

AGENDA FOR A REGULAR MEETING OF THE BOARD OF DIRECTORS
OF THE VALLECITOS WATER DISTRICT
WEDNESDAY, AUGUST 7, 2019, AT 5:00 P.M.
AT THE DISTRICT OFFICE
201 VALLECITOS DE ORO, SAN MARCOS, CALIFORNIA

CALL TO ORDER – PRESIDENT MARTIN

PLEDGE OF ALLEGIANCE

ROLL CALL

In the case of an emergency, items may be added to the Agenda by a majority vote of the Board of Directors. An emergency is defined as a work stoppage; a crippling disaster; or other activity which severely imperils public health, safety, or both. Also, items which arise after the posting of the Agenda may be added by a two-thirds vote of the Board of Directors.

ADOPT AGENDA FOR THE REGULAR MEETING OF AUGUST 7, 2019

PUBLIC COMMENT

Persons wishing to address a matter not on the Agenda may be heard at this time; however, no action will be taken until the matter is placed on a future agenda in accordance with Board policy. Public comments are limited to three minutes. A Request to Speak form is required to be submitted to the Executive Secretary prior to the start of the meeting, if possible. Public comment should start by stating name, address and topic. The Board is not permitted during this time to enter into a dialogue with the speaker.

NOTICE TO THE PUBLIC

All matters listed under the Consent Calendar will be voted upon by one motion. There will be no separate discussion of these items, unless a Board member or member of the public requests that a particular item(s) be removed from the Consent Calendar, in which case it will be considered separately under Action Items.

CONSENT CALENDAR

- 1.1 APPROVAL OF MINUTES (pp. 5-16)
 - A. REGULAR BOARD MEETING – JULY 17, 2019
 - B. FINANCE/INVESTMENT COMMITTEE MEETING – JULY 29, 2019

Approved minutes become a permanent public record of the District.

Recommendation: Approve Minutes

- 1.2 WARRANT LIST THROUGH AUGUST 7, 2019 – \$7,167,672.79 (pp. 17-19)

Recommendation: Approve Warrant List

- 1.3 OPERATIONS & MAINTENANCE METRICS QUARTERLY REPORT – JUNE 30, 2019 (pp. 20-27)

- 1.4 CONSTRUCTION CONTRACT ACCEPTANCE FOR SOLAR PANEL INVERTER REPLACEMENT (pp. 28-31)

All construction work has been completed.

Recommendation: 1) Accept Project; 2) Authorize the Filing of a Notice of Completion and Release of Retention Funds

- 1.5 NOTICE OF DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE DISTRICT WIDE SOLAR PROJECT (pp. 32-35)

The District is required to send the Notice of Preparation, Initial Study, and draft Mitigated Negative Declaration to agencies and interested parties concerned with the project.

Recommendation: Authorize Circulation of the Notice of Preparation, Initial Study and Draft Mitigated Negative Declaration

- 1.6 WATER COST OF SERVICE STUDY CONSULTANT SELECTION (pp. 36-41)

The Water Cost of Service Study will require the selected firm to evaluate the District's existing tiered water rate structure.

Recommendation: Authorize General Manager to enter into a contract with Raftelis Financial Consultants, Inc.

*****END OF CONSENT CALENDAR*****

ACTION ITEMS

- 2.1 PRESENTATION OF SAN MARCOS GROUNDWATER BASIN SUPPLY OPTIONS EVALUATION (pp. 42-45)

The Board has expressed interest in exploring the possibilities of utilizing the San Marcos Groundwater Basin for a new water source for the District.

Recommendation: Request Board direction

- 2.2 MODIFICATION OF WATER AND WASTEWATER CAPITAL FACILITY FEES
(pp. 46-105)

The District Water and Wastewater Capital Facilities Fees are scheduled for an update.

Recommendation: 1) Hold a public meeting; and 2) Adopt Ordinance

- 2.3 ORDINANCE ESTABLISHING ADMINISTRATIVE CHARGES TO RECOVER
INDIRECT COSTS FOR FISCAL YEAR 2019-20 (pp. 106-111)

The proposed ordinance maintains the District's desire to recover all administrative expenses incurred in connection with providing direct services.

Recommendation: Adopt Ordinance

- 2.4 SET PUBLIC HEARING FOR REPORT ON DISTRICT WATER QUALITY RELATIVE
TO PUBLIC HEALTH GOALS (pp. 112-150)

The law requires that a public hearing be held for the purpose of accepting and responding to public comment on the report.

Recommendation: Set Public Hearing

- 2.5 CALL FOR BALLOTS – SAN DIEGO COUNTY CONSOLIDATED
REDEVELOPMENT OVERSIGHT BOARD (pp. 151-153)

All independent special districts in San Diego County are eligible to cast one vote to elect one representative to serve on the San Diego County Consolidated Redevelopment Oversight Board.

Recommendation: Request Board direction

*****END OF ACTION ITEMS*****

REPORTS

- 3.1 GENERAL MANAGER
3.2 DISTRICT LEGAL COUNSEL
3.3 SAN DIEGO COUNTY WATER AUTHORITY
3.4 ENCINA WASTEWATER AUTHORITY
- Capital Improvement Committee
- Policy and Finance Committee

3.5 STANDING COMMITTEES

3.6 DIRECTORS REPORTS ON MEETINGS/CONFERENCES/SEMINARS ATTENDED

*******END OF REPORTS*******

OTHER BUSINESS

4.1 MEETINGS (pp. 154-156)

California Association of Sanitation Agencies 64th Annual Conference
August 21-23, 2019 – Manchester Grand Hyatt, San Diego, CA

*******END OF OTHER BUSINESS*******

5.1 DIRECTORS COMMENTS/FUTURE AGENDA ITEMS

*******END OF DIRECTORS COMMENTS/FUTURE AGENDA ITEMS*******

6.1 ADJOURNMENT

*******END OF AGENDA*******

If you have any disability which would require accommodation in order to enable you to participate in this meeting, please call the Executive Secretary at 760.744.0460 ext. 264 at least 48 hours prior to the meeting.

Audio and video recordings of all Board meetings are available to the public at the District website www.vwd.org

AFFIDAVIT OF POSTING

I, Diane Posvar, Executive Secretary of the Vallecitos Water District, hereby certify that I caused the posting of this Agenda in the outside display case at the District office, 201 Vallecitos de Oro, San Marcos, California by 5:30 p.m., Friday, August 2, 2019.

Diane Posvar

MINUTES OF A REGULAR MEETING OF THE BOARD OF DIRECTORS
OF THE VALLECITOS WATER DISTRICT
WEDNESDAY, JULY 17, 2019, AT 5:00 PM AT THE DISTRICT OFFICE,
201 VALLECITOS DE ORO, SAN MARCOS, CALIFORNIA

President Martin called the Regular meeting to order at the hour of 5:00 p.m.

Finance Manager Owen led the pledge of allegiance.

Present: Director Elitharp
Director Evans
Director Hernandez
Director Martin

Absent: Director Sannella

Staff Present: General Manager Pruim
Legal Counsel Gilpin
Administrative Services Manager Emmanuel
District Engineer Gumpel
Finance Manager Owen
Operations & Maintenance Manager Pedrazzi
Capital Facilities Senior Engineer Hubbard
Development Services Senior Engineer Scholl
Information Technology Supervisor Labarrere
Public Information/Conservation Supervisor Robbins
Executive Secretary Posvar

ADOPT AGENDA FOR THE REGULAR MEETING OF JULY 17, 2019

19-07-01 MOTION WAS MADE by Director Hernandez, seconded by Director Elitharp, and carried unanimously, with Director Sannella absent, to adopt the agenda for the Regular Board Meeting of July 17, 2019.

PUBLIC COMMENT

Mike Hunsaker, member of the public, addressed the Board asking how fire line charges are established as this information is not explained in the financial reports. He believes the District has a rate of approximately \$5.87. Is there a budget request or is this just included in the General Fund? He stated that when new bonds are issued in the future, he hopes the District will apply a more ratepayer friendly option as far as the covenant is concerned such as getting a high rating based on some assurance that the bond holders will get paid. Ways to accomplish this include 1) buying insurance; 2) maintaining a reserve of six months to a year; or 3) charging 15% above operating costs each and every year. The third option is the costliest to ratepayers and was done the last time bonds were issued. He hopes the District does not choose that option again. He thanked the Board.

INTRODUCTIONS

Human Resources Analyst Bridget Anderson introduced new employees, Jesse Alegre, Construction Worker I, and Jaime Tovar, Construction Worker I.

PRESENTATION

Public Information/Conservation Supervisor Robbins presented certificates and gift cards to Zofia Dowd and Sierra Whiteside, two of the top four entrants in the Poster Contest selected to represent Vallecitos Water District in the North County Water Agencies' 2020 calendar. Other top four entrants Skylar Groke and Lia VanderJagt were unable to attend the presentation.

CONSENT CALENDAR

19-07-02 MOTION WAS MADE by Director Hernandez, seconded by Director Elitharp, and carried unanimously, with Director Sannella absent, to approve the Consent Calendar as presented.

1.1 Approval of Minutes

- A. Closed Session Board Meeting – June 13, 2019
- B. Special Board Meeting – June 13, 2019
- C. Finance/Investment Committee Meeting – June 17, 2019
- D. Regular Board Meeting – June 19, 2019
- E. Public Awareness/Personnel/Policy Committee Meeting – June 25, 2019

1.2 Warrant List through July 17, 2019 - \$6,578,466.82

1.3 Financial Reports

- A. Water Meter Count – June 30, 2019
- B. Water Production/Sales Report – 2018/2019
- C. Quarterly Financial Report – June 30, 2019
- D. Per Capita Water Consumption – June 30, 2019
- E. Water Revenue and Expense Report – June 30, 2019
- F. Sewer Revenue and Expense Report – June 30, 2019
- G. Reserve Funds Activity – June 30, 2019
- H. Investment Report – June 30, 2019
- I. Legal Fees Summary – June 30, 2019

1.4 Appropriations Limit for Fiscal Year 2019/20

PUBLIC HEARING

PUBLIC HEARING TO ADOPT A RESOLUTION OF THE BOARD OF DIRECTORS OF THE VALLECITOS WATER DISTRICT APPROVING THE SEWER SERVICE FEES TO BE COLLECTED ON THE TAX ROLL FOR IMPROVEMENT DISTRICT "A" FOR THE FISCAL YEAR JULY 1, 2019 TO JUNE 30, 2020

President Martin opened the hearing as duly noted and posted to collect sewer service fees on the tax roll. The hearing opened at 5:07 p.m.

Finance Manager Owen stated the Board adopted Resolution No. 1554 on June 19, 2019 electing to collect sewer service fees on the tax roll for Improvement District "A" which includes all parcels that receive sewer service but not water service. The sewer service fees will be collected by the County of San Diego and then transferred to the District. The public hearing is required to receive public input on this item.

Staff recommended the Board adopt the resolution authorizing the sewer service fees for Improvement District "A" to be collected on the tax roll.

There being no persons wishing to address the Board, President Martin closed the hearing at 5:08 p.m.

19-07-03 MOTION WAS MADE by Director Evans, seconded by Director Hernandez, and carried unanimously, with Director Sannella absent, to adopt the resolution.

Resolution No. 1557 - The roll call vote was as follows:

AYES: Elitharp, Evans, Hernandez, Martin

NOES:

ABSTAIN:

ABSENT: Sannella

ACTION ITEMS

AUTHORIZATION TO EXECUTE A LEASE AGREEMENT AND NEGOTIATE CONTRACT TERMS WITH AIS FOR LEASE AND MAINTENANCE OF XEROX MULTI-FUNCTION PRINTERS

Information Technology Supervisor Labarrere stated staff has performed an analysis of the District's current printer fleet to determine the number of copies made and types of jobs performed on each of the existing machines. This information and other considerations were taken into account to assess the current organizational print needs throughout the District. Staff issued a Request for Proposal (RFP) on May 1, 2019

which included replacement of the entire fleet and the addition of three vendor-supported printers which were not under a current maintenance contract.

Information Technology Supervisor Labarrere further stated AIS was selected as the preferred vendor of choice as they provided the most cost competitive/conscious solution which is estimated to save the District up to \$150,000 over the course of a 60-month term. Proposed support and maintenance as well as provision of consumables such as toner and maintenance kits are included in the cost projections.

Staff recommended the Board authorize the General Manager to negotiate lease and maintenance contract terms with AIS and enter into a 60-month lease agreement with two optional one-year extensions for 13 Xerox multi-function printers and 21 stand-alone printers.

General discussion took place regarding the total lease cost, number of printers involved, total number of copies made, cost per copy, the HP printers, and estimated overall cost savings.

19-07-04 MOTION WAS MADE by Director Elitharp, seconded by Director Evans, and carried unanimously, with Director Sannella absent, to authorize the General Manager to negotiate lease and maintenance contract terms and enter into a 60-month lease with AIS.

CHANGE ORDER REQUEST FOR SCHOOLHOUSE TANK REFURBISHMENT

Capital Facilities Senior Engineer Hubbard provided background information on the Schoolhouse Tank refurbishment project which includes removal and replacement of the interior coating as well as structural improvements and upgrades to safety equipment and the anti-corrosion system. On April 17, 2019, the Board awarded a construction contract to West Coast Industrial Linings in the amount of \$535,000.

Capital Facilities Senior Engineer Hubbard stated that during the installation of new lateral bracing on the tank ceiling, it was discovered that the rafters were very thin, resulting in holes in the structural members. A change order was initiated to perform inspection blasting to expose deficiencies and determine repairs necessary to strengthen the rafters and prevent further corrosion. The proposed cost for the repairs, excluding the inspection blasting already completed, is 30% over the total construction contract. Board approval is required for change orders exceeding 10% of the contract value per District Ordinance No. 146, Section 4.1.1. The budget shortfall is \$180,946.75, and if a budget adjustment is necessary, additional funds will be paid for out of the water replacement reserves.

Staff recommended the Board approve the construction change order to West Coast Industrial Linings in the amount of \$180,946.75, subject to the provisions of the contract.

General discussion took place.

19-07-05 MOTION WAS MADE by Director Hernandez, seconded by Director Evans, and carried unanimously, with Director Sannella absent, to approve the construction change order.

CHANGE ORDER REQUEST FOR SEWER BYPASS REPAIR

Capital Facilities Senior Engineer Hubbard stated sewer in portions of the Bypass line is under pressure due to its proximity to the pressurized section of the Land Outfall, and flow is diverted away from the District's Meadowlark Reclamation Facility (MRF) into the Bypass pipeline during operational shutdowns or emergencies. He provided history on breaks that occurred on the Bypass line in February 2017, January 2018, and February 2019. Staff initiated a change order in the amount of \$41,700 with Shaw Equipment Rentals, the contractor already under contract to make repairs, to make additional repairs after the most recent break. Delaying the repairs to prepare a new contract bid package would be costlier and would delay scheduled operational projects at MRF. Although a budget surplus of \$46,905, including the change order, is anticipated for this project, the change order exceeds 10% of the original contract amount and requires Board approval per District Ordinance No. 146, Section 4.1.1.

General discussion took place.

Mike Hunsaker, member of the public, addressed the Board asking what the lifetime of the pipe is and what sort of pressure it is. From an engineering standpoint, he finds it difficult to understand how its proximity to the pressurized Land Outfall will cause stress on the pipe. There was a break in 2018 and it was said the pipe was only being used for water coming out of MRF that had been already processed, and yet this is really a diversion from the pipe. Is there an overflow from the primary sewer lines to Encina Water Authority? How is the District going to pay fines for spills?

District Engineer Gumpel responded to Mr. Hunsaker's questions.

Staff recommended the Board approve the construction change order to Shaw Equipment Rentals in the amount of \$41,700, subject to the provisions of the contract.

19-07-06 MOTION WAS MADE by Director Elitharp, seconded by Director Evans, and carried unanimously, with Director Sannella absent, to approve the construction change order.

SOUTHERN CALIFORNIA WATER COALITION QUARTERLY LUNCHEON –
MEETING ATTENDANCE PER DIEM/EXPENSE REIMBURSEMENT APPROVAL

General Manager Pruim stated the Southern California Water Coalition is hosting a program on July 19 at the Faraday Center in Carlsbad. This group is not on the list of organizations for which meetings are considered compensable under District Ordinance No. 210; therefore, prior approval for per diem and expense reimbursement is required.

General discussion took place.

19-07-07 MOTION WAS MADE by Director Hernandez, seconded by Director Elitharp, and carried unanimously, with Director Sannella absent, to approve per diem and expenses for attendance to the program.

REPORTS

GENERAL MANAGER

General Manager Pruim reported the following:

- The District's employee appreciation luncheon will be held on July 23.
- District crews will be performing valve maintenance this evening along Twin Oaks Valley Road, Mission Boulevard, and El Norte Parkway. Crews will also be performing similar night work on July 24 in San Marcos Boulevard adjacent to San Marcos Elementary School.

DISTRICT LEGAL COUNSEL

Legal Counsel Gilpin stated the Department of Water Resources (DWR) released the 2018 California Water Plan Update today. It provides recommended actions for the coming years that coordinate with Governor Newsom's plan. The DWR will be hosting a webinar on July 29 to provide an overview of the plan.

SAN DIEGO COUNTY WATER AUTHORITY

Director Evans reported the following:

- The Board approved the \$1.6 billion budget. Untreated water increased 4.8%. Treated water increased 4.3%. The SDCWA is drawing significant amounts of money from its rate stabilization funds to keep the rates down. The Fiscal Sustainability Task Force is being formed to address questions. The rate increases were due in part to the increase of employer CalPERS contributions, increased utilities costs, and a higher share of the cost for operating San Vicente Reservoir, Lake Hodges and the treatment plants.

- The first phase of a drone pilot study has been completed. The SDCWA has two FAA certified drone pilots. The drones have been useful in right-of-way issues. Last year 6 long-term encroachments and 75 new encroachments were resolved, and 115 trees were removed from the aqueduct right-of-way as a result of being detected with the use of drones.
- The next Board meeting is scheduled for July 25.
- She attended a legislative round table with Senator Brian Jones in attendance at the SDCWA on July 16. Senator Jones represents the 38th Senate District which includes important water resources such as the San Vicente Reservoir and Padre Dam. The meeting was well attended.
- SB 200, the safe drinking water bill, doesn't address how the future fund, set at \$130 Million, will be filled. A group has formed to study this.

ENCINA WASTEWATER AUTHORITY

Director Hernandez reported on his attendance to the Capital Improvement Committee this morning at which discussion took place regarding the completion of the effluence conveyance project, cogeneration building structural condition assessment, primary aerator improvement, secondary clarifier, integrated service system, review of Windows upgrades and 24-hour on-call.

President Martin reported on his attendance to the Policy and Finance Committee at which the Committee recommended sending the budget to the Board for approval at the next Board meeting on July 24.

STANDING COMMITTEES

Director Hernandez reported that the Public Awareness/Personnel/Policy Committee met on June 25. Items discussed to be brought to the Board for consideration were the elimination of plastic containers used in District offices and overnight hotel stays when attending conferences in San Diego. The Committee also discussed Board members' use of personal credit cards for travel expenses.

Finance Manager Owen reported on the June 17 Finance/Investment Committee meeting. The Committee received an update on the Cost of Service Study and a presentation for the kick-off of the annual audit with DavisFarr.

DIRECTORS REPORTS ON TRAVEL/CONFERENCES/SEMINARS ATTENDED

Directors Evans, Elitharp, Martin and Hernandez reported on their attendance to the Council of Water Utilities meeting on July 16.

President Martin and Director Hernandez reported on their attendance to a San Diego North Economic Development Council program at MiraCosta College on June 27.

OTHER BUSINESS

QUARTERLY BOARD EXPENSES

This information was provided per Ordinance No. 210; no action required.

DIRECTORS COMMENTS/FUTURE AGENDA ITEMS

Director Hernandez request a Closed Session meeting be scheduled as soon as possible to discuss the desal issue and inquired as to when the Board would receive the groundwater study for discussion. District Engineer Gumpel indicated it would be ready for presentation to the Board in August.

Director Hernandez inquired about the status of the septage study. District Engineer Gumpel stated the scope has been received and reviewed. A purchase request in the amount of \$29,990 is being prepared to start the septage study.

Director Hernandez requested an update on the solar study. District Engineer Gumpel stated the Mitigated Negative Declaration (MND) will be circulated in August with an anticipated October adoption of the MND. Request for Proposals for solar providers will be sent out by the end of this week with an anticipated award in November.

General Manager Pruim confirmed capacity fees will be on the August 7 Board agenda.

ADJOURNMENT

There being no further business to discuss, President Martin adjourned the Regular Meeting of the Board of Directors at the hour of 6:30 p.m.

A Regular Meeting of the Vallecitos Water District Board of Directors has been scheduled for Wednesday, August 7, 2019, at 5:00 p.m. at the District office, 201 Vallecitos de Oro, San Marcos, California.

Hal J. Martin, President
Board of Directors
Vallecitos Water District

ATTEST:

Glenn Pruim, Secretary
Board of Directors
Vallecitos Water District

MINUTES OF A MEETING OF THE
FINANCE/INVESTMENT COMMITTEE
OF THE VALLECITOS WATER DISTRICT
MONDAY, JULY 29, 2019 AT 4:00 P.M.
AT THE DISTRICT OFFICE, 201 VALLECITOS DE ORO,
SAN MARCOS, CALIFORNIA

Director Sannella called the meeting to order at the hour of 4:00 p.m.

Present: Director Sannella
 Director Martin
 General Manager Pruim
 District Engineer Gumpel
 Finance Manager Owen
 Development Services Senior Engineer Scholl
 Accounting Supervisor Glenn
 Financial Analyst Arthur
 Administrative Secretary Johnson

ITEM(S) FOR DISCUSSION

Director Sannella stated the Committee would address Item 4. Capacity Fee Status first.

CAPACITY FEE STATUS

General Manager Pruim stated this item will be presented to the full Board for adoption at the August 7 Board meeting.

District Engineer Gumpel stated staff met with a representative of the Building Industry Association (BIA) four or five times, General Manager Pruim met and communicated directly with the BIA as well, and staff was in constant contact with them during the capacity fee study. This item was originally going to be presented to the Board in June; however, the BIA requested a 30-day extension six weeks ago, and despite General Manager Pruim's attempts to meet, the BIA has not responded.

