task 3. Short-List Alternatives Analysis

Task 3.1 Short-List Alternatives Development

The alternatives that are short-listed from the fatal flaw analysis will be further developed and will include the following:

- Facility sizing,
- General site layouts,

- AACE Class 5 Opinion of Probably Cost of Construction will be provided for up to three (3) alternatives;
- The cost impacts of each alternative will be summarized in a life cycle cost analysis that considers project capital and O&M costs, revenue generation, potable water cost offset, and wastewater disposal cost offset. The Project Team will review the City of Los Angeles Agreement including universal terms and specific terms and provide recommendations in anticipation of contract renewal in 2030;
- Quantification of potential recharge for each alternative and the associated equivalent water supply (i.e. estimate groundwater recovery);
- Identification of potential impacts and mitigation measures for each alternative to regional salt and nutrient management plan in association with the Basin Plan;
- The Project Team will for the alternatives include a sensitivity analysis on impact of climate change and drought (e.g. scenario with limited groundwater availability, limited imported water availability, and resulting cost impacts/alternative rankings);
- JRC will identify and provide a list of potential state and federal grant and low-interest loan funding programs for each alternative;
- A high-level staffing analysis will be provided for each alternative, which will identify required number of staff and certifications to operate the new facilities. The Project Team will utilize Section 64413.1 – Classification of Water Treatment Facilities to determine staffing requirements for each alternative because the proposed alternative technology for recycled water will be similar/comparable to drinking water;
- A preliminary project implementation schedule and project delivery method will be identified for each project alternative;

Deliverable: *A one-page project sheet will be developed for each alternative, which will consist of tables, figures describing alternatives, and engineers' opinion of probable costs.*

Task 3.2 Alternatives Analysis

The alternatives will be ranked based on a set of weighted evaluation criteria developed with CVWD staff, which may include cost impact, regulatory requirements, institutional challenges, sustainability, and construction factors. With input from CVWD staff, one or more alternatives will be recommended for further implementation.

Deliverable: *The alternatives ranking analysis will be summarized in a table (PDF)*

Task 4. Updated Groundwater Model and Recycled Water Model Simulations

JRC has added WSP to our Project Team in order to evaluation of conditions in the Verdugo Basin (Basin) related to the possible injection of treated wastewater into the Basin with eventual extraction as groundwater using Crescenta Valley Water District and potentially City of Glendale wells. The Project Team understands that this work will be performed for use by CVWD to allow modeling “runs” to evaluate the injection and extraction permitting discussions with relevant regulatory agencies. Important considerations for injection and extraction of treated water into a groundwater system include injection locations, depth of injection, groundwater

mounding and potential impacts to overlying structures, injection flow rates, volumes of injected water, mixing of injected water with local groundwater, and travel times for injected water to reach extraction wells where the water would be extracted and used for potable purposes.

WSP constructed a groundwater flow model for CVWD in 2005. The model was used to evaluate overall Basin groundwater conditions and possible recharge sites for surface water flows in the Basin. The most-recent update of the model includes water level, pumping, and other hydrologic data through 2002. In order to be of practical use for the evaluation of a treated water injection and extraction program, the model will need to be updated to year 2022 conditions.

Refer to [Attachment A](#) for the full scope of services for the updated groundwater model and recycled water modeling including:

Task 4.1 Update Groundwater Flow Model

Task 4.2 Model Simulations

Task 4.3 Technical Memorandum – Model Update and Evaluation of Injected Recycled Water Travel Times and Flow Paths

Task 5. *Report Preparation*

A Draft and Final Report will be developed summarizing the work conducted under this Study.

Task 5.1 Draft Report Preparation

The Draft Report shall include drawings, maps and graphics, reflecting the information gathered and prepared. A draft of the report shall be provided to CVWD staff for review.

Task 5.2 Final Report Preparation

A Final Report shall be prepared incorporating comments on the Draft Report.

5 Deliverable(s): *One (1) Draft Report (PDF) and One (1) Final Report (PDF)*

Task 6. *Project Management, QA/QC, and Meetings*

Task 6.1 Project Management

Project management activities will be performed to maintain the project schedule and budget, and communicate progress and issues with CVWD staff. Invoices will be prepared and submitted to CVWD on a monthly basis.

Task 6.2 QA/QC

Quality assurance and quality control (QA/QC) reviews will be performed throughout the course of this project. Work products will be reviewed prior to submittal to CVWD.

Task 6.3 Meetings and Workshops

The Project Team will attend an in-person kickoff meeting with CVWD staff. An agenda, meeting materials, and meeting notes will be prepared.

The Project team will attend up to four (4) in-person milestone meetings with CVWD staff to cover the following topics:

- Preliminary alternatives development
- Fatal flaw analysis
- Short-list alternatives development
- Short-list alternatives analysis & recommendations

An agenda, meeting materials, and meeting notes will be prepared for the milestone meetings.

The Project Team will:

- Attend up to two (2) in-person workshop meetings CVWD's Engineering Committee.
- Prepare and present one (1) formal in-person presentation to CVWD's Board of Directors.

Deliverable: *Meeting agendas, materials, and notes (PDF)*

TIME SCHEDULE

The Project Team will commence with the proposed scope of services after the Professional Services Agreement (PSA) has fully been executed. The Project Team proposes to complete the project within eight (8) months so it is available for Capital Improvement Project (CIP) planning for Fiscal Year 2023-3024.