District Engineer Gumpel provided a presentation on three capacity fee scenarios detailing the cost components of the fee. The difference between the options is interest rate percentages. Option "A" assumes short-term rates equal to or greater than 6.0% and long-term rates equal to or greater than 8.0%; Option "B" assumes 5.0% and 6.5%; and Option "C" assumes 4.5% and 6.0%. Short-term refers to five-year increments. Option "A" is the starting point determined by staff. Option "B" was determined after talking with consultants as a good estimate of current rates. Option "C" is what the consultants determined to be the bottom and may be too optimistic. All three options are viable. Cost components of the capacity fee for water include distribution, storage, pumping, debt service and shortfall. Cost components for the sewer capacity fee include collection, land outfall, treatment, EWA capital, debt service and shortfall.

General discussion took place regarding the old Buena outfall which Carlsbad is going to purchase, a new line Buena is going to be constructing, capacity ownership and transfer of capacity.

District Engineer Gumpel provided a comparison of water and sewer capacity fees between Vallecitos' proposed fees and comparable local agencies. The District's sewer capacity fee would be the highest. Contributors for the high increase in sewer are outfall and treatment costs.

During further discussion about the three options, District Engineer Gumpel clarified that if an option is selected and interest rates or project costs increase, it would require Board action and public notice to increase the fees. If fees are lowered, the process is not required and can be done internally by staff. There is also no requirement that the process has to be 60 days.

The consensus of the Board and staff was to recommend the Board adopt Option "C" and an annual review of the capital facility fees.

Mike Hunsaker, member of the public, expressed his concern about University Villages and North City student dorms that have three to four bedrooms per dorm with double occupancy. The average number of students will be more than the average apartment with 2.2 residents per apartment. He believes a better metric to use would be the number of bedrooms rather than the number of bathrooms and how laundry is handled in the dorms should be considered. He also expressed his concerns regarding the cost of power at EWA and the Woodward senior apartments purchasing capacity at a lease rate. What does the District charge for excess?

District Engineer Gumpel responded to Mr. Hunsaker's questions.

FY 2019/2020 OVERHEAD RATE

General Manager Pruim stated this is an annual item that is tentatively scheduled for the August 7 Board meeting.

Finance Manager Owen distributed the overhead rate calculation, stating that the source of the calculation is the approved budget. He provided a presentation on the overhead rate as follows:

- Purpose
- Background/Methodology
- Recommended Methodology
- Current Year Calculation – Indirect Costs
- Current Year Calculation – Direct Costs
- Current Year Calculation
- Prior Year Comparisons
- Next Steps

Finance Manager Owen stated the overhead rate for Fiscal Year (FY) 2019/2020 is 217.48%, a decrease from the previous year's rate of 219.43%.

STATUS OF PERS PAYMENTS

Accounting Supervisor Glenn stated an extra discretionary payment in the amount of \$834,000 was paid to PERS at the end of June. At the end of last week, a required \$1.132 Million was paid to PERS for FY 2019/2020. Upon receipt of the PERS actuarial valuation in mid-August, plans will be made to pay the extra \$8.1 Million discretionary payment.

Finance Manager Owen stated the \$834,000 came out of reserves. The required payment is paid up front which saved the District approximately \$40,000.

The PERS actuarial valuation will be presented to this Committee when it has been received.

COST OF SERVICE STUDY UPDATE

Finance Manager Owen stated 17 Request for Proposals were sent out last month. The District received two proposals. After reviewing the proposals, staff unanimously selected Raftelis Financial Consultants, Inc. as the most qualified consultant for the Cost of Service Study. Their proposal came in at \$63,000 after modifying the scope. This item will be presented to the Board for contract approval at the August 7 Board meeting.

General discussion took place during which Finance Manager Owen stated he anticipates adoption of the new rates in January 2020. General Manager Pruim stated the Proposition 218 public hearing will be scheduled near the end of this calendar year.

OTHER BUSINESS

None.

PUBLIC COMMENT

Mike Hunsaker, member of the public, commented that there are huge developments coming up. Two of these huge developments could consume all of the projections over 10 years. He believes capacity fees must be spent over a five-year period. At what point does the District consider doing a new Master Plan if all of these developments come in at once?

District Engineer Gumpel explained that the District has a planning document adopted by the Board that follows the statutes adopted by SANDAG or other land use agencies; therefore, the District can utilize capacity fees over twenty plus years. Also, the District performs a water/sewer study for every development that compares the development to the Master Plan. If the development is accelerating use, the District collects capacity

fees up front and accelerates the necessary infrastructure. The fact that capacity fees will now be reviewed annually will also be beneficial. When the City of San Marcos adopts a new General Plan, the District will review its Master Plan to determine if there are significant differences that warrant a new Master Plan.

ADJOURNMENT

There being no further business to discuss, the meeting was adjourned at the hour of 5:32 p.m.

VALLECITOS WATER DISTRICT
WARRANTS LIST
August 7, 2019

PAYEE	DESCRIPTION	CHECK#	AMOUNT
CHECKS			
Garnishments	Payroll Garnishments	116862 through	116864 -
Able Sprinkler Corporation	Deposit Refund Prj 20191-512	116865	211.47
Action Mail	Spring Splash Newsletter Prj 20191-26	116866	1,258.32
Airgas USA LLC	Cylinder Rentals - June	116867	122.50
Alberto Gilli Consulting LLC	SCADA PLC Programming - Transmission & Distribution	116868	1,000.00
Allied Universal	Weekly Deposit Svc - May	116869	90.10
Ambius	Plant Maintenance - July	116870	263.00
APGN Inc.	Filters 13 - For Aeration Blowers - MRF	116871	1,510.61
AT&T	Internet Svc - June	116872	64.25
AT&T	Phone Svc - June	116873	2,811.68
B & C Crane Service Inc	Crane Rental - Wulff PS	116874	435.00
B & H Foto & Electronics Corp.	Go Pro Device - Conservation Dept Prj 20191-625	116875	453.12
Clarkson Laboratory & Supply	Soil Analysis Prj 20141-4	116876	471.00
Core Logic Information Solutions Inc	Real Quest Svc - Engineering Maps - June	116877	206.00
Core-Rosion Products	Bleach Tank For Odor Scrubber 1 - MRF	116878	7,675.44
Coro Data Media Storage Inc	Back Up Storage Tape - June	116879	209.86
Council of Water Utilities	Meeting 7-16-19, Elitharp, Evans, Hernandez, Martin, Pruim	116880	180.00
CWEA	Membership Renewal - G Pruim	116881	192.00
CWEA	Membership Renewal - R Rodarte	116882	188.00
Davis Farr LLP	Audit Svcs - Year Ending 6-30-19	116883	6,000.00
DirecTV Inc	Satellite Svc - July	116884	115.99
Electrical Sales Inc	Power Monitoring Units 9 - MRF, Electrical Supplies	116885	16,960.83
Flo Systems Inc	Influent Pump #1 Upgrade - MRF Prj 20181-9	116886	45,520.07
Golden State Graphics	Water Quality Reports 100 & Between the Pipes Newsletter 41,000 Prj 20191-26	116887	4,406.08
Harper & Associates Inc	Schoolhouse Tank Rehabilitation Prj 20181-03	116888	3,358.00
Harrington Industrial	Mixing & Roughing Filter Materials - MRF	116889	4,150.97
Infosend Inc	Support Fee, Postage, Printing, Processing, Door Hangers - June	116890	8,892.02
Interstate Batteries	Batteries 4 - Veh 191, 227, 231, Generator	116891	551.15
Jack Henry & Assoc Inc	Remittance Plus Maintenance 19-20	116892	3,180.00
Joe's Paving Co Inc	Asphalt Svcs - Scrubber #2 - MRF	116893	14,935.55
JCI Jones Chemicals Inc	Chlorine	116894	6,129.63
Jostle Corporation	Jostle Subscription Renewal 19-20	116895	9,688.80
Knight Security & Fire Systems	Answering, Patrol, & Monitoring Svc - July	116896	588.19
Lloyd Pest Control	Pest Control - June	116897	1,155.00
Matheson Tri-Gas Inc	Cylinder Rental - June	116898	55.18
Mission Resource Conservation District	Water Use Evaluations - 2 Prj 20191-29	116899	64.00
Morton Salt, Inc.	Industrial Salt	116900	7,971.68
National Community Renaissance	Deposit Refund Prj 20191-522	116901	931.27
One Source Distributors LLC	Hazmat Suit	116902	731.08
Ostari Inc	IT Support - July, Duo Software Subscription May	116903	3,204.48
Pencoco, Inc.	Trioxyn, Sulfend RT	116904	12,876.98
Progressive Business Publications	Payroll Newsletter 19-20	116905	299.00
Ryan Kincade	Class A Drivers License Exam Fee	116906	78.00
SDG&E	Power - June	116907	107,418.91
Steel-Toe-Shoes.com	Safety Boots	116908	120.63
Terra Verde Energy LLC	District Solar Project - June	116909	5,772.83
Total Resource Mgt Inc	Maximo Support - June	116910	7,445.00
Dean Toth	SWRCB - Water Distribution Cert Renewal	116911	105.00
Underground Service Alert	Dig Alert Svc, CA State Fee/Regulatory Costs - June	116912	535.27
Univar USA Inc	Sodium Bisulfite, Caustic Soda	116913	6,451.90
UPS	Shipping Svcs - June & July	116914	88.90
V & A Consulting Engineers Inc	Pipeline Assessment Prj 20141-04	116915	5,436.00
Vaughan's Indust Repair Inc.	Pump #1 Repair - Wulff PS	116916	2,364.24
Verizon Wireless	Phone Svc - June	116917	2,190.90
Versatile Systems Inc.	Water Tank Fall Protection - OSHA Compliance - 17 Tanks Prj 20191-4	116918	26,796.25

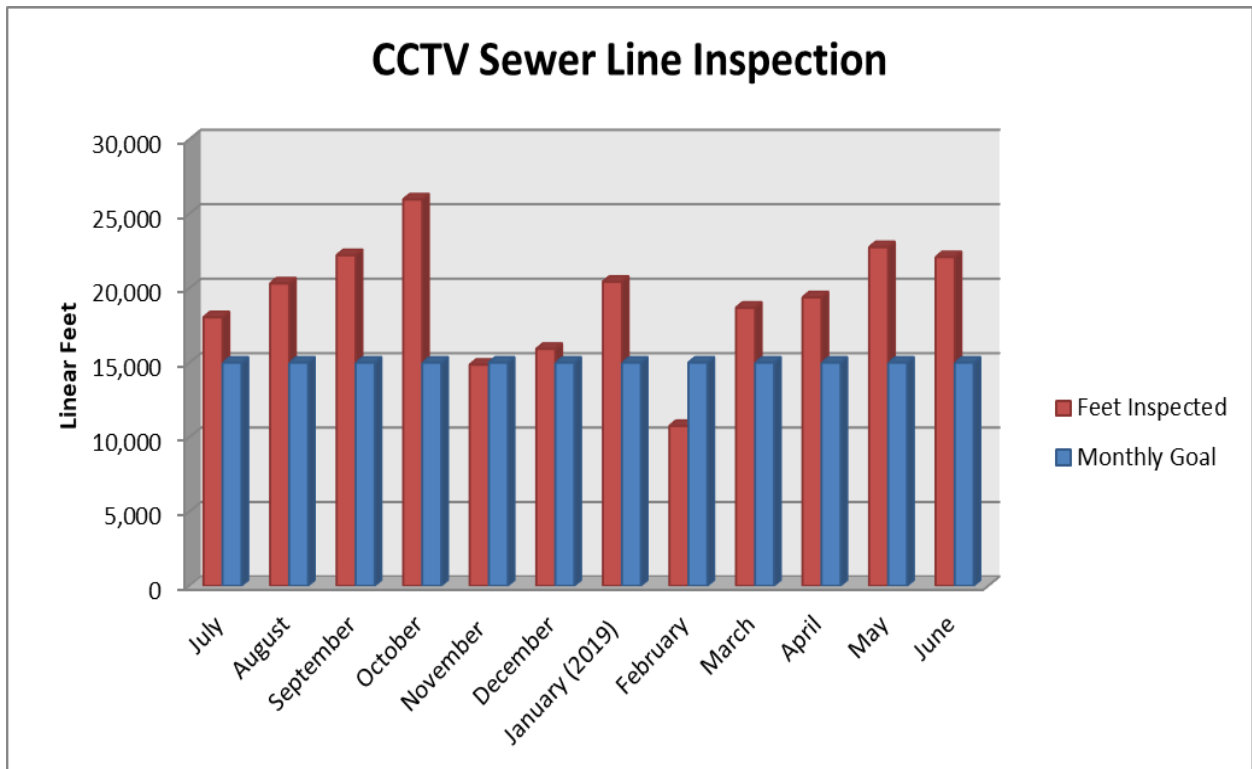
VALLECITOS WATER DISTRICT
WARRANTS LIST
August 7, 2019

PAYEE	DESCRIPTION	CHECK#	AMOUNT
Walters Wholesale Electric	Hardware Supplies	116919	331.82
Erik Warner	CWEA - Collection Cert Renewal	116920	89.00
Waxie Sanitary Supply	Cleaning Supplies	116921	734.08
West Coast Industrial Coatings Inc.	School House Tank Refurbishment Prj 20181-3	116922	22,538.27
Xerox Corporation	Copier Lease - June	116923	405.51
Ababa Bolt Inc	Hardware Supplies	116924	95.25
Biotechnical Services Inc	Annual Thermometer Calibration - Water Ops	116925	280.00
Branding 365	Tote Bags 1,000 - Conservation Dept Prj 20191-26	116926	2,887.70
Burtech Pipeline Incorporated	Rock Springs Sewer Replacement Prj 90003	116927	530,290.00
California Allstars	Deposit Refund Prj 20191-588	116928	3,118.36
Carson's Custom Concrete	Concrete Retaining Walls 4 - MRF	116929	16,730.00
CDW Government Inc	VMware License Renewal 18-20	116930	4,050.00
Computer Protection Technology Inc	UPS - SCADA - MRF	116931	709.73
CUES	GNet Software Support 19-20	116932	2,850.00
DLT Solutions LLC	AutoCAD Subscription Renewal 7/19 - 10/19	116933	510.50
Efficiency Solar Panel Cleaning	Solar Panel Cleaning - District Headquarters	116934	738.10
Ferguson Enterprises, Inc	Hardware Supplies	116935	24.78
Fisher Scientific LLC	Lab Supplies - MRF	116936	1,248.90
Fry's Electronics	2 Microwaves, 2 Toaster Ovens - Bldg A Kitchen & Kitchenette Remodel	116937	791.91
Grainger Inc	Brass Valves 10, Fan Motor, Grating, Ear Muffs, Hardware Supplies	116938	2,751.30
Hach Company	Water Quality Supplies - Water Ops, Power Adapter	116939	1,951.90
Lantelligence, Inc.	Shoretel Phone Support 19-20	116940	8,018.56
Laura Winstead	Deposit Refund Prj 20181-439	116941	586.58
Lewis Family Trust	Deposit Refund Prj 20191-562	116942	585.72
Mallory Safety & Supply, LLC	Self Retracting Lanyard Rebuild - Fall Hazard Elimination - MRF	116943	1,034.00
Olivenhain MWD	Treated Water - June	116944	46,906.60
Pacific Pipeline Supply	Meter Replacement - Twin Oaks & Barham Prj 20191-33, Hardware Supplies	116945	2,148.46
Plumbers Depot Inc	Vactor Hoses - 6	116946	1,002.08
Proteus Consulting	Asset Management - Capital Facilities - June	116947	9,910.00
Steven Enterprises Inc	Paper for Plotter Machine - Engineering	116948	95.36
Traffic Supply Inc	Custom Signs - 7	116949	335.32
Unifirst Corporation	Uniform Delivery	116950	1,563.60
USA Blue Book	Hardware Supplies	116951	10.23
Visser Construction Inc	Building Improvements - MRF	116952	3,183.00
Garnishments	Payroll Garnishments	116953 through 116955	-
Total Disbursements (88 Checks)			<u>1,002,418.75</u>
WIRES			
San Diego County Water Authority	June Water Bill	Wire	2,687,318.30
Encina Wastewater Authority	Quarterly UAL Additional Discretionary Payment	Wire	197,239.00
Encina Wastewater Authority	Quarterly Billing	Wire	2,236,094.26
Public Employees Retirement System	Retirement Contribution - July 17, 2019 Payroll	Wire	72,495.31
Public Employees Retirement System	Retirement Contribution - July 31, 2019 Payroll	Wire	75,101.75
Total Wires			<u>5,268,248.62</u>
PAYROLL			
Total direct deposits		Wire	233,198.01
VWD Employee Association		116862	564.00
Payroll & Garnishments		116863 through	1,001.06
IRS	Federal payroll tax deposits	Wire	88,598.32
Employment Development Department	California payroll tax deposit	Wire	17,020.57
CalPERS	Deferred compensation withheld	Wire	13,953.74
VOYA	Deferred compensation withheld	Wire	6,126.23
Total July 17, 2019 Payroll Disbursements			<u>360,461.93</u>

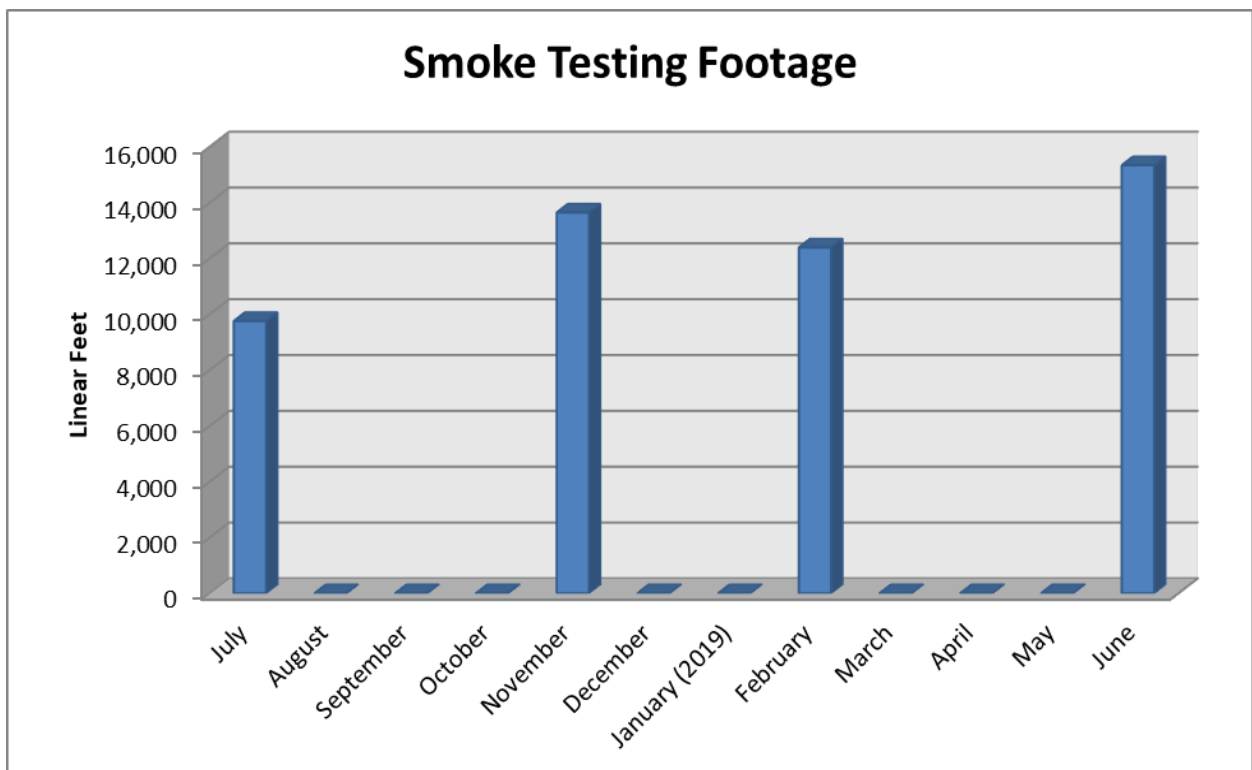
VALLECITOS WATER DISTRICT
WARRANTS LIST
August 7, 2019

PAYEE	DESCRIPTION	CHECK#	AMOUNT
Total direct deposits		Wire	320,582.71
VWD Employee Association		116953	570.00
Garnishments	116954 through	116955	1,229.55
IRS	Federal payroll tax deposits	Wire	125,361.40
Employment Development Department	California payroll tax deposit	Wire	28,047.72
CalPERS	Deferred compensation withheld	Wire	41,684.92
VOYA	Deferred compensation withheld	Wire	19,067.19
Total July 31, 2019 Payroll Disbursements			<u>536,543.49</u>
Total Payroll Disbursements			<u>897,005.42</u>
TOTAL DISBURSEMENTS			<u><u>7,167,672.79</u></u>

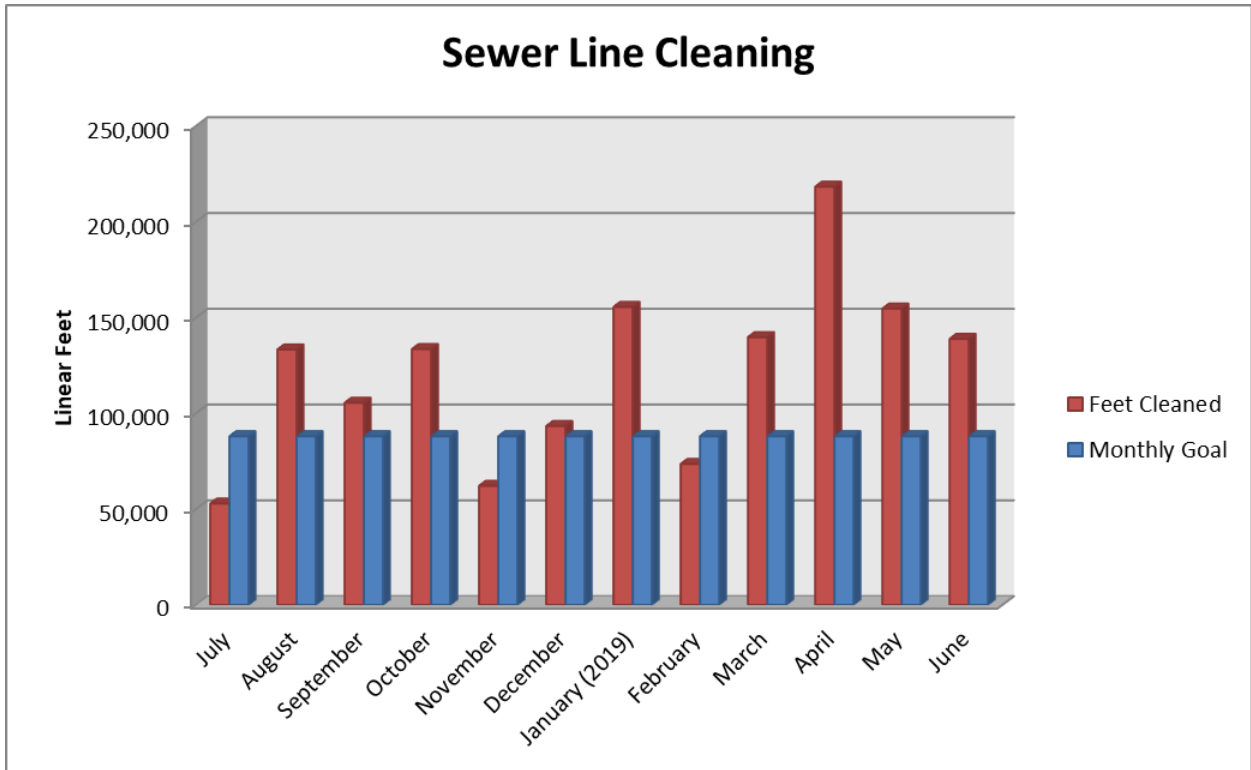
Quarterly O&M Metrics Report



CCTV Sewer Line Inspection Totals in Feet
 Total for Calendar Year 2019 = 114,085 ft.
 (Goal is to inspect at least 180,000 feet of gravity lines per calendar year)

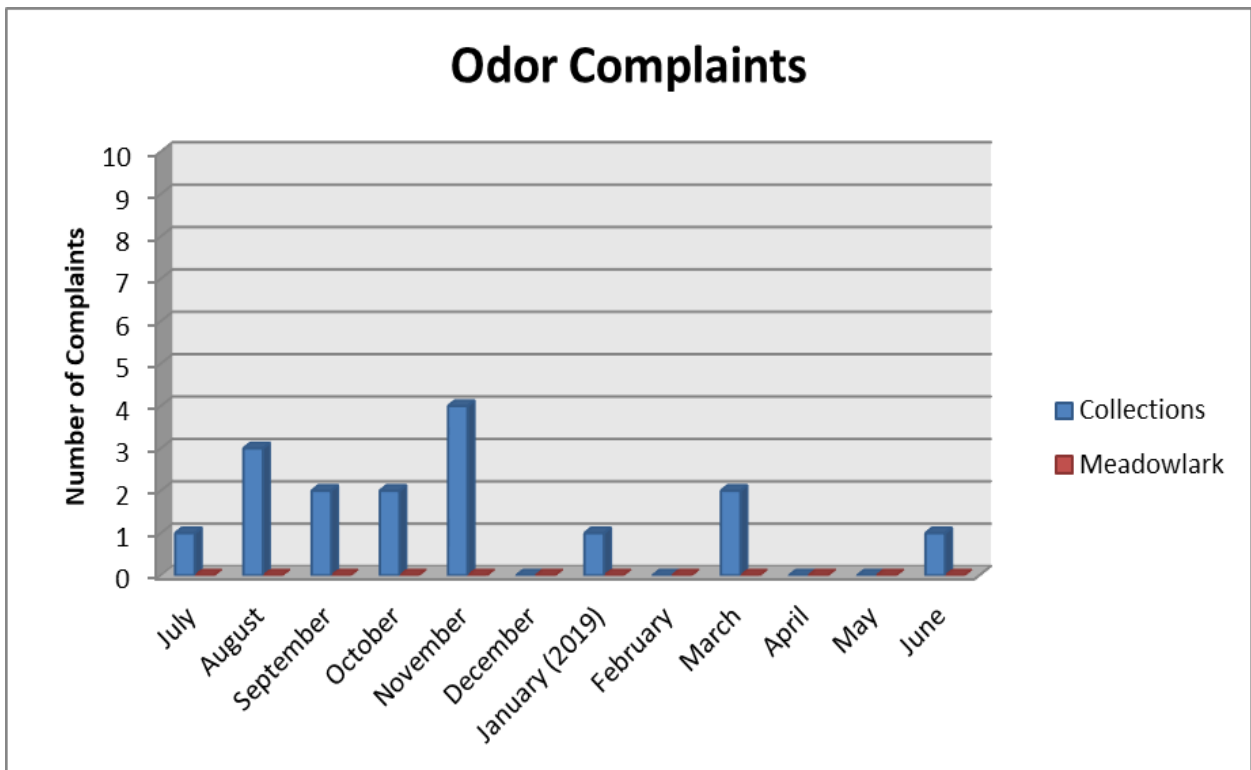


Smoke Testing of Sewer Lines in Feet
 (Goal is to smoke test three areas per calendar year based on suspected I&I)

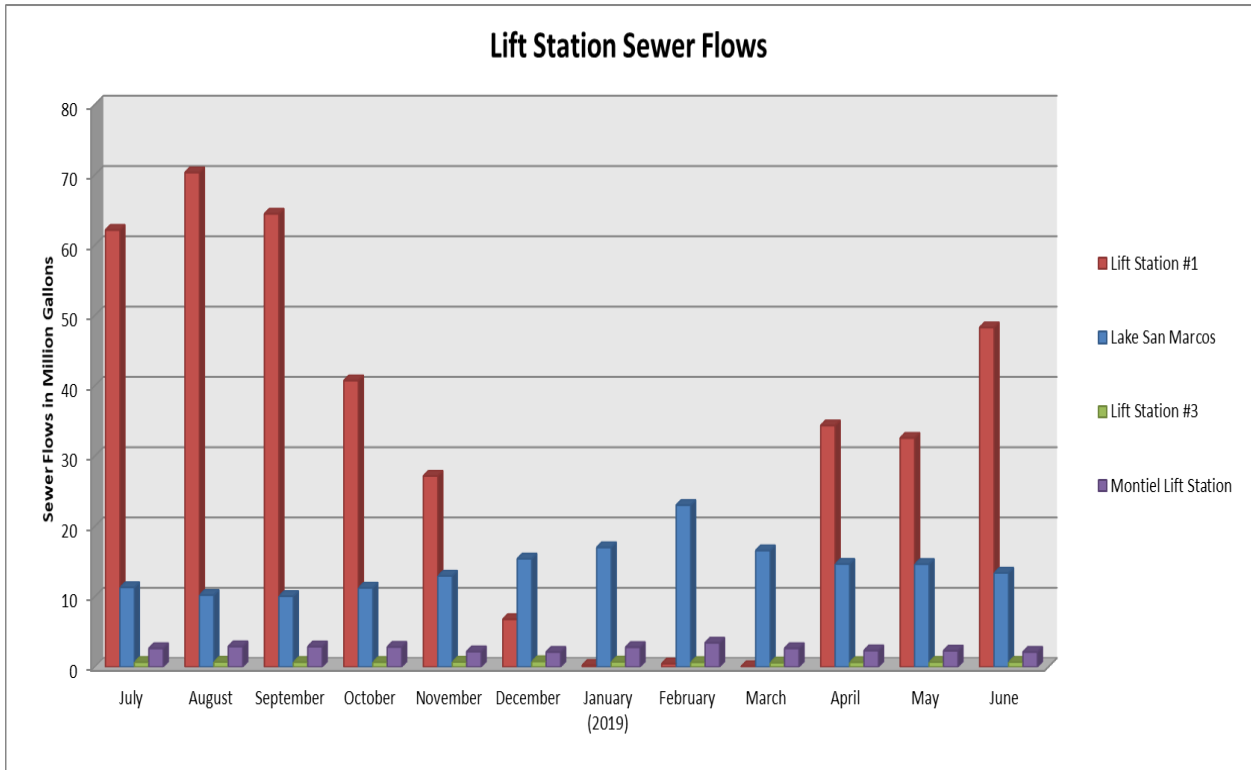


Sewer Line Cleaning Totals in Feet
 Total for Calendar Year 2019 = 880,523 ft.

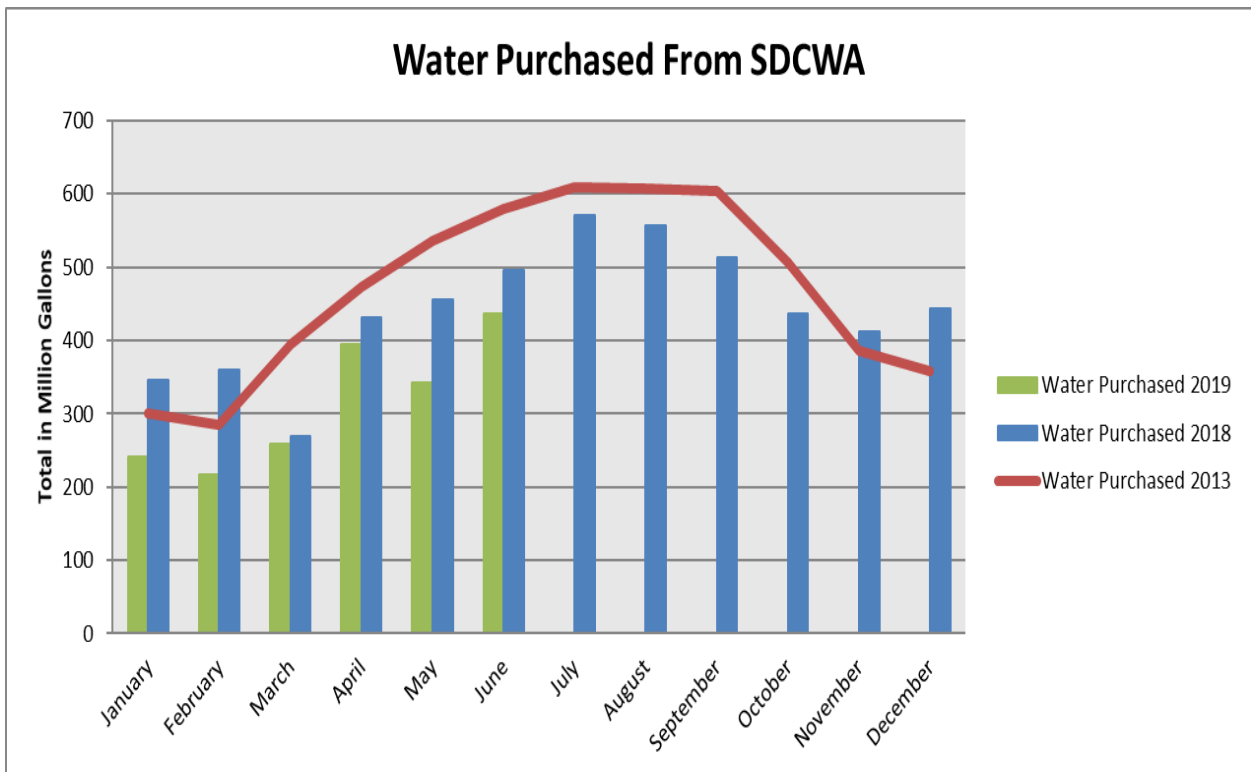
(Goal is to clean 1,000,000 ft. of gravity lines per year and clean the entire system in 15 months or less)



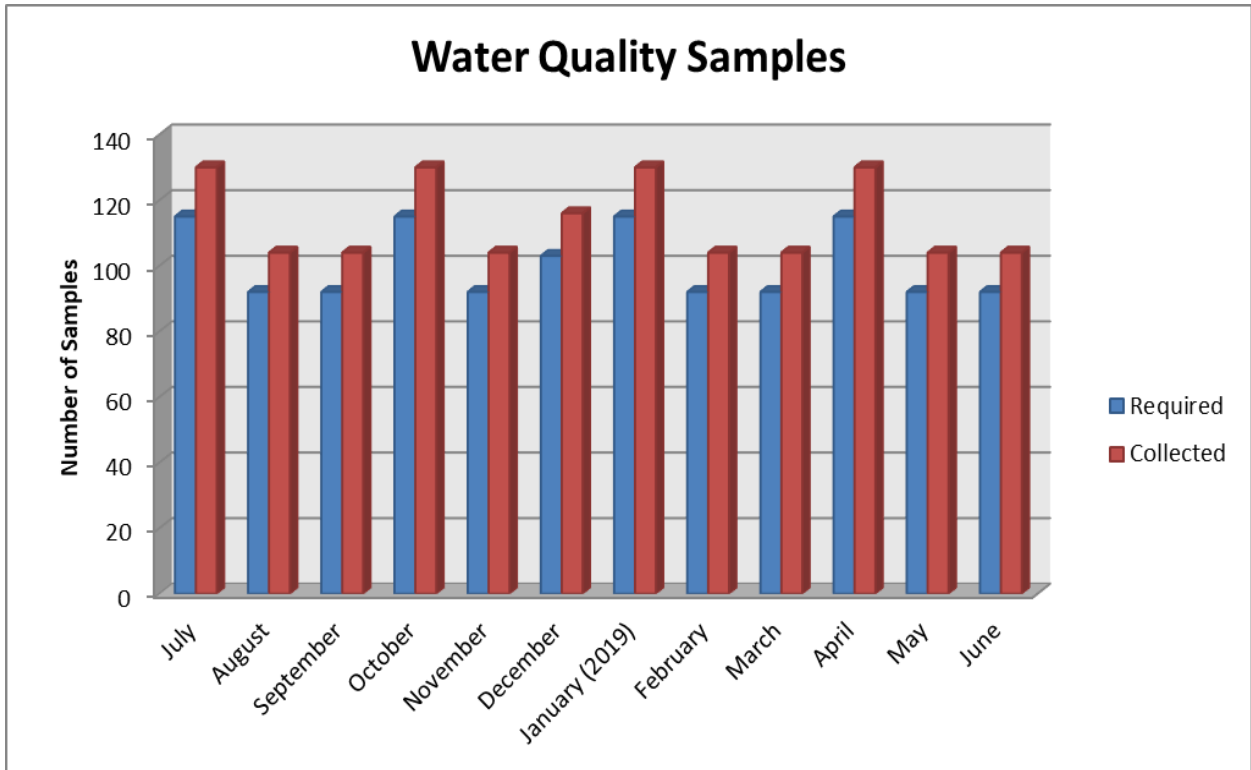
Customer Sewer Odor Complaints



Sewer Flows Pumped from District Lift Stations

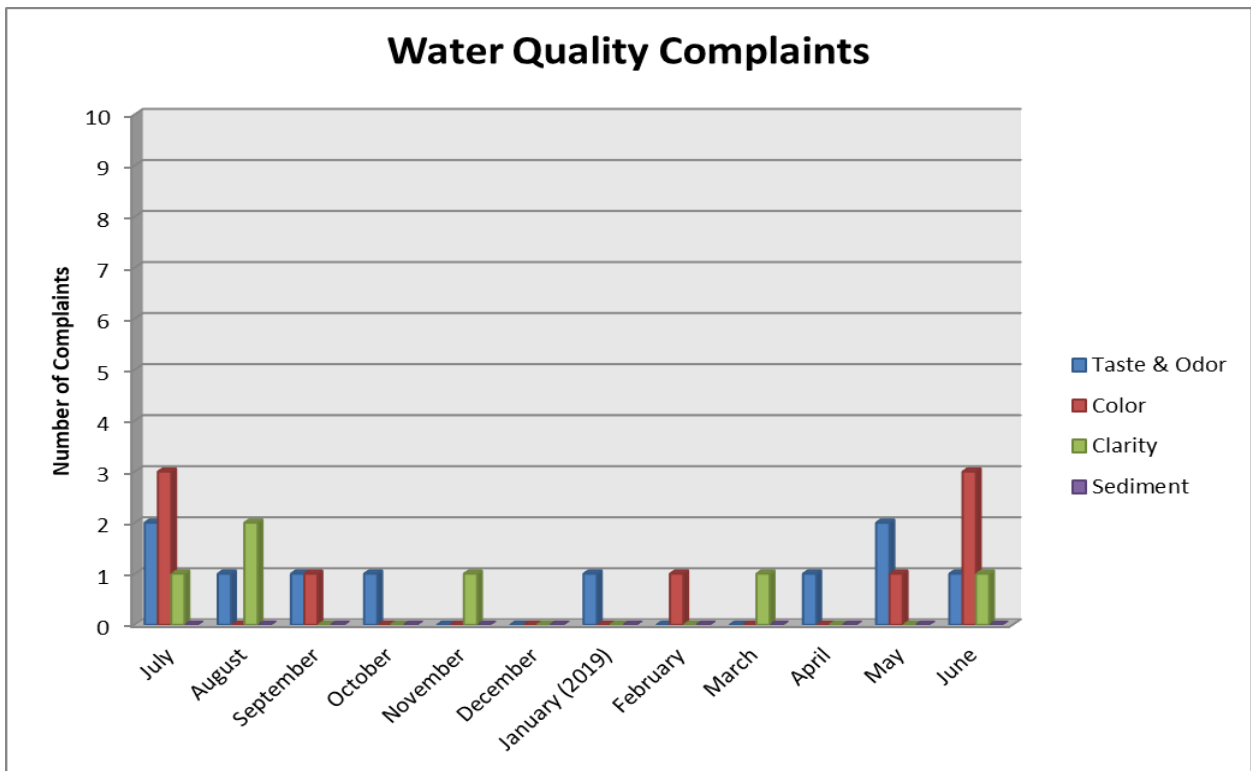


Water Purchased from the San Diego County Water Authority
 Calendar Year 2013 was used by the SWRCB as a baseline for water conservation efforts
 (Includes water from the desalination and OMWD plants)



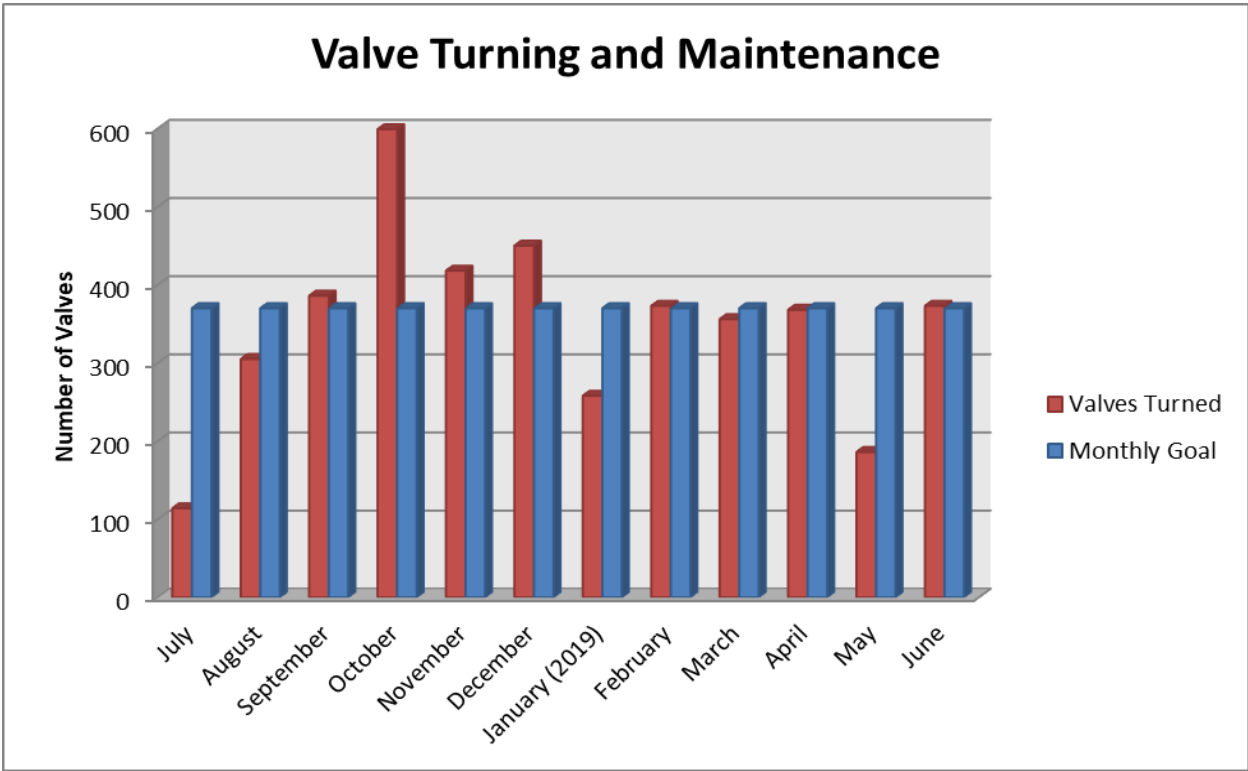
Bacteriological Water Quality Samples

(Number of samples required each month is based on SWRCB regulations & the number of weeks per month)