The following milestone dates:

Milestones	Date
Notice to Proceed	11/3/2022
Draft Report Submittal	4/30/2023
CVWD Draft Report Comments	6/1/2023
Final Report Submittal	6/30/2023

COMPENSATION

The Project Team will provide the scope of services with the proposed schedule as set forth in this proposal to CVWD on a time and material basis. The compensation utilizes the \$165 per hours for John Robinson and the same rate schedule KJ is using for the CVWD Wastewater Master Plan. The proposed compensation is provided as *Attachment B*.

The entire Project Team commits to timely, responsive services, and to deliver excellence in the offered services. We are eager and enthusiastic to begin this effort for CVWD.

If there are any questions, please feel free to contact me at (626) 375-9389 or jrobinson@johnrobinsonconsulting.com

Very truly yours,

John Robinson Consulting, Inc.

A handwritten signature in blue ink, appearing to read "John Robinson", with a stylized flourish at the end.

John Robinson, Principal

ATTACHMENT A
WSP LETTER PROPOSAL DATED 09-29-22



September 29, 2022
2022CMO041-rev

1281 E. Alluvial Ave. #101
Fresno, CA 93720
+1 (559) 264-2535

wsp.com

John Robinson, Principal
John Robinson Consulting, Inc.
1055 E. Colorado Blvd., STE 500
Pasadena, CA 91106

Re: Proposal to Update Groundwater Model and Evaluate Movement of Injected Treated Water

Dear Mr. Robinson:

At your request, this letter presents a scope of work and estimated budget for evaluation of conditions in the Verdugo Basin (Basin) related to the possible injection of treated wastewater into the Basin with eventual extraction as groundwater using Crescenta Valley Water District wells. WSP Environment & Infrastructure Inc. (WSP) understands that this work will be performed for use by Crescenta Valley Water District (CVWD) in injection and extraction permitting discussions with relevant regulatory agencies. Important considerations for injection and extraction of treated water into a groundwater system include injection locations, depth of injection, groundwater mounding and potential impacts to overlying structures, injection flow rates, volumes of injected water, mixing of injected water with local groundwater, and travel times for injected water to reach extraction wells where the water would be extracted and used for potable purposes.

WSP (formerly Wood E&IS and Geomatrix) constructed a groundwater flow model for CVWD in 2005. The model was used to evaluate overall Basin groundwater conditions and possible recharge sites for surface water flows in the Basin. The most-recent update of the model includes water level, pumping, and other hydrologic data through 2002. In order to be of practical use for the evaluation of a treated water injection and extraction program, the model will need to be updated to year 2022 conditions.

Scope of Work

The scope of work has been divided into several tasks, described in the following paragraphs.

Task 1: Update Groundwater Flow Model

The Basin groundwater flow model, developed in 2005¹, will be updated so that it can be used to evaluate possible movement of injected treated water in the Basin and travel times and flow pathways to CVWD pumping wells. The Basin groundwater flow model was not designed for evaluating groundwater transport, and modification of the model for that purpose would require an extensive amount of work. The Basin groundwater flow model, however, can be used to evaluate groundwater flow paths, flow rates, and travel time by using particle-tracking simulations. Groundwater model simulations would be run for various Basin conditions and would include the introduction of particles at various potential injection well locations to simulate injected water flow paths in the groundwater system.

The existing groundwater flow model simulated the period June 1981 through December 2002. The model will be updated with data provided by CVWD, including CVWD pumping and water level data through December 2021 or June 2022 if data are available. As appropriate, we will review Upper Los Angeles River Area (ULARA) Watermaster annual reports to obtain pumping data for the City of Glendale wells in the Basin, and any other relevant data in these reports. The model will also be updated with estimated areal recharge and mountain front recharge/runoff using the US Geological Survey (USGS) Basin Characterization

¹ The groundwater flow model for the Verdugo Basin was developed as part of the Verdugo Basin Groundwater Recharge and Conjunctive Use Feasibility Study (CVWD Project E-713), prepared by WSP (legacy Geomatrix Consultants, Inc.), report dated May 2005.

Model (BCM) data sets. The model will be re-calibrated based on the updated information. Once the model is fully calibrated, it will be ready for use in Task 2 to evaluate treated water injection scenarios.

Additionally, the model would then be available for additional future model runs (not included in this scope of work) to evaluate various pumping scenarios, artificial recharge of surface water flows at Crescenta Valley County Park, or other conditions that CVWD would like to evaluate.

Task 2: Model Simulations

The updated groundwater flow model will be used for particle-tracking scenarios to evaluate possible movement of treated injected water. The number of particles introduced into the model for simulations will depend on the amount of CVWD would like to inject in specific areas in the Basin. For this task up to five simulations will be run including various injection locations and amounts and various CVWD pumping (extraction) scenarios.

We anticipate that this task will be iterative, with CVWD input prior to running future model scenarios. We anticipate that CVWD will have general locations where injection wells may be located and approximate volumes of treated water to be injected. Following initial discussions with CVWD, we will develop a list of possible model scenarios and discuss it with CVWD and agree on which scenarios should be run first. As scenarios are completed, we will discuss our findings with CVWD and agree on the configuration of remaining model scenarios to be run. Although flow of the injected water may vary based on less-than-average and greater-than-average rainfall years, for purposes of this study, modeling will be performed assuming that wet- and dry-year conditions are similar to historical conditions. Possible future conditions to be considered may include:

- ▶ Historical average CVWD extraction,
- ▶ Increased CVWD extraction, and
- ▶ One or multiple treated water injection locations.