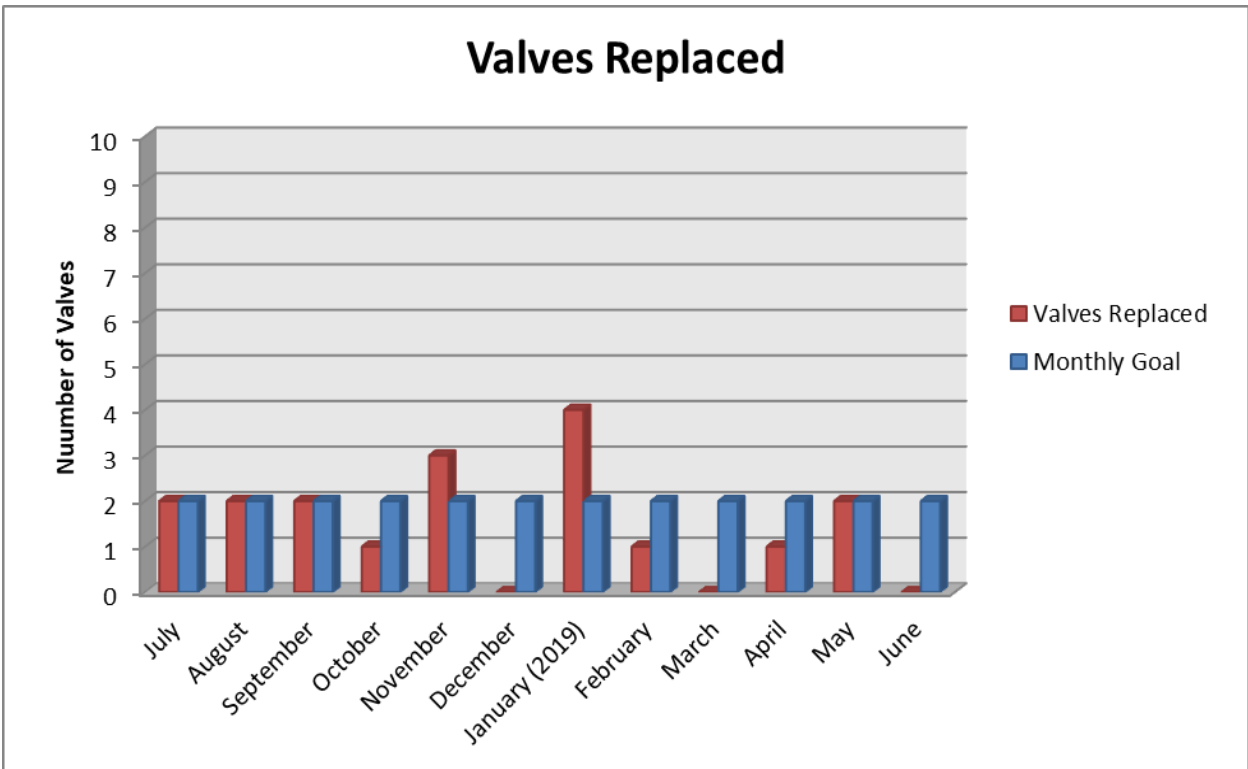


Customer Water Quality Complaints

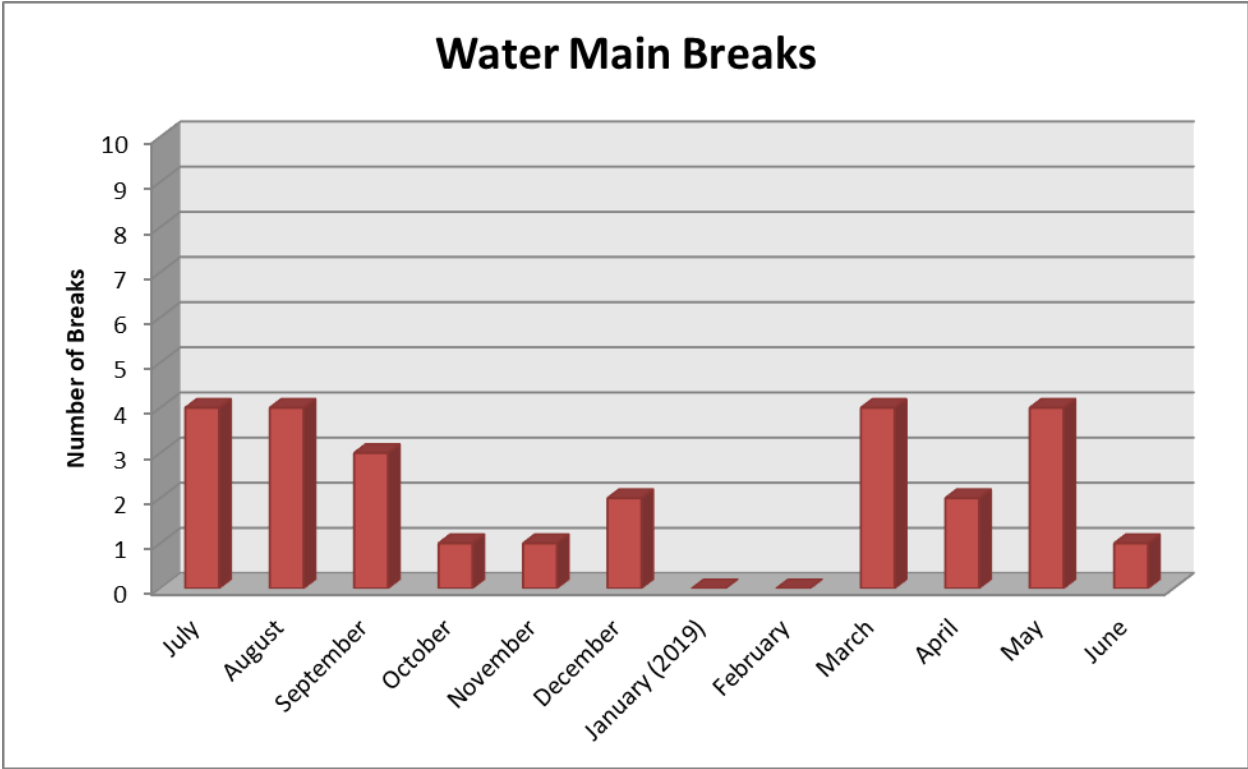
(Water quality issues are typically caused by main breaks, construction activities & customers' plumbing)



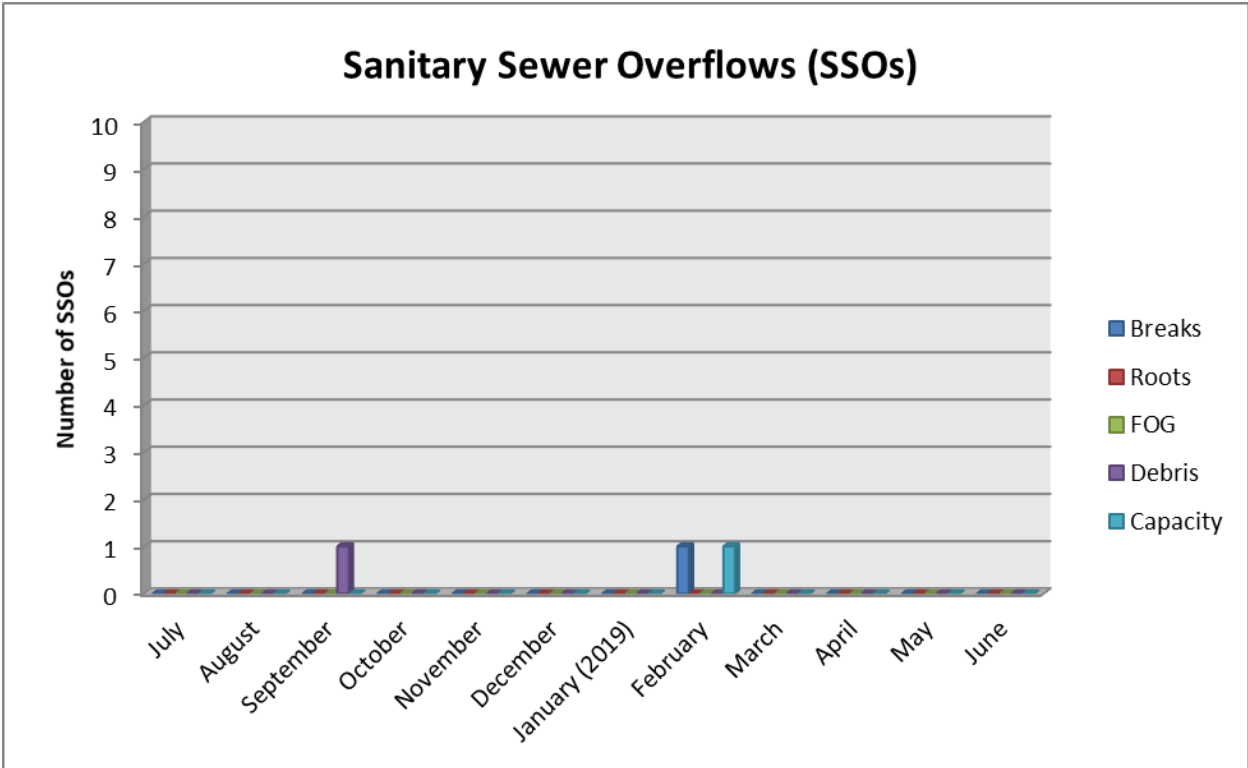
Water Valves Turned in the Distribution System
 The District has 8,874 valves / 22% of the valves have been turned in Calendar Year 2019
 (Goal is to turn 50% of valves every calendar year or about 370/Month)



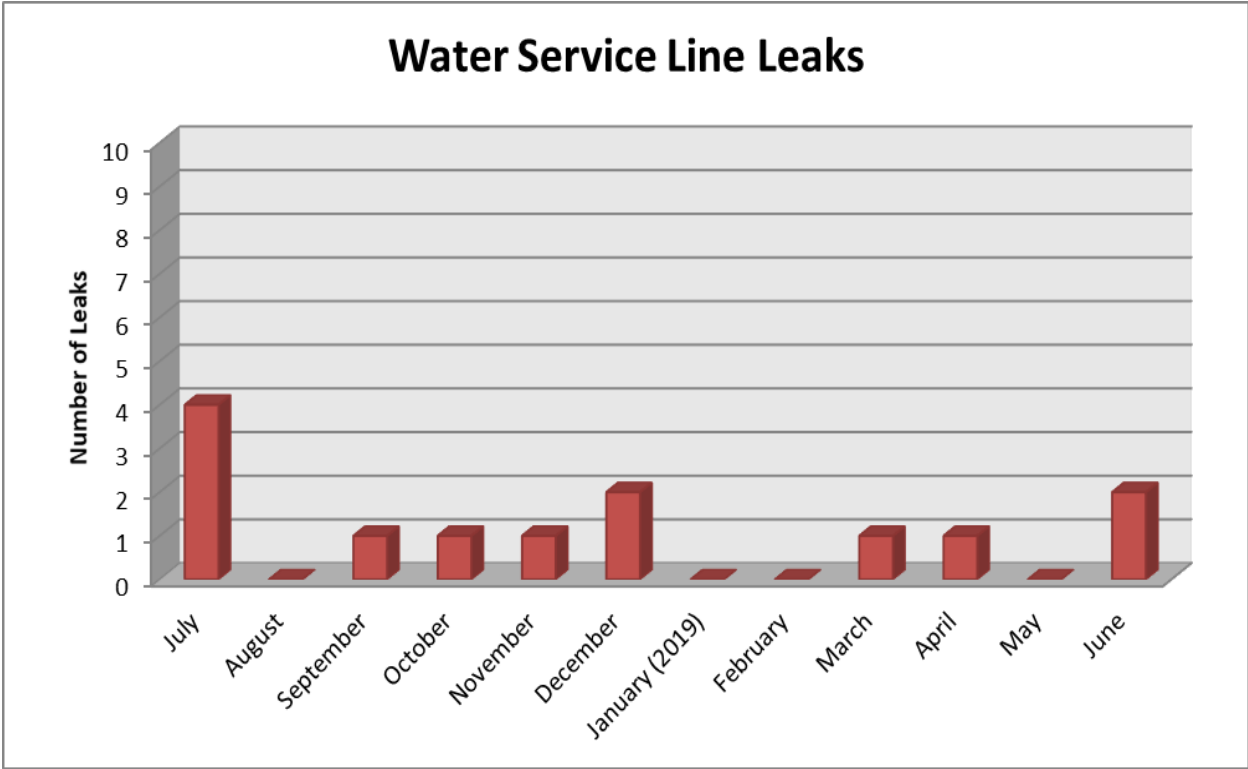
Water Valves Replaced in the Distribution System
 Total replaced so far for Fiscal Year 2018/19 = 18 / There are currently 40 broken valves that need replacing
 (Goal is to replace 20 valves every fiscal year or around 2 per month)



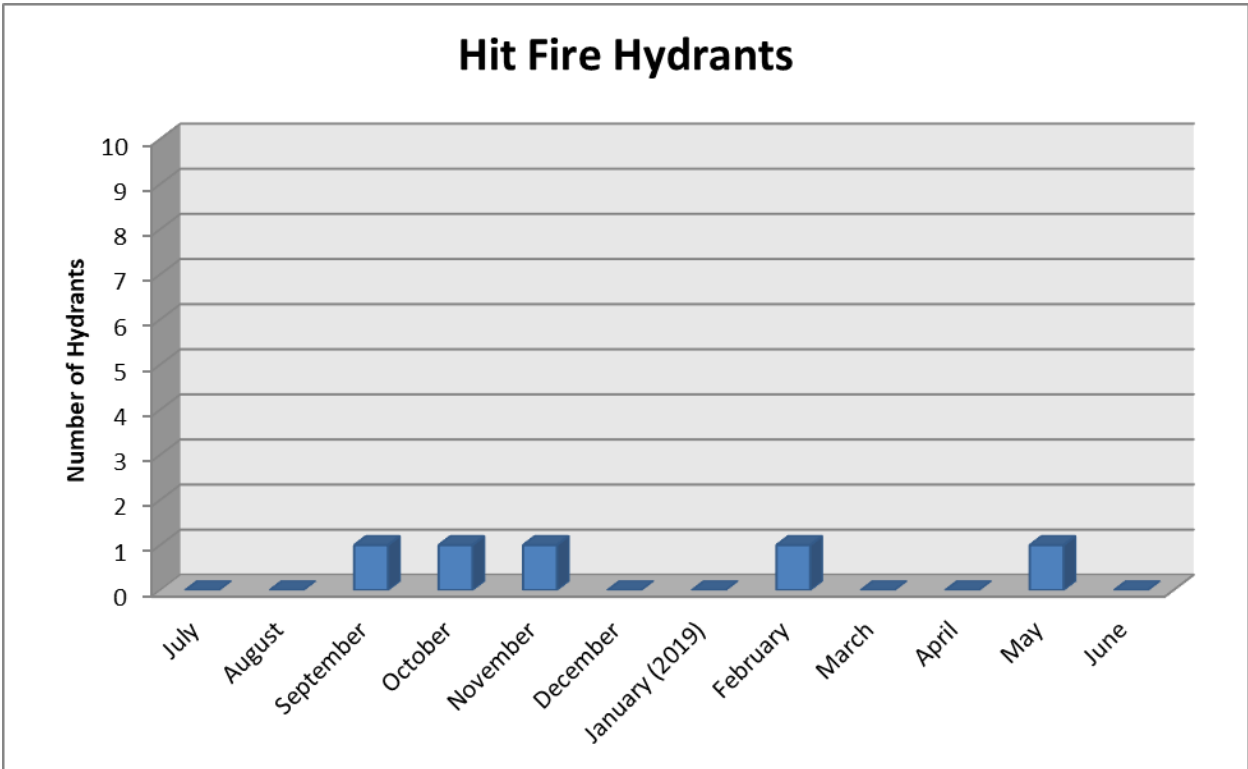
Water Mainline Breaks in the Distribution System
 (There have been 11 water main breaks in calendar year 2019 / There were 25 in 2018)



Sanitary Sewer Overflows (sewer spills and their cause) in the Wastewater Collections System
 (There have been 2 SSOs in calendar year 2019 / There were 3 in 2018)

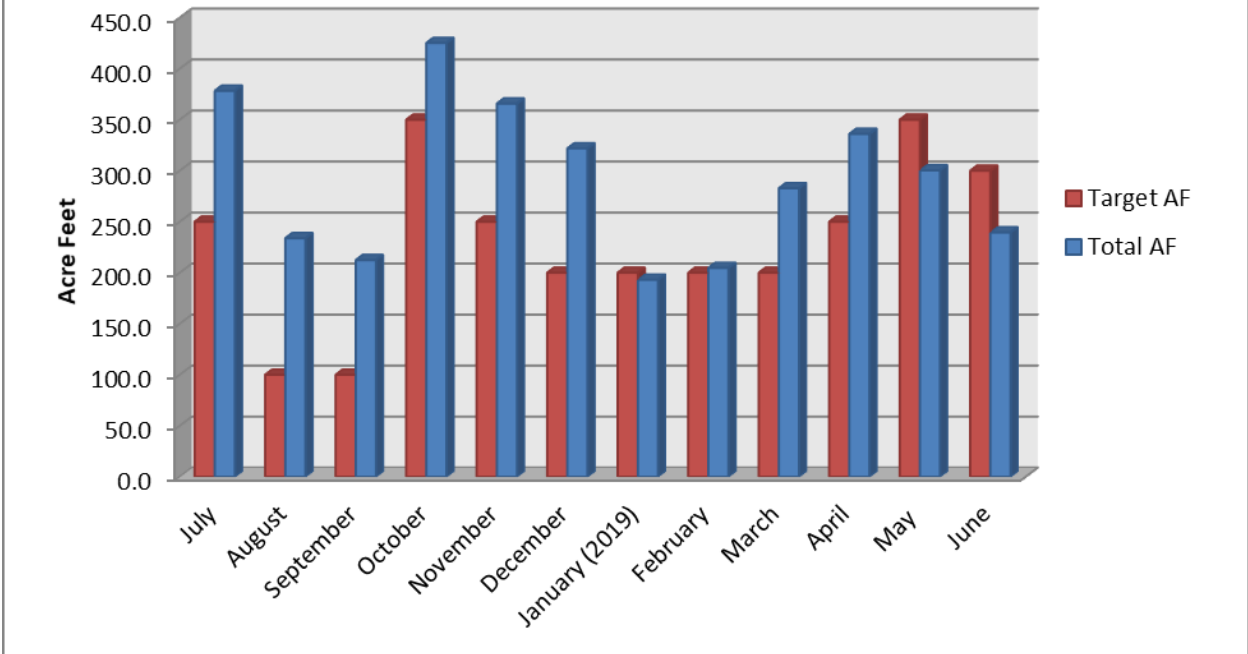


Water Service Line Leaks in the Distribution System
 (There have been 4 water service line leaks in calendar year 2019 / There were 15 in 2018)



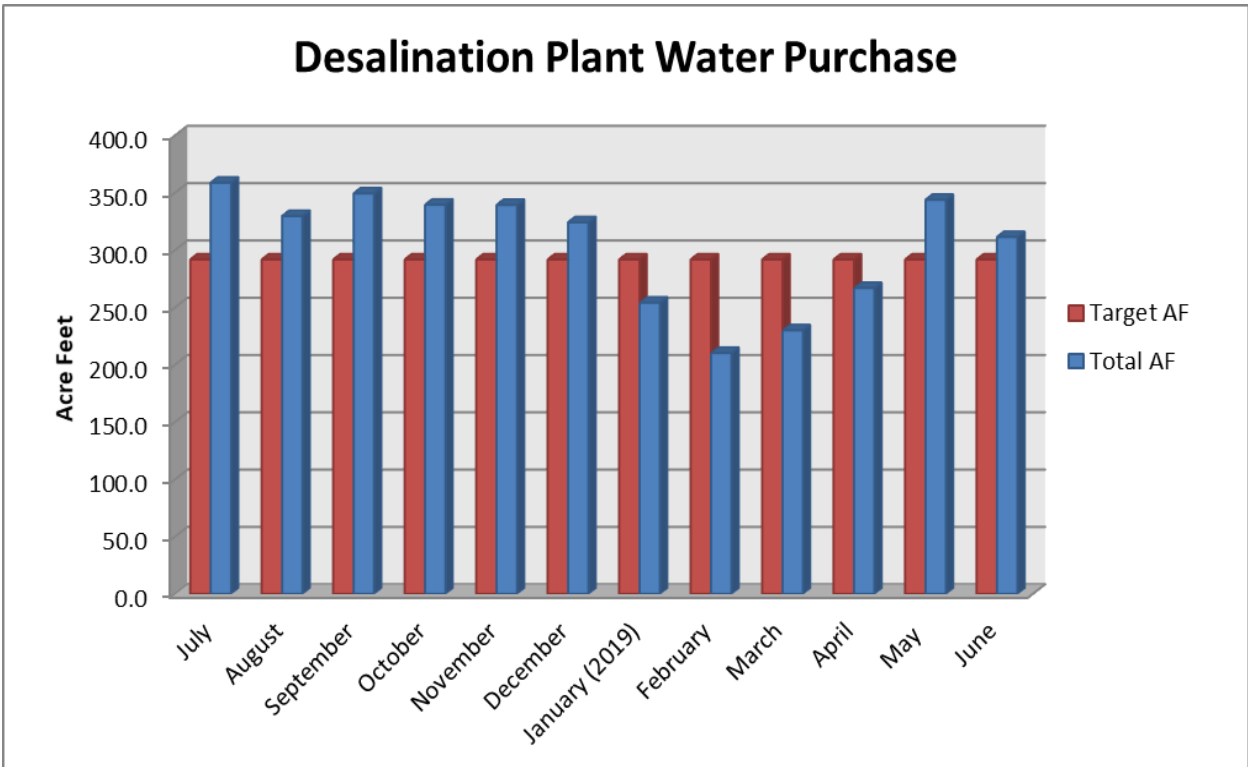
Fire Hydrants Hit in the Distribution System
 (There have been 2 fire hydrants hit in calendar year 2019 / There were 8 in 2018)

San Elijo Pump Station - OMWD Water Purchase



Acre Feet (AF) of Water Purchased from Olivenhain MWD – San Elijo Pump Station
 Our annual minimum take from OMWD is 2,750 AF / We have purchased 1,557 AF in CY 2019
 (The monthly Target Acre Feet varies throughout the year based on the agreement with OMWD)

Desalination Plant Water Purchase



Acre Feet (AF) of Water Purchased from the Carlsbad Desalination Plant
 Our annual minimum take from Desal is 3,500 AF / We have purchased 1,616 AF in CY 2019
 (Our monthly Target Acre Feet is based on our purchase agreement with SDCWA)

DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
**SUBJECT: CONSTRUCTION CONTRACT ACCEPTANCE FOR SOLAR PANEL
INVERTER REPLACEMENT**

BACKGROUND:

The Solarport Photovoltaic System for the District's main headquarters was installed in 2006. The two existing central inverters, which convert solar panel DC current to AC current, had ceased operating. The estimated savings, based on the difference between actual power costs while the inverters were functioning and after their failure are between \$70,000 and \$100,000 annually.

On June 20, 2018, the Board awarded a contract to Baker Electric in the amount of \$154,165.60 to restore the functionality of the photovoltaic system.

This project replaced both inverters and included a new Data Acquisition System (DAS) and 5-year service contract for the DAS. The DAS includes a display in the lobby with public information. This project also repaired broken solar panels, reinstated panel connections, and cleaned the panels to optimize the overall performance of the system.

DISCUSSION:

All construction work was completed May 22, 2019. Change orders include the conversion of central inverters to string inverters, as approved by the Board at the September 19, 2018 meeting, amounting to \$105,198.05 as described below:

- All associated costs related to the conversion to string inverters including the installation of a new panel board, feeders and securing of all DC overhead wiring to solar shade structures - \$86,300.55
- Installation of a new customized monitoring kiosk including additional meter/equipment - \$18,897.50

District staff performed construction management and inspection.

FISCAL IMPACT:

The total estimated cost and budget summary are as follows:

Budget	\$295,000.00
Construction	\$154,165.60
Change Orders	\$105,198.05
Misc.	\$ 211.64
Staff & Overhead	<u>\$ 25,966.86</u>
Total	\$285,542.15
Budget Surplus	\$ 9,457.85

Based on the power cost savings, this project will have a 2-3 year payback period.

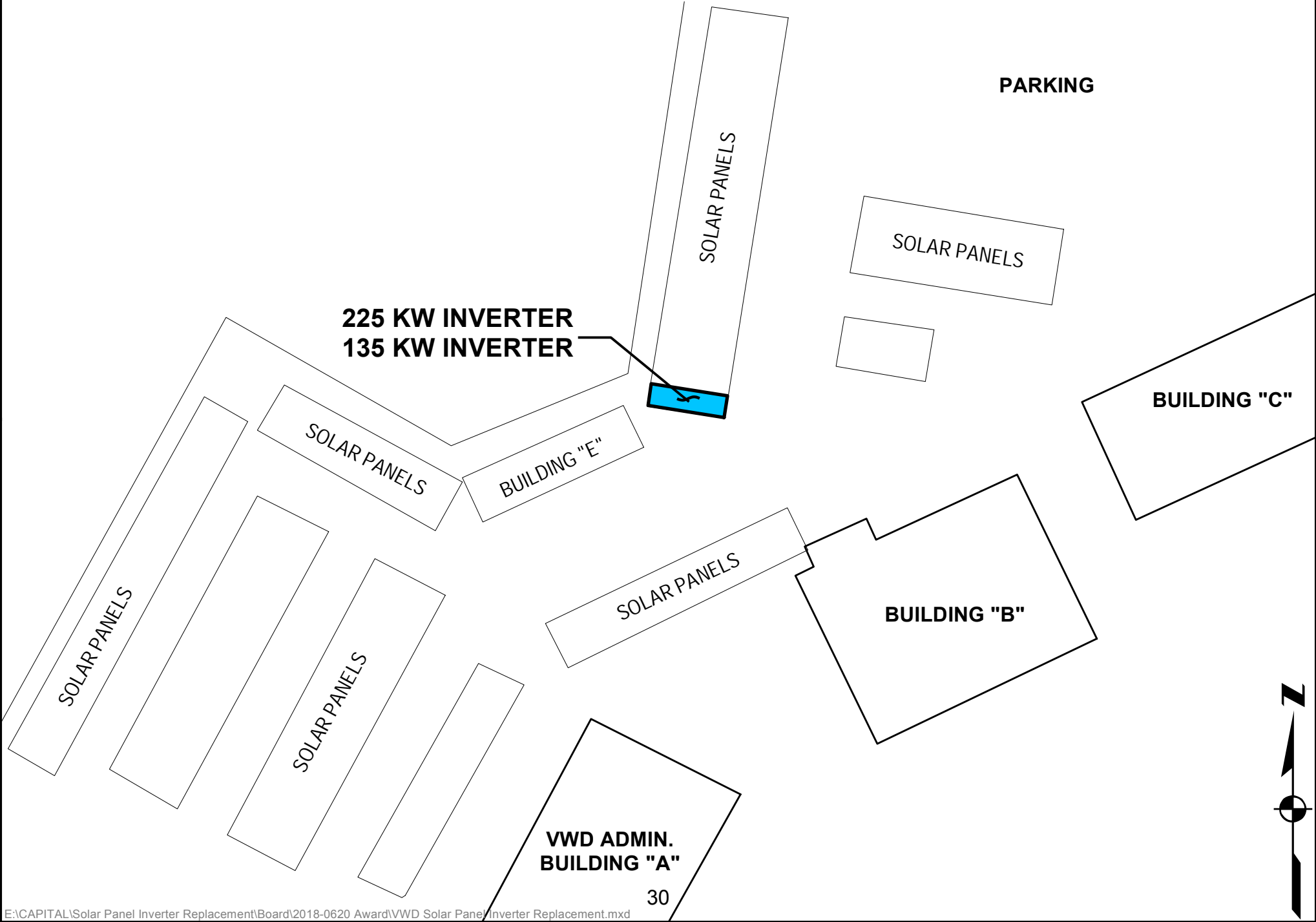
RECOMMENDATIONS:

Accept the project and authorize the filing of a Notice of Completion, and release of retention funds to the contractor following the 60-day notice period, provided no claims are filed.

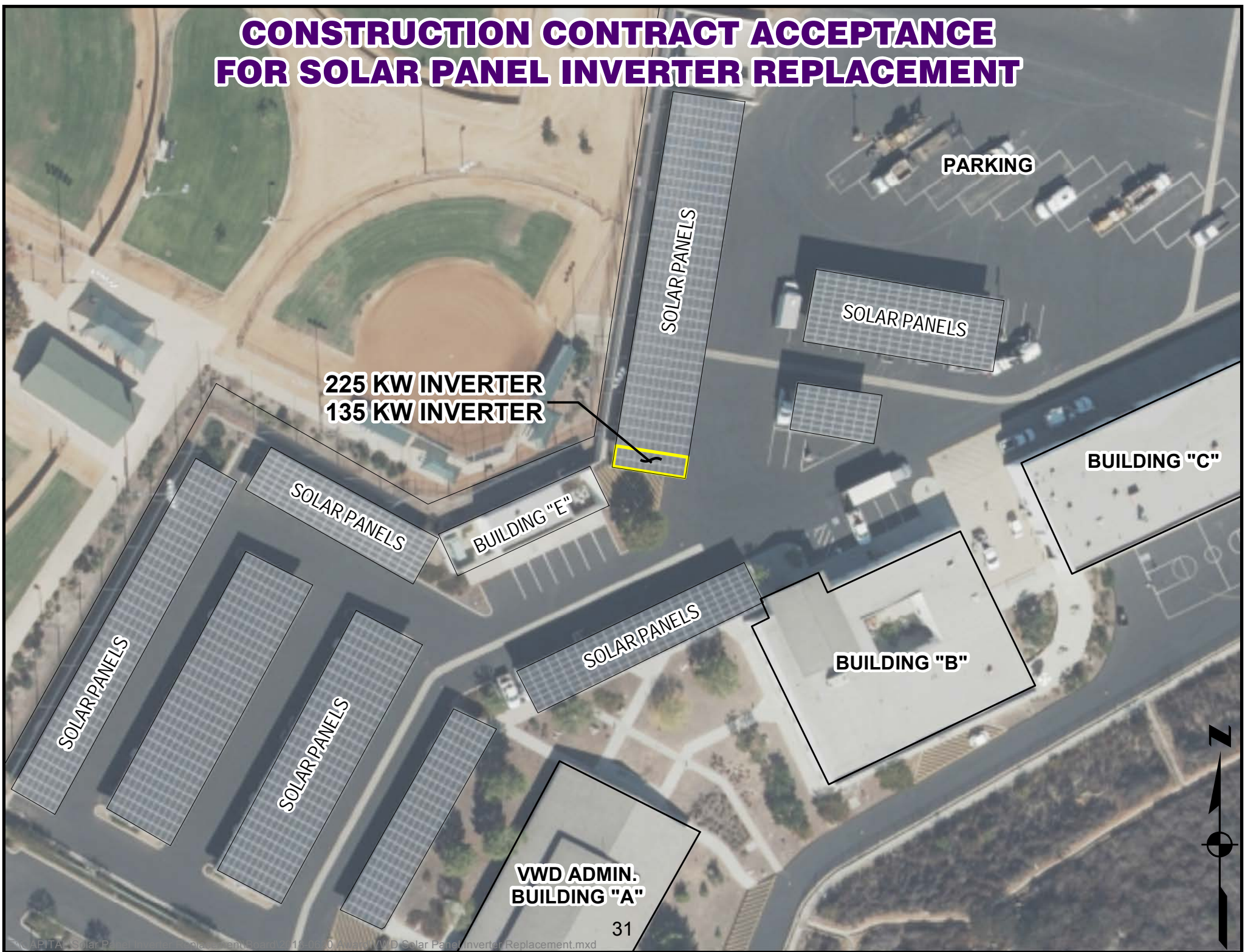
ATTACHMENTS:

Plat and Aerial Exhibit

CONSTRUCTION CONTRACT ACCEPTANCE FOR SOLAR PANEL INVERTER REPLACEMENT



CONSTRUCTION CONTRACT ACCEPTANCE FOR SOLAR PANEL INVERTER REPLACEMENT



**225 KW INVERTER
135 KW INVERTER**

PARKING

SOLAR PANELS

BUILDING "C"

SOLAR PANELS

BUILDING "E"

SOLAR PANELS

BUILDING "B"

SOLAR PANELS

SOLAR PANELS

**VWD ADMIN.
BUILDING "A"**

DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
SUBJECT: NOTICE OF DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE DISTRICT WIDE SOLAR PROJECT

BACKGROUND:

The Board of Directors has expressed interest in exploring the possibilities for a District wide solar power system to be located at various District owned properties. This subject was delegated to the Engineering/Equipment Committee (Committee) to coordinate with staff and explore potential solar panel opportunities. The Committee's recommendation was to move forward with a consultant to study the development of various energy savings projects.

TerraVerde Renewable Partners (TerraVerde) was awarded a professional services agreement at the January 17, 2018, Board Meeting. The study identified three projects which were presented to the Committee. Those projects are as follows:

- Net Energy Metering at Lift Station No. 1
- RES-BCT Project at Twin Oaks Reservoir Site
- Mahr Reservoir Floating Solar Project

DISCUSSION:

On September 19, 2018 staff and TerraVerde presented the feasibility study to the Board of Directors, and the Board decided to move the Net Energy Metering at Lift Station No. 1 and RES-BCT Project at Twin Oaks Reservoir Site options forward to the design and permitting phase. An evaluation of potential environmental impacts would need to be performed for each project per the California Environmental Quality Act (CEQA).

On March 21, 2019, staff authorized a purchase order for BRG Consulting, Inc. to prepare an Initial Study and Mitigated Negative Declaration for these two projects in the amount of \$33,630.00. BRG Consulting, Inc. compiled their environmental studies and completed an Initial Study to evaluate the effects of the proposed changes on the environment. Based on the reports contained in the Initial Study, staff determined that the proposed project may impact the environment. The proposed project scope has been revised to add specific measures to fully avoid or mitigate the potential impacts. Staff recommends, per CEQA Section 15070, that a Mitigated Negative Declaration be prepared.

Staff created a map and contact list for all properties within 500 feet of the project alignment and, if the Board accepts the recommended action, will submit a copy of the Notice of Preparation for a Mitigated Negative Declaration to each of the property owners. Those parties interested can contact the District to receive additional information. The draft Mitigated Negative Declaration will also be posted on the District's website.

CEQA Section 15073 requires that the Notice of Preparation, Initial Study, and draft Mitigated Negative Declaration be sent to agencies and interested parties concerned with the project. These parties have 30 calendar days to respond with comments. Following the public review period, the draft Mitigated Negative Declaration, together with any comments received during the public review process, will be submitted to the Board for consideration and approval.

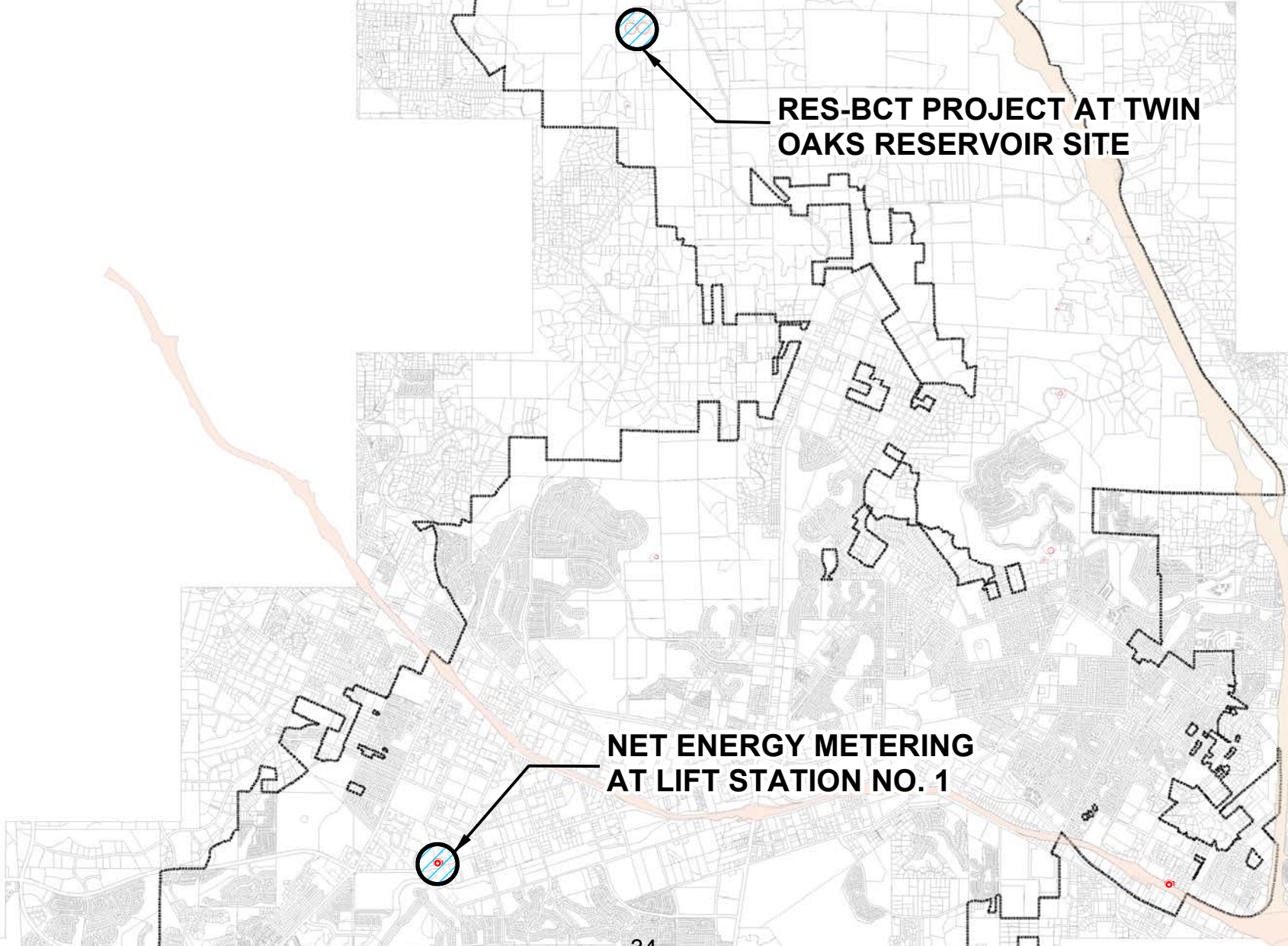
FISCAL IMPACT:

Funding for this project is provided through the District's Water Replacement Fund 110. The budget for this project is currently \$290,000, and budgeting numbers will be reconciled when the Board of Directors decides whether to move forward with project construction.

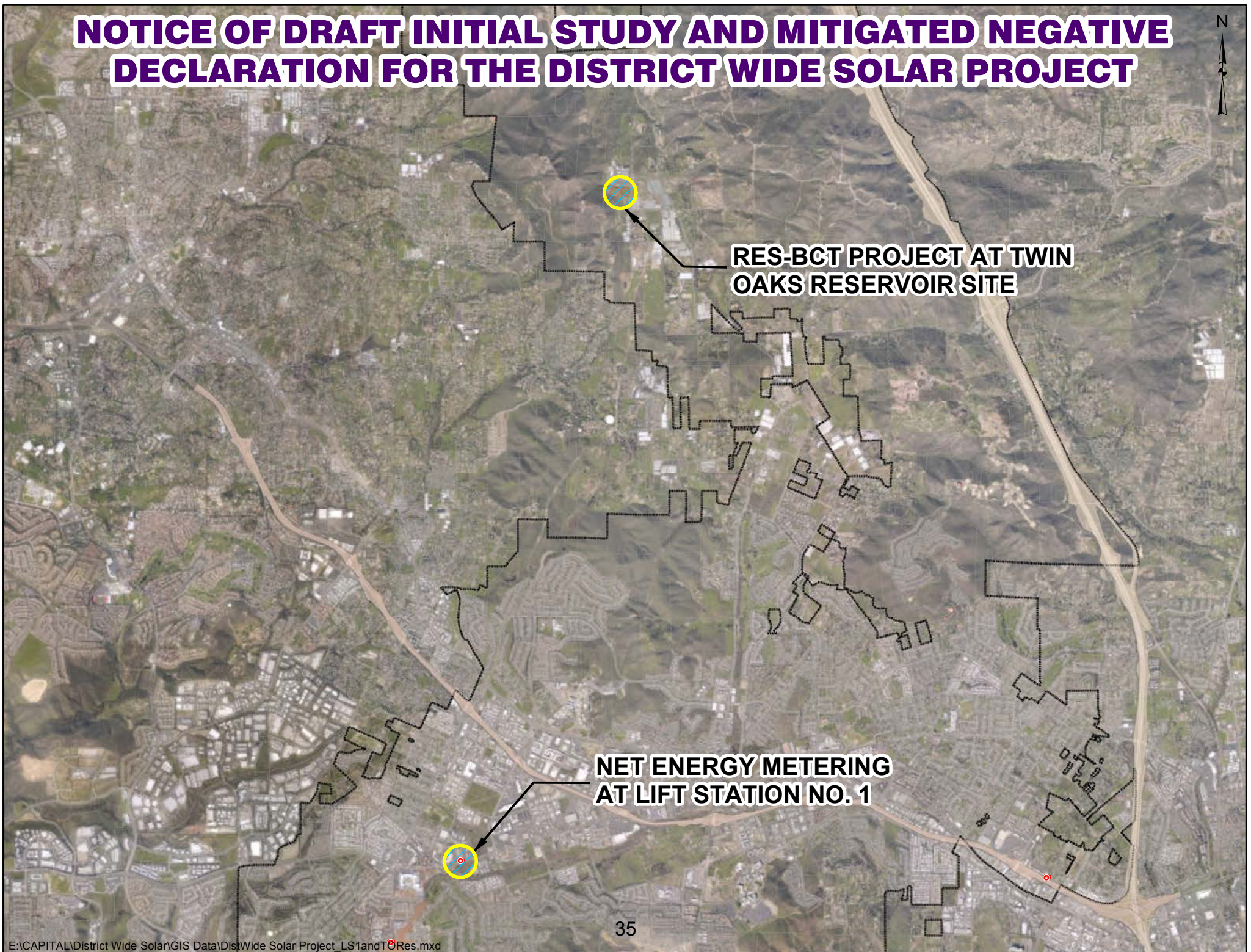
RECOMMENDATION:

Authorize circulation of the District Wide Solar Project Notice of Preparation, Initial Study, and draft Mitigated Negative Declaration for 30-day public review.

NOTICE OF DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE DISTRICT WIDE SOLAR PROJECT



NOTICE OF DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE DISTRICT WIDE SOLAR PROJECT



RES-BCT PROJECT AT TWIN OAKS RESERVOIR SITE

NET ENERGY METERING AT LIFT STATION NO. 1

DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
SUBJECT: WATER COST OF SERVICE STUDY CONSULTANT SELECTION

BACKGROUND:

Water rates and charges are property-related service fees per California Constitution Article XIID, section 6(a). This section establishes procedural requirements for imposing new, or increasing existing, property-related fees and charges. The District must hold a public hearing and mail notice of the public hearing not less than 45 days prior to the public hearing. Rates may not be imposed if there is a majority protest during the Proposition 218 notice process.

The District last raised water rates on January 1, 2019, as approved in the previous Proposition 218 process. The District will need to conduct a Proposition 218 rate hearing for rate increases and adjustments to water rates and structure after December 31, 2019. The 2020 Water Cost of Service Study will require the selected firm to evaluate the District’s existing tiered water rate structure and assist in the preparation of the Proposition 218 notice. Staff estimates the entire process will take 5-6 months to complete from rate study to public approval.

DISCUSSION:

In May of 2019, staff sent out a Request for Proposal (RFP) for a Cost of Service Study (COSS) to sixteen (16) rate consulting firms. A copy of the RFP was also available on the California Society of Municipal Finance Officer’s (CSMFO) website and on the District’s website for review.

Two (2) proposals were received as a result of the RFP process. The first proposal was submitted by Raftelis. The second was submitted by Bartle Wells Associates. Both Raftelis and Bartle Wells Associates have extensive experience in rate study and are reputable firms. Proposals were evaluated and scored by staff. The results of the rating and the weighting criteria were as follows:

Consultant	Qualifications (25%)	Project Approach and Methodology (25%)	Experience (20%)	Proposed Cost (20%)	Local Knowledge (10%)	Total Score
Raftelis	4.50	4.80	3.70	2.00	1.60	16.60
Bartle Wells	4.00	4.63	3.68	2.80	1.30	16.41

Based on the evaluation, staff selected Raftelis to prepare the COSS. Staff met with Raftelis and negotiated the final scope and fee for the required services.

On July 29, 2019 staff provided a summary of the process and presented the recommendation to the Finance Committee.

FISCAL IMPACT:

If approved by the Board, \$63,020 for the water cost of service study will be funded from the Water Operating Revenue in Fiscal Year 2019/20.

RECOMMENDATION:

Authorize the General Manager to enter into a contract with Raftelis Financial Consultants, Inc.

*Raftelis Financial Consultants Inc. proposal is available upon request

Attachment A

Vallecitos Water District

Water Cost of Service and Rate Design Review and Update

Task 1.0 – Kickoff Meeting and Data Acquisition

Raftelis will submit a data request list prior to the kick-off meeting. During the meet, we expect to cover:

- Define project roles and responsibilities
- Understand District staff concerns regarding existing water ate structures
- Develop conceptual model framework (inputs, outputs, type of analysis to be conducted, etc.)
- Participate in a pricing objectives workshop to identify the financial, affordability and public policy goals the District seeks to achieve with water rates.

Task 2.0 –Customer Water Consumption Characteristics Analysis

Raftelis will use the District’s existing billing data models and will:

- Analyze the annual and monthly billed water consumption
- Calculate peaking on a meter size basis. The peaking factors on a meter size basis will be used if the District decides to consider each meter size within the different classes.
- Develop bill frequency which shows annual and monthly billed water consumption by tier by meter size
- Create the initial consideration of potential customer class modifications for water service based on demand characteristics
- Use bill frequency data to determine the thresholds for each tier and the number of tiers. Impacts will be evaluated in Task 6.