Task 3: Technical Memorandum: Model Update and Evaluation of Injected Water Travel Times and Flow Paths.

For this task, we will prepare a Technical Memorandum summarizing the work performed and providing information to CVWD regarding the flow of injected water in the groundwater system, including rough estimates of the percentage of injected water that would be recovered by CVWD's extraction wells and the percentage that may flow to lower portions of the Basin where the City of Glendale has extraction wells. The technical memorandum will be an update of the Groundwater Modeling Appendix to the Verdugo Basin Groundwater Recharge and Conjunctive Use Feasibility Study (CVWD Project E-713), prepared by WSP (legacy Geomatrix Consultants, Inc.), report, dated May 2005. The technical memorandum will include particle tracking figures showing the modeled movement and travel times for injected water, and a summary of the various modeled scenarios, including travel times and rough percentages of injected water recovered by CVWD's extraction wells.

Estimated Cost and Contracting

We anticipate that the work described herein will be performed under our existing contract terms with CVWD and rates presented in Attachment 1 to this scope of work. The work will be performed on a time-and-materials basis. Table 1 presents the estimated labor hours and cost for the proposed work. The estimated not-to-exceed cost is \$121,100. If John Robinson Consulting or CVWD would like to have additional scenarios modeled or other work performed to support permitting efforts, costs will be developed depending on the work requested. Additional detail regarding estimated hours and costs for each task is presented in Attachment A.

If, during the course of the work described herein, we anticipate a change in the scope of work and anticipated costs for the work, we will notify John Robinson Consulting and CVWD promptly to discuss the anticipated changes.

Schedule

We can start work on the project within two weeks of authorization. Depending on the availability of data from CVWD and the ULARA Watermaster, we anticipate that the updated groundwater flow model will be ready for running of scenarios in approximately 12 weeks (3 months) from project start. Completion of up to five model scenarios, discussion of the results, and



preparation of the Technical Memorandum are anticipated to occur over a period of two to three months, depending on the availability of CVWD and John Robinson to discuss model scenarios and results.

At the outset of the project, we will refine the schedule for discussing scenarios and deliverables based on the availability of data from CVWD and CVWD availability for on-line meetings.

Closure

We appreciate the opportunity to provide this scope and cost estimate to you for continued work towards better understanding groundwater conditions in the Verdugo Basin that will help you and CVWD improve water system reliability and help reduce overall costs for CVWD.

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. was acquired by WSP. Due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. No other aspects of our legal entity or capabilities have changed for this proposal, including our Federal Tax ID which remains 91-1641772. Correspondence for this proposal should continue to be addressed to the undersigned.

Sincerely,

A handwritten signature in black ink, reading 'David M. Bean'.

David M. Bean, PG 5618, CHG 606
Principal Hydrogeologist
david.bean@wsp.com

A handwritten signature in black ink, reading 'Brad Loewen'.

Brad Loewen, PG 7252
Area Manager/Principal Geologist
brad.loewen@wsp.com

(Submitted Electronically)

Attachment: Table 1: Estimated Cost
Attachment A (Tables A and B): Additional Cost Estimate Detail

cc: David Gould, Crescenta Valley Water District

The information contained in all pages of this Proposal shall not be used in whole or in part for any purpose other than to evaluate this Proposal. Provided a Contract is awarded to this offer, as a result of or in connection with the submission of such information, Crescenta Valley Water District shall have the right to duplicate, use, or disclose the information to the extent provided in the resulting Contract. This restriction does not limit Crescenta Valley Water District's right to use information contained in this Proposal if it is obtained from another source without restriction. The information subject to this restriction incorporates the entire Proposal.



Table 1

Estimated Cost

Table 1 Estimated Costs
Update Groundwater Model and Evaluate
Movement of Injected Treated Water

Task Name	Labor Hours	Cost
Task 1: Update Groundwater Flow Model	202	\$ 47,337
Task 2: Run Model Predictive Simulations	237	\$ 53,561
Task 3: Technical Memorandum: Model Update and Evaluation of Injected Water Travel Times and Flow Paths	104	\$ 20,205
Total Estimated Labor and Costs	543	\$ 121,103
Optional Tasks	Labor Hours	Cost
Optional Task: To be Costed as Requested by CVWD	0	\$ -
Total Estimated Labor and Costs	543	\$ 121,103



Attachment A

Tables A and B: Additional Cost Estimate Detail

Table A
Estimated Level of Effort - Estimated Labor Hours Crescenta Valley Water District
Update Groundwater Model and Evaluate Movement of Injected Treated Water

Project Task Description	Project Level of Effort, in Person-hours						
	Principal	Senior Associate	Associate Engineer/ Hydro-geologist	Technical Professional Engineer/Hydro-geologist	Graphics/ Drafting/ Technician	Admin/ Clerical Support	TOTAL HOURS BY TASK OR SUBTASK
EVALUATION OF POTENTIAL MTBE							
Task 1: Update Groundwater Flow Model	60	120	0	0	20	2	202
Task 2: Model Simulations	75	120	0	0	40	2	237
Task 3: Technical Memorandum: Model Update and Evaluation of Injected Water Travel Times and	12	30	8	40	12	2	104
TOTAL ESTIMATED LABOR HOURS:	147	270	8	40	72	6	543
Optional Task: To be Costed as Requested by CVWD	0	0	0	0	0	0	0
TOTAL ESTIMATED LABOR HOURS-	147	270	8	40	72	6	543