Task 3.0 – Development of Water Revenue Requirement

Raftelis will develop the FY20 revenue requirement from the District’s adopted budget documents. Revenue requirement includes:

- Operation and maintenance expense
- Capital improvement projects
- Payments on existing and proposed debt service
- Miscellaneous revenue offsets
- Transfers to replacement reserve
- Changes in reserves

- Revenue requirement will be revenue neutral

Task 4.0 – Review and Update of Water Cost of Service

Raftelis will use the FY20 revenue requirement to functionalize and allocate the cost of service following the general accepted principles outlined in the AWWA M1 manual. These tasks include:

- Assignment of the revenue requirement to functional parameters based on FY20 budget detail for operating and capital expenditures. Operating costs will be functionalized based on the categories in the District’s budget. Capital expenditures will be functionalized on the District’s detailed asset listing.
- Determination of customer classes. The District current has one class of customers, separated by meter size. That is, the tiered rates for each meter size is the same. Raftelis will evaluate with District staff the need for individual classes by meter size. That is, tiered rates may vary by meter size based on their meter-specific demand parameters.
- Develop system-wide peaking factors for infrastructure cost allocation by function.
- Allocate operating and capital functional costs to variable and fixed cost components.
 - **Variable cost allocation.** Allocate variable costs based on the District current cost allocation parameters (in the District’s 2017 Cost of Service report). Volume-related cost components are assigned by tier (commodity costs). Water purchase costs will be assigned to tiers based on tranches. System-wide peaking factors will be used to assign infrastructure costs based on function.
 - **Fixed cost allocation.** Allocate fixed costs by function based on the District current cost allocation parameters (in the District’s 2017 Cost of Service report). Evaluate cost by meter size and cost by multifamily unit. Apply meter capacity and cost ratios to determine the readiness-to-serve charge by meter size.
 - **Revenue offsets.** Assign revenue offsets to functional parameter and allocate to the variable and fixed cost components based functional parameter.
 - **Fire line RTS.** Evaluate the fire line readiness to service charge using system fire flow demand requirements. Allocate costs using system-wide peaking factors for the portion of infrastructure related to fire protection
- Review the methodologies in the current model, discuss with District staff and propose changes from our evaluation.
- Develop system-wide units of service and units of service by meter size:
- Identify total units of service by variable and fixed cost allocation parameters
- Calculation of the system-wide allocated revenue requirement and meter size class revenue requirement

Task 5.0 – Water Rate Structure Design for FY20

Raftelis will develop rates under the current structure and alternative structures. This includes:

- Update the current commodity charge and readiness-to-serve charge based on the cost allocation process in Task 4.

- Develop two rate structure alternatives from the pricing objectives analysis in Task 1 and the results of the cost allocation methodologies in Task 4. This may include:
 - *System-wide cost of service.* Thresholds that vary by meter size; rates by tier that do not vary by meter size
 - *Class by meter size.* Thresholds that vary by meter size; rates by tier that vary by meter size
- Develop alternative rate structures based on the pricing objectives identified in Task 2. This may include:
 - Changes in the number of tiers
 - Adjustments to the thresholds
 - A tiered based structure for the agricultural water class.

Task 6.0 – Model Development

Raftelis will complete Tasks 1 through 6 using a custom-built model for the District. The model will be based on the framework identified in Task 1. Raftelis rate models include the following core components:

- Dashboard summarizing results of the data inputs.
- Calculation of the test year revenue requirement
- Summarized billing data needed to develop cost of service allocations to customer classes
- Detailed costs assigned to functional parameter
- Detailed functional cost allocation to cost components (fixed and variable)
- Customer class revenue requirement
- Comparison of cost of service to revenue under existing rates
- Test rate design module for rate structure alternatives. Inputs such as modifying tiers, thresholds, and customer class structures are included.
- Evaluate the rate impact by changing the percent of costs recovered from variable and fixed charges
- Compare typical customer bills for different levels of usage

Raftelis will develop the model for one test year.

Raftelis will provide up to four hours of training to staff through web-based meetings. Following those training meeting, Raftelis will update the model with non-structural changes based on feedback from staff. Structural changes include adding test years, expanding the rate design module to include options not already reviewed as part of the study, macros or automated feature not already in the model.

Task 7.0 – Meetings and Reporting

Raftelis will attend the following six (6) on-site meetings

- Project kick-off meeting
- Project meeting (timing TBD)
- Two meetings with the Finance committee
- Two Board meetings

Raftelis will prepare a draft report summarizing our findings. The report will include:

- Executive summary with findings, conclusions, and recommendations
- Assumptions used in the analysis
- Detailed discussion on the development of the revenue requirement and cost allocations
- Detailed discussion of the rate structure alternatives and the pricing objectives used to support the alternatives
- Discussion of the changes in cost of service to revenue at existing rates and structure
- Appendix with the supporting tables and calculations from the model.

Raftelis will update the draft report incorporating comments from Staff and deliver an electronic version of the final report.

Proposed Fee

Raftelis will complete this Scope of Service tasks for a not-to-exceed fee of \$63,020. Our fee includes labor costs using on our standard hourly billing rates below, direct expenses at cost, and a \$10 per hour technology charge. The following tabulation shows the fee and hours by task.

Task	On-Site Meetings	Hours	Cost
1. Kick-off Meeting and Data Acquisition	1	25	\$5,640
2. Customer Water Consumption Characteristics Analysis		32	6,560
3. Development of Water Revenue Requirement		24	5,080
4. Review and Update of Water Cost of Service		50	10,180
5 Water Rate Structure Review and Update for FY20	1	48	10,100
6. Model Development		12	2,540
7. Meetings and Reporting	4	62	14,640
Total Meetings, Hours, and Fees	6	253	\$54,740
Total Expenses (Technology Charge and Travel)			\$8,280
Total Fees and Expenses			\$63,020

Proposed Schedule

Raftelis proposes the following schedule to meet a February 1 rate implementation. All dates are approximate and subject to change following agreement to contract terms.

Milestone/Deliverable	Approximate Dates
Notice to proceed	End of August
Finance Committee #1	Week of September 16, 2018
Finance Committee #2	Week of October 14, 2019
Board Meeting #1	Week of September 16, 2019
Board Meeting #2	Week of October 21, 2019
Draft report and Prop 218 notice ¹	Week of November 1, 2019
Final report for Board packet	January 8, 2019
Board Adoption	January 14 th
[1] Assumes a 45-calendar day advanced notification with time for printing and mailing notices.	

DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
**SUBJECT: PRESENTATION OF SAN MARCOS GROUNDWATER BASIN SUPPLY
OPTIONS EVALUATION**

BACKGROUND:

The Board of Directors has expressed interest in exploring the possibilities of utilizing the San Marcos Groundwater Basin (Basin) for a new water resource for the District. The Board has directed staff to prepare a scope and fee estimate to evaluate Basin supply options.

DISCUSSION:

On October 17, 2018, the Board of Directors approved a professional services agreement with Woodard & Curran in the amount of \$77,590.00 to evaluate and develop Basin use alternatives, recommend a single alternative based on the results of the initial evaluation, and investigate potential funding mechanisms for the preferred alternative.

The three groundwater use alternatives that Woodward and Curran evaluated include the following:

1. Alternative 1 – Irrigation with groundwater for non-potable purposes, with storage for blending with recycled water
2. Alternative 2 – Potable supply with construction of a groundwater desalter plant
3. Alternative 3 – Groundwater basin recharge with advanced treated water from the Encina Water Pollution Control Facility

Woodward and Curran submitted a draft technical memorandum on May 9, 2019 that concluded Alternative 2 (potable supply) and a version of Alternative 1 (non-potable supply) could potentially produce water of comparable cost to VWD's seawater desalination commitment.

This item was presented to the Engineering/Equipment Committee (Committee) on May 30, 2019 by Woodard and Curran. The Committee asked that the study include additional discussion on grant funding sources that may be available. The Committee also asked for a cost sensitivity analysis for Alternative 2 under varying production rates. This analysis estimates that the cost of potable water produced by a groundwater desalter varies between \$1,850 per acre-foot (based on an annual production of 1,000 acre-feet) to \$2,930 per acre-foot (based on an annual production of 250 acre-feet).

Based on the results of the draft technical memorandum, Alternative 2 is potentially the most economically feasible. Potable supply through groundwater desalination could be

cost-competitive with present San Diego County Water Authority supplies provided that the following assumptions hold:

- Well production capacity of 200 gallons per minute for each extraction well
- 1,000 acre-feet total annual yield from the well field is achievable
- The San Marcos Groundwater Basin is large and accessible enough to support such an extraction without depleting or impacting present groundwater pumps
- Potential grant funding, such as Metropolitan Water District's Local Resources Program and California Department of Water Resources' Water Desalination Grant Program, could further reduce estimated costs

The Basin study is now complete. If the Board wishes to continue exploring Alternative 2, then further study would be required to evaluate the feasibility of the groundwater desalter project and verify that the assumptions made are reasonable. Such assumptions include well production, long-term Basin yield, groundwater quality, well-spacing, and impacts to existing wells. These focused investigations would likely cost between \$500,000 and \$1,000,000. Once the Basin parameters are confirmed, a pilot study for the groundwater desalter and evaluation of the impacts of disposing brine to the Encina Water Pollution Control Facility could begin.

The Engineering/Equipment Committee recommended that Woodard and Curran present the Basin study results to the full Board of Directors.

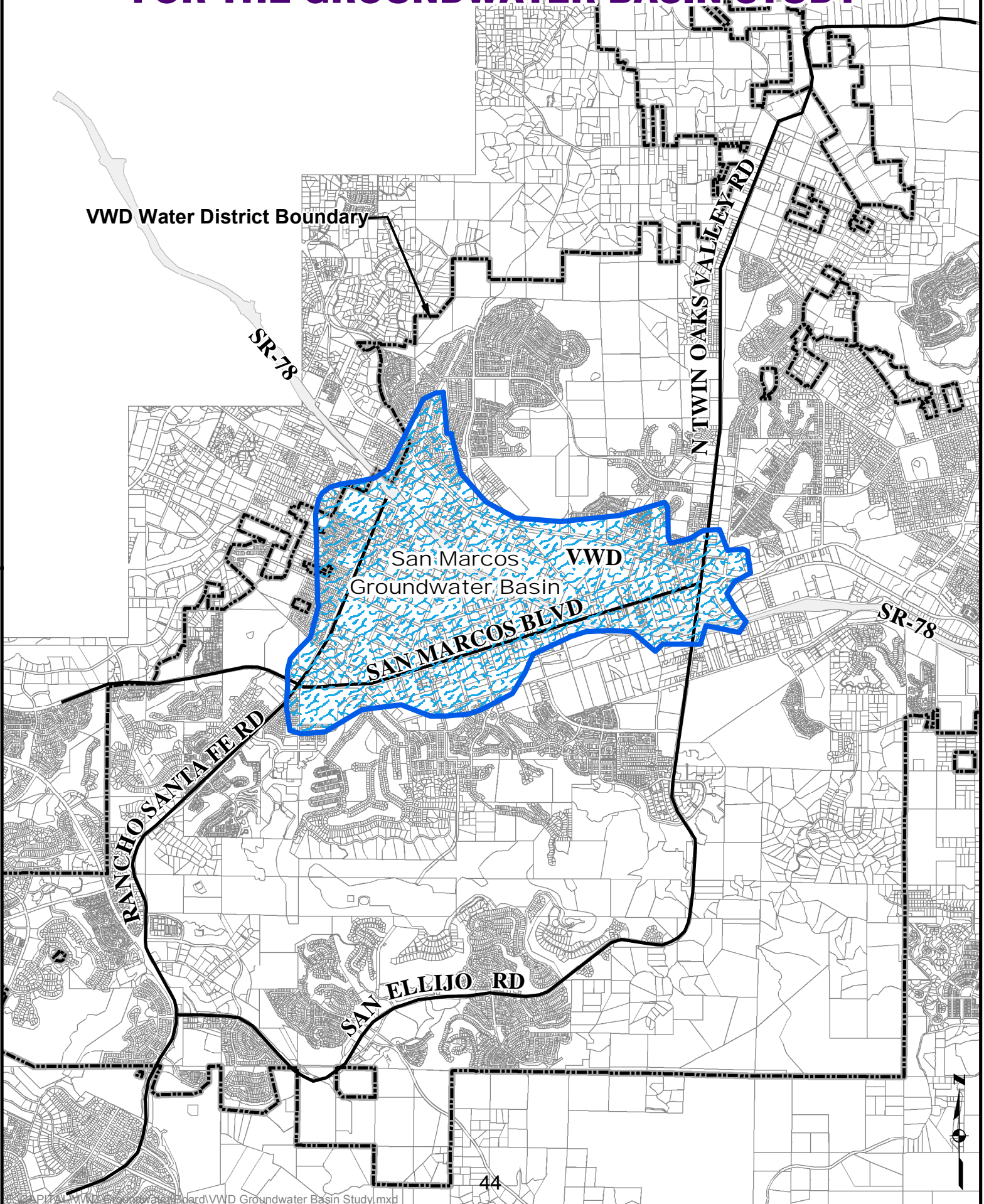
FISCAL IMPACT:

Staff has set aside funds in the Engineering Department's "outside services" in the Fiscal Year 19/20 Budget for completion of the Basin study. Total costs are estimated at \$95,000.

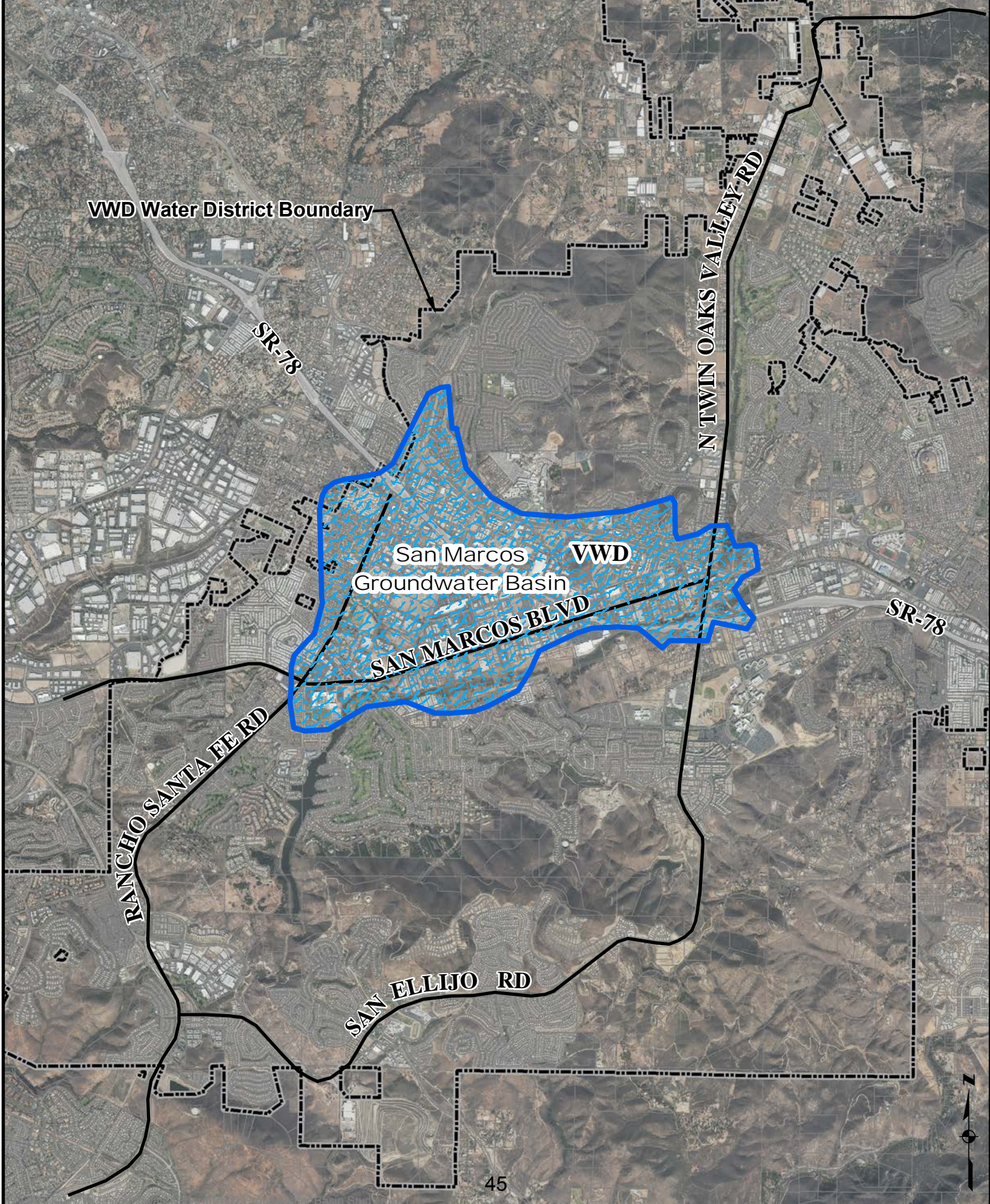
RECOMMENDATION:

Request Board direction on continuing to explore the feasibility of Alternative 2. If the Board does wish to continue, staff will request a scope and fee estimate from Woodard and Curran to bring back to the Board for consideration.

AWARD OF PROFESSIONAL SERVICES AGREEMENT FOR THE GROUNDWATER BASIN STUDY



AWARD OF PROFESSIONAL SERVICES AGREEMENT FOR THE GROUNDWATER BASIN STUDY



DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
SUBJECT: MODIFICATION OF WATER AND WASTEWATER CAPITAL FACILITY FEES

BACKGROUND:

The District Water and Wastewater Capital Facilities Fees (Cap Fees) collected from new development and new connections are scheduled for update. The District's 2018 Water, Wastewater, and Recycled Water Master Plan (Master Plan) is the foundation document for the Cap Fees as it lays out the infrastructure costs and timing required to accommodate future development. The Board of Directors adopted the 2018 Master Plan at its May 1, 2019 regular meeting.

Financing costs are one of the primary components associated with the Cap Fees. Infrastructure must typically be constructed to accommodate future demands, and so the District will need to finance construction costs. The financing cost of the District's 40-million-gallon Twin Oaks Reservoir is a good example of this. This project's capacity needs were built for future development, most of which has yet to connect to the District's water and wastewater systems and pay Cap Fees. The project was debt financed and both the capital costs as well as financing costs are incorporated within the existing and proposed Cap Fees.

DISCUSSION:

The District retained Karyn Keese with The Keze Group, LLC, to perform a professional review of the Cap Fees. The District continues to use the incremental methodology for establishing Cap Fees because the District is a growth-oriented agency. The Capital program outlined from the 2018 Master Plan was used to calculate the appropriate Cap Fees.

Staff initially presented the proposed Cap Fees to the Finance Committee on February 25, 2019. Since that time, staff has also met with the Building Industry Association (BIA) and other stakeholders to present the proposed Cap Fees and solicit comments and questions. Ms. Keese and the District's financial advisors (FA) also commented on the proposed Cap Fees, primarily on the interest rate assumptions. Following the recommendations of Ms. Keese and the FA, staff updated the proposed Cap Fees. The updated Cap Fee assumptions were presented to the Finance Committee on April 15, 2019.

Staff presented the Cap Fees at the May 15, 2019 Board meeting to discuss the background and financing options previously presented to the Finance Committee, and to schedule the adoption of the Cap Fees. A meeting with the BIA was held on June 26, 2019. As a result of that meeting, staff was requested to look at interest rates and cost of capital projects more frequently and adjust the fee accordingly. A request to delay the Cap Fee adoption was received from the BIA, and after discussions with the District's General Manager, adoption of the Cap Fees was postponed to the August 7, 2019 meeting.

On July 29, 2019, the Cap Fees were brought before the Finance Committee where staff presented three different options that factored in varying financing rates. Based on concerns from the BIA and recommendations from both the FA and Ms. Keese, interest rates on short-term and future debt were reduced. Staff and the Finance Committee recommend that short term (Phase 1) construction interest rate be reduced from 6% to 4.5%. Long-term interest rates (Phases 2-5) are also recommended to be reduced from 8% to 6%.

The District received a list of questions from the BIA on July 31, 2019 regarding The Keze Group's nexus study and the Master Plan CIP used for constructing the Cap Fees. Staff provided responses to these questions on August 2, 2019.

The proposed Cap Fees meet the legal requirements of Government Code section 66013, in that the Cap Fees are charges for public facilities in existence at the time the Cap Fees are imposed, and for new public facilities to be acquired or constructed in the future, that are of proportional benefit to the person or property being charged, and that are attributable to the proportional cost of providing capacity to such connections. The Cap Fees only support improvements which will be required by new connections to the respective system, the Cap Fees do not exceed the cost of constructing the improvements, and the Cap Fees will not be used for operational, maintenance or repair expenses.

A public meeting to consider adoption of the new Water and Wastewater Capital Facility Fee Ordinance is required to implement the new fee. This provides the Board an opportunity to modify the Cap Fees based on concerns and input from the public.

FISCAL IMPACT:

The foundation of the Cap Fees is that recovery of costs with the determined Cap Fees should have no fiscal impact to ratepayers. All expenditures for growth-related assets are recovered, or mitigated, solely by revenues from Cap Fees. A separate fund is maintained for both the Water and Wastewater Cap Fees. No reserves are maintained or included in the Cap Fee funds.

The Cap Fees set forth in the table below are charged per equivalent dwelling unit, or EDU, assigned to the connection, and are based on up to 500 gallons per day for water, and 250 gallons per day for wastewater.

Staff will update the Cap Fees annually based on an automatic escalator using ENR's Construction Cost Index for Los Angeles and will perform an annual review of the Cap Fees based on the state of short-term interest rates and actual costs of Capital Improvement Projects to be effective every year on January 1. Board approval would be required to modify the Cap Fees based on significant increases in the rates and costs.

Staff and Finance Committee recommended Cap Fees result in rates that compare to existing rates as follows, which is measured in EDUs assigned to the particular connection:

CAP FEE	Proposed	Existing	Change \$
Water	\$ 8,254	\$ 7,756	\$ 498
Sewer	\$ 16,570	\$ 9,963	\$ 6,607
Total	\$ 24,824	\$ 17,719	\$ 7,105

RECOMMENDATION:

Hold a public meeting to allow the public an opportunity to offer comment on the Water and Wastewater Capital Facility Fees; and, adopt the new Water and Wastewater Capital Facility Fee Ordinance with the fees becoming effective on October 7, 2019.