Table B
Estimated Costs - Crescenta Valley Water District
Update Groundwater Model and Evaluate Movement of Injected Treated Water

Project Task Description	Project Costs									
	Principal	Senior Associate	Associate Engineer/ Hydro-geologist	Technical Professional Engineer/ Hydro-geologist	Graphics/ Drafting/ Technician	Admin/ Clerical Support	TOTAL LABOR COST BY TASK OR SUBTASK	Communication Charge	OTHER DIRECT COSTS	TOTAL COST BY TASK OR SUBTASK
EVALUATION OF INJECTED WATER FLOW	\$255	\$232	\$222	\$153	\$108	\$108		4% Labor		
Task 1: Update Groundwater Flow Model	\$ 15,300	\$ 27,840	\$ -	\$ -	\$ 2,160	\$ 216	\$ 45,516	\$ 1,821	\$ -	\$ 47,337
Task 2: Model Simulations	\$ 19,125	\$ 27,840	\$ -	\$ -	\$ 4,320	\$ 216	\$ 51,501	\$ 2,060	\$ -	\$ 53,561
Task 3: Technical Memorandum: Model Update and Evaluation of Injected Water Travel Times and Flow Paths	\$ 3,060	\$ 6,960	\$ 1,776	\$ 6,120	\$ 1,296	\$ 216	\$ 19,428	\$ 777	\$ -	\$ 20,205
TOTAL ESTIMATED COST:	\$ 37,485	\$ 62,640	\$ 1,776	\$ 6,120	\$ 7,776	\$ 648	\$ 116,445	\$ 4,658	\$ -	\$ 121,103
Optional Task: To be Costed as Requested by CVWD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL ESTIMATED LABOR HOURS-	\$ 37,485	\$ 62,640	\$ 1,776	\$ 6,120	\$ 7,776	\$ 648	\$ 116,445	\$ 4,658	\$ -	\$ 121,103

ATTACHMENT B
COMPENSATION

Attachment B - Proposal Fee Estimate (1)(2)

Classification:	Project Manager John Robinson	KJ									Total Hours	WSP (2)			KJ			Total Labor	Total Expenses	Total Labor + Subs + Expenses
		Eng-Sci-9 David F.	Eng-Sci-8	Eng-Sci-7 Paul C. David S. Walt M.	Eng-Sci-6 Janet H.	Eng-Sci-5	Eng-Sci-4 Kajori P.	Eng-Sci-3	Eng-Sci-2	Project Assistant		Labor	ODCs	ODCs Markup	Labor	ODCs	ODCs Markup			
Hourly Rate:	\$165	\$305	\$290	\$270	\$245	\$220	\$200	\$185	\$165	\$130	Hours	Fees	Fees	5%	Fees	Fees	5%			Fees
Task 1. Wastewater Characterization																				
Wastewater Flows and Quality	8			8			12				28	\$0		\$0	\$4,560		\$0	\$5,880	\$0	\$5,880
Task 1 - Subtotal	8	0	0	8	0	0	12	0	0	0	28	\$0	\$0	\$0	\$4,560	\$0	\$0	\$5,880	\$0	\$5,880
Task 2. Preliminary Alternatives Development and Fatal Flaw Analysis																				
2.1 Alternatives Development	48			40			80				168	\$0		\$0	\$26,800		\$0	\$34,720	\$0	\$34,720
2.2 Fatal Flaw Analysis	40			24			48				112	\$0		\$0	\$16,080		\$0	\$22,680	\$0	\$22,680
Task 2 - Subtotal	88	0	0	64	0	0	128	0	0	0	280	\$0	\$0	\$0	\$42,880	\$0	\$0	\$57,400	\$0	\$57,400
Task 3. Short-List Alternatives Analysis																				
3.1 Short-List Alternatives Development	24			54	8		110				196	\$0		\$0	\$38,540		\$0	\$42,500	\$0	\$42,500
3.2 Short-List Alternatives Analysis	58			16			40				114	\$0		\$0	\$12,320		\$0	\$21,890	\$0	\$21,890
Task 3 - Subtotal	82	0	0	70	8	0	150	0	0	0	310	\$0	\$0	\$0	\$50,860	\$0	\$0	\$64,390	\$0	\$64,390
Task 4. Updated Groundwater Model and Recycled Water Model Simulations																				
Three tasks supporting Updated Groundwater Model and Recycled Water Model Simulations	0			0			0				0	\$121,103		\$0	\$0		\$0	\$121,103	\$0	\$121,103
Task 4 - Subtotal	0	0	0	0	0	0	0	0	0	0	0	\$121,103	\$0	\$0	\$0	\$0	\$0	\$121,103	\$0	\$121,103
Task 5. Report Preparation																				
5.1 Draft Report Preparation	30			16			96				142	\$0		\$0	\$23,520		\$0	\$28,470	\$0	\$28,470
5.2 Final Report Preparation	20			8			48				76	\$0		\$0	\$11,760		\$0	\$15,060	\$0	\$15,060
Task 5 - Subtotal	50	0	0	24	0	0	144	0	0	0	218	\$0	\$0	\$0	\$35,280	\$0	\$0	\$43,530	\$0	\$43,530
Task 6. Project Management, QA/QC, and Meetings																				
6.1 Project Management				48						12	60	\$0		\$0	\$14,520		\$0	\$14,520	\$0	\$14,520
6.2 QA/QC	20	12		12							44	\$0		\$0	\$6,900		\$0	\$10,200	\$0	\$10,200
6.3 Meetings and Workshops											0							\$0		\$0
Kickoff and Milestone Meetings (5)	20			10			20				50	\$0		\$0	\$6,700	\$250	\$13	\$10,000	\$263	\$10,263
Engineering Committee and Board Meeting (3)	6			15			18				39	\$0		\$0	\$7,650	\$150	\$8	\$8,640	\$158	\$8,798
Task 6- Subtotal	46	12	0	85	0	0	38	0	0	12	193	\$0	\$0	\$0	\$35,770	\$400	\$20	\$43,360	\$420	\$43,780
All Tasks Total	274	12	0	251	8	0	472	0	0	12	1222	\$121,103	\$0	\$0	\$169,350	\$400	\$20	\$335,663	\$420	\$336,083