Water and Wastewater Capital Facility Fee Calculation Review

Final Report

**Prepared for:
Vallecitos Water District**

July 9, 2019

EXECUTIVE SUMMARY

Vallecitos Water District (District) last updated their Water and Wastewater Capital Facility Fees in November 2011 based on their newly adopted 2008 Master Plan. The 2011 Capital Facility Fee Nexus Study was prepared by Atkins. A copy of this original Study is included in Appendix A to this report for reference purposes. That Study also prepared a Wastewater Density Impact Fee to address changes in General Plan land use designations within the County and the City of San Marcos (densification) that were not included in the wastewater portion of the 2008 Master Plan. The primary driver of this was due to additional treatment capacity needed by the District to accommodate new sewer connections beyond what the 2008 Master Plan anticipated.

In October 2018 the District completed a new Water, Wastewater, and Recycled Water Master Plan which provides the basis for updating their Water and Wastewater Capital Facility Fees. The 2018 Master Plan was adopted by the District's Board on May 1, 2019. The new Master Plan includes the latest land use revisions from the County and City of San Marcos for both water and wastewater future needs. Also, this new Master Plan accounts for the wastewater treatment shortfall which was originally addressed through the District's Density Impact Fee and rolls all wastewater capital facilities financing needs into this updated Capital Facility Fee review.

The purpose of this letter report is to provide an independent technical review the District's update to their Water and Wastewater Capital Facility Fees based on this recently adopted 2018 Master Plan. The list of Capital projects included in the 2018 Master Plan, which forms the basis of the fee, is unchanged, but includes updated timing and costs between the 2008 and 2018 Master Plans. The only addition to the capital projects included in the fee are projects recently identified by Encina, which is the regional wastewater treatment facility serving North San Diego County and of which the District is a member. With the updated wastewater land use designations the need for the Wastewater Density Impact Fee has been eliminated which was discussed in the 2011 Nexus Study. The economic model uses the same fee calculation methodology as contained in the 2011 study which is the incremental or growth methodology as discussed later in this report.

Water and Wastewater Capital Facilities Fees are one-time fees levied to recover the costs of facilities needed to provide utility service to new connections to the District's water and wastewater systems. These charges are typically collected at the time of development by may also be recovered for expansion of service to existing connections, such as when an existing customer requires a larger water meter or there is an expansion of existing uses. Revenues generated through Capital Facility Fees are used to directly offset system expansion costs and repay debt issued to finance system expansions or improvements. Table 1 summarizes the current Water and Wastewater Capital Facility Fees currently charged to new development and the proposed 2019 updated fees.

Table 1: Current and Updated Capital Facilities Fees

	Current 2019 Fee	Draft Estimated Updated 2019 Fee
Water Capital Facilities Fee	\$ 7,756	\$ 8,391
Wastewater Capital Facilities Fee	9,963	17,137
TOTAL CAP FEES	\$ 17,719	\$ 25,528

CAPITAL FACILITY FEE BACKGROUND

In conformance with California law, new developments are required to mitigate their impacts and construct or pay their fair share of the capital facilities needed to provide service which includes District Capital Improvement Projects (CIP) identified in their most recent adopted Master Plan. Capital Facility Fees are calculated based on the estimated present value of construction costs for future capital facilities included in the adopted Master Plan and the present value of financing costs for these facilities based on reasonable financing assumptions. In other words, all components of the Fees are brought to current year dollars.

Revenues generated through Capital Facility Fees are used to directly offset expansion CIP costs and to repay debt issued to finance system expansions that benefits new development. The District bases its Capital Facility Fees on the growth or incremental methodology. The growth methodology is a fairly common approach for establishing capital facility fees. The approach is based on the cost of future capital facilities required to reasonably accommodate planned growth plus the cost to finance these facilities. This cost is allocated to the new growth that is to be served by the facilities based on projected equivalent dwelling units. Under this approach, new customers and existing customers with increased demands pay for the incremental investment necessary for system expansion.

The basic equation for the growth methodology is:

$$\frac{\text{Growth CIP Asset Values} + \text{Financing Costs}}{\text{Projected Growth in Equivalent Dwelling Units}}$$

CAPITAL FACILITY FEE CALCULATION

The District is essentially using an updated economic model created by staff to determine their Capital Facility Fees. This economic model is based on the one prepared by Atkins during the 2008 master planning cycle with some changes. These changes update current interest rates for debt financing and timing on the District’s capital facility needs to serve expansion. The list of Capital projects included in the 2018 Master Plan, which forms the basis of the fee, is unchanged, but includes updated timing and costs between the 2008 and 2018 Master Plans. The only addition to the capital projects included in the fee are three (3) projects recently identified by Encina, which is the regional wastewater treatment facility serving North San Diego County and of which the District is a member. The economic model uses

the same fee calculation methodology as contained in the 2011 study which is the incremental or growth methodology as discussed earlier.

The Water and Wastewater Capital Facility Fee's each have four major components as shown in Table 2 for water and Table 3 for wastewater. These components are the capital facilities identified as expansion related projects in the Master Plan (CIP), the financing costs of these future facilities with an adjustment to bring the financing costs to present value, the remaining portion of existing debt used to fund expansion CIP, and an adjustment for the capital expansion fund shortfall.

Table 2: Water Capital Facility Fee Determination

Water Capital Facility Fee Determination	
CIP	\$ 24,556,373
Financing Costs	25,733,426
PV Discount	(14,665,625)
Existing Debt	29,059,565
Capital Facilities Fund Shortfall	9,161,412
Total Revenue Requirement (PV)	\$ 73,845,151
EDUs	8,800
Draft Estimated Fee	\$ 8,391
	2019 Fee
	\$ 7,756

Table 3: Wastewater Capital Facility Fee Determination

Wastewater Capital Facility Fee Determination				
	Pipeline	Treatmt/ Outfall (P1-4)	Treatmt/ Outfall (P5)	Total
CIP	\$ 24,427,296	\$ 35,723,126	\$ 53,372,290	\$ 113,522,711
Financing Costs	23,122,306	\$ 35,902,046	\$ 58,203,964	117,228,316
PV Discount	(13,845,659)	\$ (22,291,066)	\$ (51,764,683)	(87,901,408)
Existing Debt	3,767,494	\$ 32,119,470	\$ -	35,886,965
Capital Facilities Fund Shortfall	2,366,618	4,454,018	-	6,820,636
Total Revenue Requirement (PV)	\$ 39,838,055	\$ 85,907,594	\$ 59,811,572	\$ 185,557,220
EDUs	8,400	8,400	27,600	
Draft Estimated Fee	\$ 4,743	\$ 10,227	\$ 2,167	\$ 17,137
				2019 Fee
				\$ 9,963

The four components of each Capital Facility Fee are defined as follows:

1. Capital Improvement Plan (CIP)

The water portion of the Master Plan identified a total water CIP of \$112,100,000 divided into water storage, pipeline, and pumping projects in five phases. These five phases start in 2015 with Phase I including the capital facilities needs from 2015 to 2020 and then in five year increments after that as shown in Table 4. On a project by project basis the District determined the replacement and expansion portions of each project for a total of \$72,704,322 in expansion related projects as shown in Table 4. However, only Phase 1 to 4 of water expansion projects were included in the Water Capital Facility Fee which total \$24,556,373. Phase 5 water projects are less certain, and timing of those projects are more subjective and a thus not included in the fee calculation.

Table 4: Water Master Plan Expansion Projects

Master Plan Water CIP (2019 ENR)					
Phase	Year	Storage	Pipeline	Pumping	Total
1	2015-2020	3,719,171	-	-	3,719,171
2	2021-2025	4,596,458	5,368,733	3,790,273	13,755,463
3	2026-2030	7,081,739	-	-	7,081,739
4	2031-2035	-	-	-	-
5	2036-	37,972,735	8,497,212	1,678,002	48,147,949
		53,370,102	13,865,944	5,468,275	72,704,322

Table 5 summarizes the expansion portion of the wastewater CIP from the Master Plan in the same five Phases as well as the inclusion of the Encina CIP. Similar to the water CIP, Phases 1-4 of the wastewater CIP expansion costs are used for calculation of the fee. However, two projects that start within Phases 1-4 but expand into Phase 5 have been included in the wastewater capital facility fee. These two projects are the wastewater treatment expansion and the parallel land outfall project. As stated earlier, both projects start within Phases 1-4 but final completion is within Phase 5. The total of all five Phases of \$113,522,711 is included in the fee calculation

Table 5: Wastewater Master Plan Expansion Projects

Master Plan Wastewater CIP (2019 ENR)					
Phase	Year	Pipeline / LS	Outfall	Treatment	Total
1	2015-2020	12,502,977	5,829,253	5,033,403	23,365,633
2	2021-2025	5,351,231	1,232,796	-	6,584,026
3	2026-2030	2,851,729	23,627,674	-	26,479,403
4	2031-2035	1,993,038	-	-	1,993,038
5	2036-	1,728,321	3,143,793	50,228,497	55,100,611
		24,427,296	33,833,516	55,261,899	113,522,711

A full list of the Water Master Plan projects are included as Appendix B to this report. Wastewater Master Plan projects are included in Appendix C as well as the two Encina projects. Each list summarizes the allocation of the expansion portion of the CIP if a project is a combined project where an existing facility is being replaced and upsized for expansion at the same time as well as the formula used to allocate the expansion portion of the CIP.

2. Financing Costs and Present Value Discount

The District's Master Plan breaks down the CIP into 5 phases for implementation as shown in Tables 4 and 5. This implementation plan is utilized in the economic model to calculate the Capital Facility Fees. The District's policy in the past has always been that expansion capital facilities are to be 100% debt financed because expansion facilities have to be put in place prior to the first user connecting to them or paying any fees. The Capital Facility Fee revenue collected from new development is then used to repay the annual debt service. Thus this cost of capital must be included in valuing the expansion assets. The calculation of future debt service contained in the model is based on the following assumptions:

- Interest on Phase 1 debt will be 5%. For Phase 2 to 5, interest rate is 6.5%.
- The cost of issuance for each bond issue is 2% of the total principal amount.
- The term of each one of the debt issues will be 25 years.
- Inflation over the time period for calculating the present value of each year's payment of principal and interest will be 2% annually.

Using this approach to financing expansion related CIP provides for the adjusted equation for the District's Capital Facility Fees where all CIP and financing costs are in 2019 dollars:

$$\frac{\text{Present Value of Growth Asset} + \text{Present Value of Debt Repayment}}{\text{Projected Growth in Equivalent Dwelling Units}}$$

3. Existing Debt

The District has issued debt in the past to install major capital facilities to support new development. The major facilities that have been debt financed and still have capacity for new development include the 40-million-gallon Twin Oaks Reservoir, Encina Phase 5 Expansion, and the Meadowlark Reclamation Plant Expansion. The present value of existing debt service for capital expansion projects is currently \$29 million for water and \$36 million for wastewater. These financing costs are included in the fee calculation as shown in the adjusted equation above.

4. Capital Facility Fund Shortfall

As stated above in Item 3, the District has substantial outstanding debt for existing capital facilities. This debt has always been included in the Capital Facility Fee calculation and the annual required debt service is paid from reserves in the Capital Expansion Fund into which all fee revenues are deposited. During the recent recession, projected new development on which the debt repayment schedule was based, did not occur for several years and the debt service payments exceeded the

Capital Facility Fee revenues resulting in a negative balance in the expansion fund. The expansion fund is restricted and tracked separately from other funds and must be self-sustaining. During this time period money was loaned from the general operating fund to cover the required debt service shortfalls and must be repaid just as any other debt associated with financing expansion projects. Accordingly, the negative balance can only be funded through an increase in capacity fees or through the issuance of additional debt. The funding to replenish the reserve in the amount of the negative balance is included in the calculation of Capital Facility Fee.

CONCLUSIONS AND RECOMMENDATIONS

As discussed, the District's financial analyst updated the economic model and the District has requested The Keze Group review, comment, and recommend changes on their proposed new Capital Facility Fees and the economic model. The Keze Group is uniquely qualified to perform this task as we prepared the District's prior Capital Facility Fee economic model while at Atkins.

The Keze Group's review of the Capital Facility Fee model updated by the District consisted of the following steps:

1. The Master plan was reviewed to determine which water and wastewater expansion facilities should be included in the new Fee model. The capital facilities from the Master Plan for water and wastewater included in the Fee calculations were verified for accuracy. In addition, documentation from Encina for waste gas flare and solids handling projects to be included in the fee were reviewed. Only the expansion portions of capital projects were included for fee calculations and this was verified by the review.
2. The Master Plan and Encina projects were documented to the expansion fund and therefore their proper inclusion in the Capital Facility Fees determined. The Engineering News Record (ENR) calculations to bring Master Plan costs to January 2019 values were verified for accuracy.
3. The EDUs used in the Fee calculation were verified to be consistent with the Master Plan.
4. Existing debt, future debt, and capacity expansion fund shortfall assumptions and debt service schedules were reviewed and verified for accuracy.
5. All fee calculations were traced and verified using Excel's formula auditing functions to validate the Fees.

After following these procedures we have reached the following conclusions:

1. The economic model is well constructed, easy to follow/audit, and provides excellent summary tables that can be easily included in reports and presentations. We found no errors in calculation of the Fees in the model.
2. The Master Plan clearly identifies the required capital facilities for the five phases and forms the required basis (nexus) for the update of the District's Capital Facility Fees. As shown in the summary of the capital facilities included in Appendix B and C to this report, an explanation for the allocation between replacement and expansion is footnoted for each CIP.
3. The components of the Capital Facility Fees follow the industry guidelines that provide that these fees can recover cost for facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that will provide benefit to the property being charged and can include the costs of financing these facilities.

4. The District has reviewed multiple options with the Building Industry Association (BIA) for the interest rate to be used for debt issued for Phases 2 to 5. Originally the model was set to 8% for these phases due to concerns about increased inflation. The District has explored with their financial consultant whether this number is appropriate for future debt service interest rate and recommended a lesser rate of 5.0% for Phase 1 projects and 6.5% for future debt issuance from Phase 2-5 within the model. The District will want to revisit these interest as part of the next update to the Master Plan and associated Capital Facility Fee calculations to insure that they are recovering their cost of capital.
5. The District is estimated at 65% water and 60% wastewater from buildout. Although the District has appropriately used the incremental methodology to calculate their Capital Facility Fees they may wish to explore alternative fee calculation methodologies when the next Master Plan and Fee update is performed. Many agencies switch to a combined fee methodology once they reach 50% buildout to insure that costs associated with major facilities that have already been constructed but still have remaining capacity are captured in the fee.



Appendix A
Capacity and Impact
Fee Study
Final Report
November 8, 2011

Capacity and Impact Fee Study

Final Report

**Prepared for:
Vallecitos Water District**

November 8, 2011

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Executive Summary

The Vallecitos Water District (District) is an independent Special District formed in 1955 which provides provides water, wastewater and reclamation services to approximately 94,000 people in a 45-square-mile area that includes the City of San Marcos, the community of Lake San Marcos, portions of the Cities of Carlsbad, Escondido and Vista and other surrounding unincorporated areas of the County of San Diego.

Guided by a comprehensive Water, Wastewater and Recycled Water Master Plan (2008 Master Plan), the District is committed to providing the highest level of water and wastewater services in an efficient, cost effective manner. The District is a member of the Encina Water Pollution Control Facility (Encina), which is the regional wastewater treatment facility serving North San Diego County.

The purpose of this study is to update the District's Water and Wastewater Capital Facility Fees based on the recently adopted 2008 Master Plan and to address impacts on wastewater treatment as a result of increases in densities greater than those identified in the 2008 Master Plan land use designations. The results of this study are three (3) fees to be incorporated into Ordinances and adopted by the District's governing Board. These fees are the; Water Capital Facility Fee, Wastewater Capital Facility Fee, and Wastewater Density Impact Fee.

Water and Wastewater Capital Facility Fees are one-time fees levied to recover the costs of facilities needed to provide utility service to new connections to the District's water and wastewater systems. These charges are typically collected at the time of development but may also be recovered for expansion of service to existing connections, such as when an existing customer requires a larger water meter or there is an expansion in existing uses. Revenues generated through Capital Facility Fees are used to directly offset system expansion costs and repay debt issued to finance system expansions or improvements.

The District retained Atkins (formerly PBS&J) to assist in updating these growth-related fees. The updated Capital Facility Fees include the following:

- Future capital improvement projects based on the updated 2008 Master Plan
- Revised Equivalent Dwelling Units (EDUs) pursuant to the updated 2008 Master Plan; and
- Financing expansion of capital improvement projects

In addition, this study provides documentation which substantiates the calculation of Wastewater Density Impact Fees which are also one-time fees charged to new developments with increased densities above the land use designations identified in the 2008 Master Plan and which cause increased impacts on wastewater treatment at Encina.

ES.1 Water and Wastewater Capital Facility Fees

On August 3, 2011 the District adopted the 2008 Master Plan which includes necessary future Capital Improvement Projects based on the adopted land use designations which existed as of June 2008.

In conformance with California law, new developments are required to mitigate their impacts and construct or pay their fair share of the capital facilities needed to provide service which includes the Capital Improvement Projects identified in the 2008 Master Plan. Capital Facility Fees are calculated based on the estimated present value of construction costs for future capital facilities included in the 2008 Master Plan and the present value of financing costs for these facilities based on reasonable financing assumptions.

In addition to being recalculated in conjunction with updates to the Master Plan, Capital Facility fees are automatically adjusted annually based on the Engineering News Record index (ENR index) and also recalculated in conjunction with the adoption of the annual capital budget.

Water and Wastewater Capital Facility Fees are further described in Sections 2 and 3 of this report respectively and in Appendix A which includes a printout of all tables from the financial model showing the steps taken in developing the fees. The recommended Capital Facility Fees are included in tables ES-1 and ES-2 below.

ES.1.1 Water Capital Facility Fee Recommendations

Water Capital Facility Fees are used to recover the costs of storage, transmission and distribution pipelines, and the related facilities identified in the 2008 Master Plan Capital Improvement Projects that will be necessary to provide water service to new developments.

Table ES-1 summarizes the components of the Water Capital Facility fee based on the Capital Improvement Projects identified in the 2008 Master Plan and the related financing costs:

**Table ES-1
Water Capital Facility Fee Determination**

	Expansion CIP
Water CIP	\$ 63,293,950
Existing Debt as of 6/30/10	\$ 31,435,910
Cash /Investment Deficit 6/30/10	\$ 105,077
Financing Costs	\$ 55,853,706
Total Water CIP w/Financing	\$ 150,688,643
Water EDUs	21,600
Total Water Capital Facility Fee Per EDU	\$ 6,976

ES.1.2 Wastewater Capital Facility Fee Recommendations

Wastewater Capital Facility Fees are comprised of three components (treatment, conveyance, and outfall). The treatment and conveyance components provide wastewater capacity for a

total of 13,372 EDUs in the year 2030. The land outfall component provides wastewater capacity for a total of 18,172 EDUs in the year 2050. The differences in the total EDUs are based on the nature of the capital facilities. The current land outfall consists of eight (8) miles of pipeline within a narrow construction corridor that conveys the majority of the District's wastewater to Encina. A new parallel land outfall will be required to handle the District's ultimate flows because there are no reasonable alternatives. While other wastewater capital projects identified in the 2008 Master Plan can be built in incremental phases, the parallel land outfall project will need to be constructed for ultimate capacity due to the complexity of building an 8-mile pipeline within an existing corridor.

Table ES-2 summarizes the components of the Wastewater Capital Facility fee based on the Capital Improvement Projects identified in the 2008 Master Plan and the related financing costs.

**Table ES-2
Wastewater Capital Facility Fee Determination**

General Wastewater Capital Facility Fee Determination			
	<u>Treatment</u>	<u>Conveyance</u>	<u>Land Outfall</u>
Wastewater CIP	\$ -	\$ 19,092,000	\$ -
Land Outfall CIP	\$ -	\$ -	\$ 28,200,000
Existing Debt as of 6/30/10	\$ 30,015,063	\$ -	\$ -
Cash /Investment Deficit 6/30/10	\$ 4,272,048	\$ 4,272,048	\$ -
Financing Costs	\$ 20,193,636	\$ 13,760,421	\$ 16,608,589
Total Wastewater CIP w/Financing	\$ 54,480,747	\$ 37,124,469	\$ 44,808,589
Wastewater EDUs	\$ 13,372	\$ 13,372	\$ 18,172
Wastewater Capital Facility Fee Components Per EDU	\$ 4,074	\$ 2,776	\$ 2,466
Total Wastewater Capital Facility Fee			\$ 9,316

ES.2 Wastewater Density Impact Fee Recommendations

Developments which increase densities above the land use designations referenced in the 2008 Master Plan place greater impacts on wastewater treatment capacity at Encina. The District's capacity at Encina includes liquids and solids treatment as well as ocean disposal.

Through analyzing the impacts of developments which increase densities above those identified in the 2008 Master Plan, it will be necessary to expand Encina, thus increasing wastewater treatment costs. These increased impacts and costs are further detailed in Section 4 of this report and in Appendix B.

Table ES-3 identifies the Wastewater Density Impact Fee which is based on the Encina Phase IV and Phase V expansion costs for liquids, solids, and ocean disposal. The Wastewater Density Impact Fee will only be collected from the density increase portion of a development. However, the Wastewater Capital Facility Fee also has a treatment component within it. This treatment component shall be subtracted from the Wastewater Density Impact Fee to preclude

duplicate collection of the treatment component costs. A resulting Net Density Impact Cost, as shown in Table ES-3, will be charged to developments on the increased density portion only.

**Table ES-3
Calculation of Wastewater Density Impact Cost per EDU**

Wastewater Density Impact Fee	\$ 8,583
Less Wastewater Treatment Capital Facility Fee	\$ (4,074)
Net Density Impact Cost	\$ 4,509

The calculation of Net Density Impact Cost is as follows:

- The entire development will pay a Wastewater Capital Facility fee shown in Table ES-2 per EDU.
- Developments which increase densities beyond those identified in the 2008 Master Plan and increase impacts on Encina wastewater treatment costs will pay a Net Density Impact Cost per EDU, shown in Table ES-3, on the density increase portion only. Density increases will be clearly identified in the Water and Wastewater Studies which are required for all new developments.

Table ES-4 illustrates an example of the calculation of Wastewater Capital Facility Fees and Net Density Impact Cost. In this example, the Water and Wastewater Study concludes that of the 10 EDUs required to serve the project only 5 EDUs were included in the 2008 Master Plan land use designation. Consequently, the proposed development will be charged the Wastewater Capital Facility Fee for 10 EDU's and the Net Density Impact Cost for 5 EDU's which represent the increase in density beyond the land use designation in the 2008 Master Plan.