(1) JRC does not mark up subconsultant invoices
(2) Refer to Attachment B for compensation breakdown for WSP

CRESCENTA VALLEY WATER DISTRICT

STAFF REPORT

Information Item No. 4

October 5, 2022

To: Engineering Committee

From: David S. Gould, P.E. – Director of Engineering & Operations

Subject: Status Update - FY 21/22 & FY 22/23 Capital Improvement Project Budget

DISCUSSION:

The following is an update of the FY 21/22 & 22/23 Capital Improvement Project status and budget update. In addition, included is an update of CIP priority list for discussion.

1. 2800 to 3100 Blocks of Los Olivos (E-1033)

- a. Construction Started – March 8, 2022
- b. Installed 3,400 LF of pipeline and eighty-seven (87) water services to date
- c. Complete

2. 3200 Block of Alabama 4700 Block of Cheryl (E-1034)

- a. Under Construction
- b. End Construction – November 2022

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22	E-Job	Recorded FY 21/22	Budget FY 22/23	<u>FY 22/23</u> Cost to date from 7/1/22 to 9/30/22	<u>FY 22/23</u> Cost Committed from 10/1/22 to 6/30/23	Projected EOY FY 22/23	Total Cost
<i>2800 to 3100 blocks of Los Olivos Lane - 3,400 LF</i>	E-1033	\$996,633	\$442,000	\$322,275	\$155,000	\$477,275	\$1,473,908
<i>4700 Block of Cheryl & 3200 Block of Alabama - 1,750 LF</i>	E-1034	\$248,413	\$615,637	\$33,383	\$586,620	\$620,003	\$868,415

3. Steel Reservoir Rehabilitation

- a. Edmund #2 (E-1036)
 - i. Rehabilitation Contract awarded to J. Colon Coatings Inc.
 - ii. Work Complete and Reservoir has been returned to service
- b. Goss Canyon #1 (E-1053)
 - i. Design – Harper & Associated Engineering
 - ii. Advertise for Bids – October 11, 2022
 - iii. Construction – January 2023

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22	E-Job	Recorded FY 21/22	Budget FY 22/23	<u>FY 22/23</u> Cost to date from 7/1/22 to 9/30/22	<u>FY 22/23</u> Cost Committed from 10/1/22 to 6/30/23	Projected EOY FY 22/23	Total Cost
<i>Edmund #2 - Reservoir Rehabilitation</i>	E-1036	\$644,495	\$53,772	\$ 42,432	\$ -	\$42,432	\$686,927
<i>Goss Canyon #1 - Reservoir Rehabilitation</i>	E-1053		\$800,000	\$ 75	\$ 799,925	\$800,000	\$800,000

4. Replacement of SCADA Equipment, Programing & Integration (E-939)

- a. Project Schedule – April 2022 to October 2023
- b. APEX – Programing & Integration
- c. Sites Completed – Wells 5, 7, 8, 9, 11, 14 & 16, Ramsdell Mixing Station & Glendale/CVWD Interconnection
- d. Sites Pending Integration (2022)
 - i. Encinal Reservoir – October 2022
 - ii. Glenwood Plant with Wells 6, 10, 12 & 15 – November 2022
 - iii. Mills Plant with Well 1 – December 2022

e. Radio Communication Upgrade – Moved to FY 23/24

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22	E-Job	Recorded FY 21/22	Budget FY 22/23	<u>FY 22/23</u> Cost to date from 7/1/22 to 9/30/22	<u>FY 22/23</u> Cost Committed from 10/1/22 to 6/30/23	Projected EOY FY 22/23	Total Cost
<i>Communication Radio Network</i>	E-1025	\$ 17,610	\$ 50,000	\$ -	\$ 50,000	\$ 50,000	\$ 67,610
<i>SCADA Replacement - Installation</i>	E-939	\$ 354,580	\$ 395,000	\$ 37,329	\$ 357,671	\$395,000	\$ 749,580

5. **AMI – Customer Engagement Platform (E-1035)**

- Customer Portal layout and content by WaterSmart completed
- Tentative Launch Date – November 1, 2022

6. **AMI – Installation of ¾” & 1” meters (E-1035)**

- Installation of ¾” & 1” meters within Zone 1
 - Installed 453 meters to-date
 - Zone 1 estimated completion by end of November

7. **AMI – Installation of 3” & 4” meters (E-1031) – USBR Grant**

- Site Survey – June to October 2022
- Install and connect 32 – 3" & 4" meters starting in September 2022

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22	E-Job	Recorded FY 21/22	Budget FY 22/23	<u>FY 22/23</u> Cost to date from 7/1/22 to 9/30/22	<u>FY 22/23</u> Cost Committed from 10/1/22 to 6/30/23	Projected EOY FY 22/23	Total Cost
<i>AMI - Communication</i>	E-1020	\$ 111,847	\$ -	\$ 9,511	\$ -	\$ 9,511	\$ 121,358
<i>AMI - Customer Service Interface</i>	E-1035	\$ 57,402	\$ 26,000	\$ -	\$ 26,000	\$ 26,000	\$ 83,402
<i>GRANT - 1-1/2" Smart Meters - USBR Grant</i>	E-1041	\$ 1,664	\$ 335,000	\$ -	\$ 335,000	\$335,000	\$ 336,664
<i>AMI - Meter Lids - Zones 9, 10 & 11</i>	E-1054		\$ 220,000	\$ -	\$ 220,000	\$220,000	\$ 220,000
<i>GRANT - 3" & 4" Smart Meters</i>	E-1031	\$ 56,165	\$ 144,000	\$ -	\$ 144,000	\$144,000	\$ 200,165

8. **Conversion of Disinfection System to Chloramines (E-1052)**

- Awarded Contract to Brown & Caldwell
- Kickoff Meeting – October 18, 2022

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22	E-Job	Recorded FY 21/22	Budget FY 22/23	<u>FY 22/23</u> Cost to date from 7/1/22 to 9/30/22	<u>FY 22/23</u> Cost Committed from 10/1/22 to 6/30/23	Projected EOY FY 22/23	Total Cost
<i>Conversion to Chloramination</i>	E-1052	\$ -	\$ 100,000	\$ -	\$ 124,934	\$124,934	\$ 124,934

9. **FEMA Local Hazard Mitigation Plan (M-1004)**

- Project 1 – New emergency electrical generators at 5 sites
 - New stationary generators at Mills Plant, Paschall Booster Station, & Wells 5, 7 & 9
 - Preliminary cost – \$1.5M
 - 75% reimbursement from Cal OES - \$1.125M
 - 25% reimbursement from CVWD - \$375,000
- Project 2 – Seismic Evaluation of CVWD’s facilities application
 - Facilities Seismic Vulnerability Study for Main Office and Glenwood Building
 - Preliminary cost – \$100,100
 - 75% reimbursement from Cal OES – \$75,075
 - 25% reimbursement from CVWD – \$25,025

10. **New Pressure Reducing Station & Rehabilitation of the Ramsdell Mixing Station (E-977)**

- 90% design under review by staff
- Complete the design in FY 22/23 and construction in FY 23/24

FY 21/ 22 Capital Improvement Project Program Cost Update: 06/21/22	E-Job	Recorded FY 20/21	Budget FY 21/22	FY 21/22 Cost to date from 7/1/21 to 5/31/22	FY 21/22 Cost Committed from 6/1/22 to 6/30/22	Projected FY 21/22
Upgrade to Ramsdell Mixing Station - Design	E-977	\$ 2,869	\$ 728,000	\$ 48,594	\$ 1,406	\$ 50,000

11. Well 9 Rehabilitation

- a. Annual Contract for Booster Pump and Well Capital Improvement, Emergency Response, and Maintenance Services

12. Booster 26 at Cresta Heights Replacement

- a. Annual Contract for Booster Pump and Well Capital Improvement, Emergency Response, and Maintenance Services

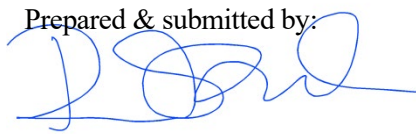
13. Wastewater Master Plan

- a. GIS and Hydraulic Model Update in Progress

SUMMARY:

Staff continues to provide updated information to the Engineering Committee as the FY 21/22 & FY 22/23 CIP program progresses over the next month.

Prepared & submitted by:



David S. Gould, P.E.
Director of Engineering & Operations

g:\engineering committee\2022 ec memo\10-05-22 ec-m memo - fy 22-cip update 6.docx

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22		Recorded FY 21/22	Budget FY 22/23	<u>FY 22/23</u> Cost to date from 7/1/22 to 9/30/22	<u>FY 22/23</u> Cost Committed from 10/1/22 to 6/30/23	Projected FY 22/23
FY 2022/23 Capital Improvement Project Summary						
1. Water Supply	\$	8,942	\$ 219,000	\$ -	\$ 165,150	\$ 165,150
2. Water Storage	\$	672,968	\$ 853,772	\$ 42,507	\$ 801,493	\$ 844,000
3A. Water Distribution - Pipeline	\$	1,985,855	\$ 2,408,137	\$ 355,658	\$ 2,052,120	\$ 2,407,778
3B. Water Distribution - Other	\$	48,594	\$ 99,310	\$ -	\$ 99,310	\$ 99,310
4. Water Treatment	\$	-	\$ 100,000	\$ -	\$ 124,934	\$ 124,934
5. Technology	\$	599,268	\$ 1,170,000	\$ 46,841	\$ 1,132,671	\$ 1,179,511
6. Public Safety/Emergency Response	\$	55,928	\$ 170,000	\$ -	\$ 170,000	\$ 170,000
7. Facilities & Planning	\$	-	\$ -	\$ -	\$ -	\$ -
Capital Improvement Projects - Total	\$	3,371,555	\$ 5,020,219	\$ 445,005	\$ 4,545,678	\$ 4,990,683

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22		Recorded FY 21/22	Budget FY 22/23	FY 22/23 Cost to date from 7/1/22 to 9/30/22	FY 22/23 Cost Committed from 10/1/22 to 6/30/23	Projected FY 22/23
1. Water Supply						
A. Groundwater Water Supply						
i. Well Rehabilitation						
	Well 12 Rehabilitation	\$ 4,548				
	Well 14 Rehabilitation		\$ 144,000	\$ -	\$ 144,000	\$ 144,000
iii. Groundwater Basin Recharge						
	Stormwater Recharge Project at CVC Park - Planning	\$ 4,394	\$ 75,000	\$ -	\$ 21,150	\$ 21,150
WS Total		\$ 8,942	\$ 219,000	\$ -	\$ 165,150	\$ 165,150
2. Water Storage						
A. Reservoir Rehabilitation						
i. Steel Reservoir Rehabilitation						
	Rosemont	\$ 26,885				
	Oak Creek - 16" Manifold Repair	\$ 1,588				
	Edmund #2	\$ 644,495	\$ 53,772	\$ 42,432	\$ 1,568	\$ 44,000
	Goss Canyon #1		\$ 800,000	\$ 75	\$ 799,925	\$ 800,000
WS Total		\$ 672,968	\$ 853,772	\$ 42,507	\$ 801,493	\$ 844,000
3. Water Distribution						
A. Pipeline Replacement						
	FY 20/21 Pipeline Replacement	\$ 740,809				
	2800 to 3100 blocks of Los Olivos Lane - 3,400 LF	\$ 996,633	\$ 442,000	\$ 322,275	\$ 135,000	\$ 457,275
	4700 Block of Cheryl & 3200 Block of Alabama - 1,750 LF	\$ 248,413	\$ 615,637	\$ 33,383	\$ 566,620	\$ 600,003
	Project 1: 2600 & 2700 Block of Orange (2425 LF)		\$ 1,350,500	\$ -	\$ 1,350,500	\$ 1,350,500
	Annual Pipeline Replacement		\$ 2,408,137	\$ 355,658	\$ 2,052,120	\$ 2,407,778
C. Booster Pump System						
i. Annual Pump /Motor Replacement						
	Annual Booster Replace - 1 Booster	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ 50,000
iii. Misc.						
	Upgrade - Ramsdell Mixing Station	\$ 48,594	\$ 49,310	\$ -	\$ 49,310	\$ 49,310
WD Total		\$ 2,034,450	\$ 2,507,447	\$ 355,658	\$ 2,151,430	\$ 2,507,088
4. Water Treatment						
C. Disinfection - Convert to Chloramines						
	Conversion to Chloramination	\$ -	\$ 100,000	\$ -	\$ 124,934	\$ 124,934
WT Total		\$ -	\$ 100,000	\$ -	\$ 124,934	\$ 124,934

FY 2022/23 Capital Improvement Project Program Cost Update: 10/05/22		Recorded FY 21/22	Budget FY 22/23	<u>FY 22/23</u> Cost to date from 7/1/22 to 9/30/22	<u>FY 22/23</u> Cost Committed from 10/1/22 to 6/30/23	Projected FY 22/23
5. Technology						
A. Automated Meter Information (AMI) System						
AMI - Communication	\$	111,847	\$ -	\$ 9,511	\$ -	\$ 9,511
GRANT - 3" & 4" Smart Meters	\$	56,165	\$ 144,000	\$ -	\$ 144,000	\$ 144,000
AMI - 3/4" to 1" - Smart Meters	\$	-				
AMI - Customer Service Interface	\$	57,402	\$ 26,000	\$ -	\$ 26,000	\$ 26,000
GRANT - AMI - USBR Water Efficiency Grant						
GRANT - 1-1/2" Smart Meters - USBR Grant	\$	1,664	\$ 335,000	\$ -	\$ 335,000	\$ 335,000
AMI - Meter Lids - Zones 9, 10 & 11			\$ 220,000	\$ -	\$ 220,000	\$ 220,000
B. Supervisory Control and Data Acquisition (SCADA) System						
Communication Radio Network	\$	17,610	\$ 50,000	\$ -	\$ 50,000	\$ 50,000
SCADA Replacement - Installation	\$	354,580	\$ 395,000	\$ 37,329	\$ 357,671	\$ 395,000
TECH Total	\$	599,268	\$ 1,170,000	\$ 46,841	\$ 1,132,671	\$ 1,179,511
6. Public Safety/Emergency Response						
A. Emergency Electrical Generators						
New Emergency Electrical Generator - Paschall			\$ 35,000	\$ -	\$ 35,000	\$ 35,000
New Emergency Electrical Generator - Mills Plant			\$ 35,000	\$ -	\$ 35,000	\$ 35,000
New Emergency Electrical Generator - Wells 5, 7 & 9			\$ 100,000	\$ -	\$ 100,000	\$ 100,000
D. Miscellaneous						
FEMA Local Hazard Mitigation Plan	\$	55,928				
SF/ER Total	\$	55,928	\$ 170,000	\$ -	\$ 170,000	\$ 170,000
7. Facilities & Planning						
F & P Total	\$	-	\$ -	\$ -	\$ -	\$ -
Capital Improvement Projects - Total	\$	3,371,555	\$ 5,020,219	\$ 445,005	\$ 4,545,678	\$ 4,990,683

Crescenta Valley Water District FY 22/23 Capital Improvement Project Priority List - Update 10/05/22					
Capital Improvement Project Program	Budget FY 22/23	Category	Priority	Cumulative Estimated Costs	Project Description
Annual Pipeline Replacement - 3,055 LF and FY 21/22 Pipeline Carryover Costs	\$ 2,408,137	Water Distribution	1	\$ 2,408,137	Pipeline Replacement - Project 1 - 2600 & 2700 blocks of Orange and 5000 Block of Adobe Ln and Carryover from FY 21/22
Steel Reservoir Rehabilitation - Edmund #2 & Goss Canyon #1	\$ 853,772	Water Storage	1	\$ 3,261,909	Reservoir Rehabilitation - Structural repairs and re-coating at Goss Canyon #1 Reservoir during low demand (Winter) season
Replacement - SCADA System	\$ 395,000	Technology	1	\$ 3,656,909	Replacement of SCADA System - <u>Continuation from FY 21/22</u> - Completion of the replacement of RTU/PLC Equipment including new equipment, programing, integration and testing
AMI - Replace 3" & 4" Smart Meters with SmartPoints (Grant)	\$ 144,000	Technology	1	\$ 3,800,909	Advanced Metering Infrastructure (AMI) - <u>Continuation from FY 21/22</u> Install 3" & 4" water meters with SmartPoints - USBR Grant
Disinfection - Conversion to Chloramines	\$ 100,000	Water Treatment	1	\$ 3,900,909	Disinfection Changeover - Utilizing a consultant to assist operations staff with conversion, monitoring and standard operating procedures
Well 14 Rehabilitation	\$ 144,000	Water Supply	2	\$ 4,044,909	Well Rehabilitation - Remove & Inspect Well Pump & Casing, Chemical Treatment Well Casing, Pump Test, New Pump & Motor
Annual Booster Pump Replacement	\$ 50,000	Water Distribution	2	\$ 4,094,909	Booster Pump Replacement - Replace 15-yr and older booster pump with new pump assembly and high efficiency motor - Replace Booster 26 at Cresta Heights Reservoir
AMI - Replace 1-1/2" Meters (Grant)	\$ 335,000	Technology	2	\$ 4,429,909	Advanced Metering Infrastructure (AMI) - Replace 1-1/2" Meters - USBR Grant
AMI - Zone 9, 10, & 11 - Install Meter Lids & SmartPoints	\$ 246,000	Technology	2	\$ 4,675,909	Advanced Metering Infrastructure (AMI) - Install SmartPoints & Meter Lids in Zones 9, 10 & 11
New Emergency Electrical Generator - Design	\$ 170,000	Public Safety	2	\$ 4,845,909	New Emergency Electrical Generator - Design of a Stationary 200kW Emergency Electrical Generators at the Mills Plant & Paschall Booster Station; 3 - 70kW Emergency Electrical Generator at Wells 5, 7 & 9 - Cal OES Grant
Stormwater Recharge CVC Park - Planning	\$ 75,000	Water Supply	2	\$ 4,920,909	Stormwater Recharge - <u>Continuation from FY 20/21</u> - Concept plan, grant funding options and coordination with stakeholders
Annual Pipeline Replacement - 1,650 LF	\$ -	Water Distribution	3	\$ 4,920,909	Pipeline Replacement - Project 2 - 3000 & 3100 Blocks of Alabama
Replacement - Communication Radio Network	\$ 50,000	Technology	3	\$ 4,970,909	Replacement of SCADA Radio Communication System - <u>Continuation from FY 21/22</u> - Completion to Upgrading Radio System to 5.8GHz radios
Seismic Vulnerability Study - Main Office & Glenwood Plant	\$ -	Facilities & Planning	3	\$ 4,970,909	Seismic Vulnerability Study - at Main Office & Glenwood Plant - Cal OES Grant
Annual Pipeline Replacement - 1,150 LF	\$ -	Water Distribution	4	\$ 4,970,909	Pipeline Replacement - Project 3 - 3400 & 3500 Blocks of Montrose (1150 LF)
Annual Pipeline Replacement - 1,380 LF	\$ -	Water Distribution	4	\$ 4,970,909	Pipeline Replacement - Project 4 - 2400 - 2600 Blocks of Upper Terrace (1380 LF)
PRS - Zone 2 to Zone 1/Upgrade - Ramsdell Mixing Station	\$ 49,310	Water Distribution	4	\$ 5,020,219	New Pressure Reducing Station & Upgrade Ramsdell Mixing Station - <u>Continuation from FY 21/22</u> - Construction of PRS from Zone 2 to zone 1 & Upgrade to Ramsdell Mixing Station
Pay-Go Total	\$ 5,020,219				
Notes: Priority Level 1: Projects MUST be constructed during FY 22/23 Priority Level 2: Projects SHOULD be constructed during FY 22/23 Priority Level 3: Projects Could Be Postponed to FY 23/24 (Unless Awarded Grant) Priority Level 4: Projects Postponed to FY 23/24 or later					