**Table ES-4
Sample Fee Calculation**

EDUs	Number	Fee	Total
Entire Development	10	\$ 9,316	\$ 93,160
Increased Density	5	\$ 4,509	\$ 22,546
			\$ 115,706

Section 1

Capital Facility Fee Background

As noted in the Executive Summary, the Vallecitos Water District provides water and wastewater collection services to the residents and customers within the boundaries of the District. The infrastructure necessary to supply water and collect, treat, and dispose of wastewater is identified in the District's 2008 Master Plan. The Capital Improvement Program (CIP) for water and wastewater outlined in the 2008 Master Plan forms the bases for the Capital Facility Fees identified in this report. The CIP in the 2008 Master Plan provides a roadmap for the District on how to accommodate planned growth over time. The 2008 Master Plan utilizes adopted land uses from the individual land use agencies including the Cities of San Marcos, Escondido, Vista, Carlsbad, and the County of San Diego to evaluate when and where to implement the CIP.

Revenues generated through Capital Facility Fees are used to directly offset CIP costs and to repay debt issued to finance system expansion and improvements. In addition to being recalculated in conjunction with updates to the Master Plan, Capital Facility fees are automatically adjusted annually based on the Engineering News Record index (ENR index) and also recalculated in conjunction with the adoption of the annual capital budget.

1.1.1 Master Plan and PEIR

On August 3, 2011 the District adopted the 2008 Master Plan and Program Environmental Impact Report (PEIR). The 2008 Master Plan analyzes adopted land uses to determine future water and wastewater demands, and identifies the water and wastewater CIP facilities which will be required to meet projected demands within the District's service area and sphere of influence through 2030. CIP facilities include pump and lift stations, storage reservoirs, water and sewer mains, and a parallel land outfall. The PEIR evaluated, at a programmatic level, the environmental impacts the CIP facilities.

1.2 Legal Requirements

Developmental fees are governed by California Government Code Section 66000 et. seq. commonly known as AB 1600. Section 66013 pertains specifically to water and sewer capital facility charges and provides that the fee "*shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed*" unless approved by a two-thirds vote. The statute further provides that capacity charges can recover cost for facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that will provide benefit to the property being charged. The code also specifies a number of accounting and reporting regulations relating capacity fees.

1.3 The District's Capital Facility Fee Methodology

The District bases its capital facility fees on the growth or incremental methodology. The growth methodology is a fairly common approach for establishing capital facility fees, particularly for

communities experiencing significant new growth. The approach is based on the cost of future capital facilities required to reasonably accommodate planned growth. This cost is allocated to the new growth that is to be served by the facilities. No allowance is made for existing system capacity that may also serve new connections. Under this approach, new customers and existing customers with increased demands pay for the incremental investment necessary for system expansion. The incremental approach is most commonly applied when new facilities and/or upgrades to existing facilities are required to provide capacity for new growth. This methodology must also meet the following criteria to be considered viable.

Financially Stable – Capital Facility Fees should be effective in recovering the costs of providing capacity for growth.

Equitable – Capital Facility Fees should reflect the estimated reasonable cost of providing capacity for growth.

Administratively Feasible – Capital Facility Fees should be administratively straightforward and easily explained.

Legally Justifiable – Capital Facility Fees must be developed in accordance with current California statutes and court decisions.

1.3.1 Calculation of the District's Capital Facility Fees

The basic equation for the growth methodology is:

$$\frac{\text{Growth CIP Asset Values}}{\text{Projected Growth in Equivalent Dwelling Units}}$$

The 2008 District's Master Plan further breaks down the CIP into 5 year phases for implementation. This implementation plan is utilized in the rate model to calculate the Capital Facility Fees. The full rate model is shown in Appendix A of this report. The District assumes that capital facilities are to be 100% debt financed. The calculation of future debt service is based on the following assumptions:

- Interest on all debt issues will be 6%.
- The cost of issuance for each bond issue is 2% of the total principal amount.
- The term of each one of the debt issues will be 25 years.
- Inflation over the time period for calculating the present value of each year's payment of principal and interest will be 2% annually.

The adjusted equation for the District's Capital Facility Fees is:

$$\frac{\text{Present Value of Growth Asset} + \text{Present Value of Debt Repayment}}{\text{Projected Growth in Equivalent Dwelling Units}}$$

The District has determined that Capital Facility Fees should be developed to be uniform throughout the water and wastewater service areas. The determination of the present value of each of the water and wastewater bond issues is also included in Appendix A to this report.

1.4 2008 Water, Wastewater and Recycled Water Master Plan

Chapter 8 of the 2008 Master Plan presents the proposed CIP for the District. The Master Plan focuses on both near term and future capacity needs for the water distribution and wastewater conveyance systems. The land outfall project is detailed separately from wastewater conveyance. Detailed CIP projects developed for the District are prioritized into five phases. Phase 1 projects represent projects that are underway or expected to be completed in 2010. Phase 2 (2011-2015) projects represent high priority projects that should be planned or constructed over the next five years. Lower priority projects are identified as Phase 3 through 5 projects that would be phased over the following fifteen years (2016-2030).

A summary of the expansion portion of the 2008 Master Plan identified CIP costs are included in Table 1-1. While the total Master Plan CIP is \$141.2 million, the Capital Facility fees only take into account the expansion portions of the CIP identified in the Master Plan.

**Table 1-1
2008 Master Plan Capital Projects**

	Expansion CIP
Water CIP	\$ 63,293,950
Wastewater CIP	\$ 19,092,000
Land Outfall CIP	\$ 28,200,000
Total	\$ 110,585,950

Section 2

Water Capital Facility Fee

2.1 Master Plan System Demand and Growth

Development of the 2008 Master Plan water demands were calculated using population projections from SANDAG and adopted land use information from the land use agencies served by the District. These agencies are the City of San Marcos, portions of the Cities of Carlsbad, Vista, and Escondido as well as unincorporated portions of the County of San Diego. The District utilized 5 years' worth of water meter records, historical trends, and comparisons with neighboring water agencies to calculate water use, or duty factors, for individual land use types. This allowed the 2008 Master Plan to evaluate existing water demands, which considered conservation and reduced demands as well as project additional water demand due to growth over time.

The District Water Capital Facility Fee is based on an Equivalent Dwelling Unit (EDU) value. This report utilized EDU value based on information within the District's 2008 Master Plan and industry standards to allocate 500 gallons of water consumption equivalent to one EDU. One EDU is the average usage of a single family dwelling unit. Table 2-1 summarizes the projected EDU growth for each phase in the planning period identified in the 2008 Master Plan. It should be noted that the water CIP was only developed through 2030, and thus the EDUs used in the fee calculation are 21,600.

Table 2-1
Equivalent Dwelling Units by Phase

Year	Average Annual Flows (MGD)	Additional Demand Per Period	Equivalent Dwelling Units (EDU)	Required Capacity Per Period (EDUs)
Existing 2007	18.3		36,600	
2010	20.4	2.1	40,800	4,200
2015	24.2	3.8	48,400	7,600
2020	26.9	2.7	53,800	5,400
2025	29.1	2.2	58,200	4,400
2030	31.2	2.1	62,400	4,200
Ultimate	34.1	2.9	68,200	5,800
Total Increase in EDUs 2010 to 2030				21,600
Total Additional EDUS to Ultimate				27,400

2.2 Master Plan Project Costs

The 2008 Master Plan analyzed the water infrastructure needs to accommodate future approved land use growth. The process created a CIP for water with costs allocated based on current values. The CIP costs are then updated annually based on the appropriate ENR index. The 2008 Master Plan also divided the water CIP into five phases or planning periods based on the water system’s needs to accommodate planned growth as shown in Table 2-1. A summary of the five phases of water expansion capital project costs is shown in Table 2-2.

**Table 2-2
Water Capital Expansion Projects by Phase**

Master Plan Cost Per Phase						
	2010	2011-2015	2016-2020	2021-2025	2026-2030	Total
Water CIP	\$2,562,950	\$10,039,000	\$14,905,000	\$20,170,000	\$15,617,000	\$63,293,950

2.3 Project Financing/Existing Debt

The District assumes capital projects are 100% debt financed and includes the cost of financing in the cost of the capital facilities.

Financing contains three components as shown on Table 2-3.

**Table 2-3
Summary of Water CIP Financing**

	Expansion CIP
Existing Debt as of 6/30/10	\$ 31,435,910
Cash /Investment Deficit 6/30/10	\$ 105,077
Financing Costs	\$ 55,853,706

The existing debt is the balance of debt issued, on water expansion CIP, as of June 30, 2010. This existing debt is comprised mainly from the bond issuance for the construction of the Twin Oaks Reservoirs 1 and 2. The source of the cash/investment deficit as of June 30, 2010 is derived from the District’s “Appropriated Fund Balance Activity for the Twelve Months Ended June 30, 2010” report and is the ending fund balance of revenues less distributions in the water capital facility fund. At June 30 the fund balance showed a deficit in expansion CIP of \$105,077. The final portion of the CIP financing is the estimated financing costs from the future bond issuances during each CIP phase. The financing costs discussed in this section are estimated by adding the present value of all principle and interest payments and then subtracting the present value of the capital facilities financed by each bond issue.

2.4 Water Capital Facility Fee Determination

The District’s Water Capital Facility Fee is based on the growth or incremental methodology. Table 2-4 illustrates the calculation of the fee.

**Table 2-4
Water Capital Facility Fee Calculation**

	Expansion CIP
Water CIP	\$ 63,293,950
Existing Debt as of 6/30/10	\$ 31,435,910
Cash /Investment Deficit 6/30/10	\$ 105,077
Financing Costs	\$ 55,853,706
Total Water CIP w/Financing	\$ 150,688,643
Water EDUs	21,600
Total Water Capital Facility Fee Per EDU	\$ 6,976

The water CIP costs as discussed in Section 2.2 are added together with their financing costs through 2030 as contained in Section 2.3 and then divided by the projected water EDUs through 2030 as discussed in Section 2.1. This produces a Water Capital Facility fee, in today's dollars, shown in Table 2-4 utilizing the adopted Master Plan costs at ENR-CCI-LA for July 2010 of 9968.69. The District will adjust individual CIP cost based on actual expended and/or yearly budgeted verses the planning cost in the 2008 Master Plan. This will be reflected in the annual update to the Water Capital Facility Fee.

Section 3

Wastewater Capital Facility Fee

3.1 Master Plan System Demand and Growth

Development of the 2008 Master Plan wastewater demands were calculated using population projections from SANDAG and adopted land use information from the land use agencies served by the District. These agencies are the City of San Marcos, portions of the Cities of Carlsbad, Vista, and Escondido as well as portions of the unincorporated part of the County of San Diego. The District utilized existing sewer meter records and cross checked them against 5 years' worth of water meter records, as well as historical trends, and comparisons with neighboring water agencies to calculate wastewater generation, or duty factors, for individual land use types. This allowed the Master Plan to evaluate existing sewer generation, which considered conservation and reduced generation as well as project the additional wastewater generation due to growth over time.

The District Wastewater Capital Facility Fee is based on an equivalent dwelling unit (EDU) value. This report utilized EDU value based on information within the District's Master Plan and industry standards to allocate 250 gallons of wastewater generation equivalent to one EDU. One EDU is the average generation of a single family dwelling unit. Table 3-1 summarizes the projected EDU growth for each phase in the planning period identified in the 2008 Master Plan. It should be noted that the wastewater CIP was only developed to serve new connections through 2030 without the North Tributary Area (NTA), identified in the Master Plan, and thus the EDUs used in the Wastewater Capital Facility Fee calculation is 13,372.

In addition Table 3-1 shows the EDUs specific to the land outfall project. The difference between the general wastewater EDUs of 13,372 and the land outfall wastewater EDUs of 18,172 is due to the fact that the new land outfall must be able to handle all of the District's ultimate flows because there is no opportunity to upsize it or build additional outfalls in the future. While the other wastewater capital projects identified in the 2008 Master Plan can be built in incremental phases the parallel outfall project needs to be constructed for ultimate capacity due to the complexity of building an 8-mile pipeline within the small existing corridor.

**Table 3-1
Equivalent Dwelling Units by Phase**

Year	Average Annual Flows (MGD)	Additional Demand Per Period	Equivalent Dwelling Units (EDU)	Required Capacity per Period (EDUs)
Purchased EDUs	6.7		36,628	
2010	7.7	1.0	30,800	(5,828)
2015	9.4	1.7	37,600	6,800
2020	10.6	1.2	42,400	4,800
2025	11.6	1.0	46,400	4,000
2030	12.5	0.9	50,000	3,600
2030 w/NTA	12.9	0.4	51,600	1,600
Ultimate	13.3	0.4	53,200	1,600
Ultimate w/NTA	13.7	0.4	54,800	1,600
EDUS for Wastewater CIP (2010 to 2030)				13,372
EDUs for Land Outfall Projects (2010 to Ultimate)				18,172

3.2 Master Planned Project Costs

The 2008 Master Plan analyzed the wastewater infrastructure needs to accommodate future approved land use growth. The process created a CIP for wastewater with costs allocated based on current values. The CIP costs are then updated annually based on the appropriate ENR index. The 2008 Master Plan also divided the wastewater CIP into five phases or planning periods based on the wastewater system’s needs to accommodate planned growth as shown in Table 3-1. A summary of the five phases of water expansion capital project costs is shown in Table 3-2.

**Table 3-2
Wastewater Capital Expansion Projects by Phase**

Master Plan Cost Per Phase						
	2010	2011-2015	2016-2020	2021-2025	2026-2030	Total
Wastewater CIP	\$4,396,000	\$6,147,000	\$1,527,000	\$2,284,000	\$4,738,000	\$19,092,000

In addition to the general wastewater CIP, the 2008 Master Plan developed costs for a new land outfall. This project is needed because the current land outfall that transports the wastewater from the Vallecitos service area to Encina will not have sufficient capacity in the future. Table 3-3 summarizes the projected land outfall costs between the five phases of the Master Plan.

**Table 3-3
Wastewater Land Outfall Expansion Projects by Phase**

Master Plan Cost Per Phase						
	2010	2011-2015	2016-2020	2021-2025	2026-2030	Total
Land Outfall CIP	\$0	\$10,300,000	\$2,700,000	\$13,700,000	\$1,500,000	\$28,200,000

3.3 Project Financing

The District assumes capital projects are 100% debt financed and includes the cost of financing in the cost of the capital facilities.

Financing contains three components as shown on Table 3-4. Table 3-4 separates the financing costs between the treatment, conveyance, and land outfall CIPs.

**Table 3-4
Summary of Wastewater CIP Financing**

Wastewater Capital Facility Fee Financing Costs		
	Treatment	Conveyance
Existing Debt as of 6/30/10	\$ 30,015,063	\$ -
Cash /Investment Deficit 6/30/10	\$ 4,272,048	\$ 4,272,048
Financing Costs	\$ 20,193,636	\$ 13,760,421
Total Wastewater CIP w/Financing	\$ 54,480,747	\$ 37,124,469
Outfall Capital Facility Fee Financing Costs		
	Treatment	Conveyance
Financing Costs		\$ 16,608,589

The existing debt is the balance of debt issued, on wastewater expansion CIP, as of June 30, 2010. This existing debt is primarily made up from bond issuance for the Meadowlark Reclamation Facility expansion and the Encina Phase V Expansion. The source of the cash/investment deficit as of June 30, 2010 is derived from the District’s “Appropriated Fund Balance Activity for the Twelve Months Ended June 30, 2010 Report” and is the ending fund balance of revenues less distributions in the water capital facility fund. At June 30, 2010 the fund balance showed a deficit in expansion CIP on the table. The final portion of the CIP financing is the estimated financing costs from the future bond issuances during each CIP phase. The financing terms were previously discussed in Section 1.2.2. Financing costs are estimated by adding the present value of all principle and interest payments and then subtracting the present value of the capital facilities financed by each bond issue. The outfall has only one finance component which is the finance cost.

3.4 Wastewater Capital Facility Fee Determination

The District’s Wastewater Capacity Fee is based on the growth or incremental methodology. Table 3-5 illustrates the calculation of both the wastewater (treatment and conveyance) and the land outfall components of the Fee.

**Table 3-5
Wastewater Capital Facility Fees Calculation**

General Wastewater Capital Facility Fee Determination			
	<u>Treatment</u>	<u>Conveyance</u>	<u>Land Outfall</u>
Wastewater CIP	\$ -	\$ 19,092,000	\$ -
Land Outfall CIP	\$ -	\$ -	\$ 28,200,000
Existing Debt as of 6/30/10	\$ 30,015,063	\$ -	\$ -
Cash /Investment Deficit 6/30/10	\$ 4,272,048	\$ 4,272,048	\$ -
Financing Costs	\$ 20,193,636	\$ 13,760,421	\$ 16,608,589
Total Wastewater CIP w/Financing	\$ 54,480,747	\$ 37,124,469	\$ 44,808,589
Wastewater EDUs	\$ 13,372	\$ 13,372	\$ 18,172
Wastewater Capital Facility Fee Components Per EDU	\$ 4,074	\$ 2,776	\$ 2,466
Total Wastewater Capital Facility Fee			\$ 9,316

The CIP costs for treatment and conveyance, as discussed in Section 3.2 are added together with their financing costs through 2030 as contained in Section 3.3 and then divided by the projected wastewater EDUs through 2030, as discussed in Section 3.1. This produces a treatment and conveyance component shown in Table 3-5, per EDU. The same process is followed to determine the land outfall component also shown in Table 3-5, per EDU. The combined Wastewater Capital Facility Fee is, shown in Table 3-5, based on the CIP and future approved land use EDUs to be served utilizing the adopted 2008 Master Plan costs at ENR-CCI-LA for July 2010 of 9968.69. Similar to water, the District will adjust individual CIP cost based on actual expended and/or yearly budgeted verses the planning costs referenced in the 2008 Master Plan. This will be reflected in the annual update to the Wastewater Capital Facility Fee.

Section 4 – Wastewater Density Impact Fee Calculation

4.1 Background

The 2008 Master Plan utilizes adopted General Plan land use designations of the governing agencies as of June 30, 2008. Future developments which increase densities above the land use designations referenced in the 2008 Master Plan will cause greater impacts on wastewater treatment capacity at Encina. Consequently, a Wastewater Density Impact Fee on the increased density portion only is needed to properly cover the associated costs of the necessary treatment expansion, at Encina. The bases for the Wastewater Density Impact Fee are the Encina Phase IV and V expansion capital costs plus financing, as discussed in this Section and in Appendix B.

4.2 Wastewater Treatment Impact Fee

The capital costs for Phase IV and V expansions at Encina include the Muni Financial Report, dated July 2004 which determined the District's total costs for each component of Phase IV. The construction costs were determined for Phase V from recent audited financial reports and construction-in-progress reports through June 2011. These costs were utilized to estimate the future expansion cost at Encina on a per gallon and EDU basis.

4.2.1 Encina Phase IV Costs

Table 4-1 summarizes the calculation of Phase IV costs and the resulting cost per gallon for solids, liquids and disposal. The Phase IV costs were all at the Engineering News Record 2003, Construction Cost Index for Los Angeles (ENR-CCI-LA) of 7543. From the end of 2003 to June 2011, the ENR-CCI-LA increased 133% to 10051.3. The original costs of the Phase IV expansion were brought to present value using this increase for the purpose of calculating the wastewater impact fee. Then the present value of each treatment component was divided by the total flow gained with the expansion to determine the cost per gallon of Phase IV.

Table 4-1
Phase IV Cost per Gallon Determination, June 2011 Dollars¹

	Vallecitos Costs for Phase IV and V		
	Unit I		Unit J
	Solids	Liquids	Disposal
Phase IV Costs*	\$ 16,105,000	\$ 18,521,000	\$ 5,939,000
ENR-CCI-LA Per Table	7543	7543	7543
Current ENR-CCI-LA (6/11)	10051.3	10051.3	10051.3
Cost Increase	133%	133%	133%
Present Value of Facilities	\$ 21,460,452	\$ 24,679,852	\$ 7,913,916
Phase V Costs**			
Phase IV Buyback Unit I	\$ 3,492,000		
Phase IV Buyback Unit J			\$ 1,297,000
ENR-CCI-LA (May 2010)	9,945	9,945	9,945
Current ENR-CCI-LA (6/11)	10,051	10,051	10,051
Cost Increase	101%	101%	101%
Present Value of Facilities	\$ 3,529,169		\$ 1,310,805
Total Phase IV Facilities	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722
Total Flow Gained (gpd)	2,350,000	2,540,000	2,350,000
Cost Per Gallon	\$ 10.63	\$ 9.72	\$ 3.93

*From Table 26A Muni Financial Report for Encina dated July 2004.

**Phase V costs are further discussed in Section 4.2.2 of this report.

4.2.2 Encina Phase V Costs

Similar steps were taken for the Phase V solids expansion costs as shown in Table 4-2. Phase V primarily expanded the solids handling facilities at Encina. The District's original cost for Phase V was \$19.4 million. However, adjustments are made to this original cost to back-out Phase IV buyback costs and a small portion of liquids costs so that the correct value of the solids costs from Phase V can be included in this fee calculation. The costs shown in Table 4-2 were used to determine the per gallon costs of solids handling in Table 4-3.

¹ The Phase IV buy-back costs for Unit's I and J are based on a "true-up" at the end of Phase V of the reallocation of flows between the Encina member agencies at the end of Phase IV. Thus the true-up costs were removed from Phase V and incorporated into Phase IV to avoid double counting.

**Table 4-2
Determination of Phase V Solids Costs, November 2010 Dollars**

VWD Phase V Cost Determination	
\$ 19,368,492	Total Phase V Costs
\$ (3,492,000)	Phase IV Buyback Unit I
\$ (1,297,000)	Phase IV Buyback Unit J
\$ (773,000)	Phase V Liquids Cost
<u>\$ 13,806,492</u>	
1.011	ENR Increase Since May 2010
<u>\$ 13,953,449</u>	

**Table 4-3:
Phase V Solids Cost per Gallon, June 2011 Dollars**

	Total Cost	VWD Costs
Phase V Costs (June 2011 ENR)	\$ 57,628,522	\$ 13,953,449
VWD Capacity Increase (gpd)		2,960,000
Cost Per Gallon		\$ 4.71
Note: Based on Costs at 9945.44 (May 2010) increased to 10051.3 (June 2011) VWD Costs backs out buy back costs from Encina Phase IV Unit I & J from Table 26A VWD Costs backs out \$.773 million estimated liquids cost		

4.3 Wastewater Density Impact Fee Determination

The final step in the Wastewater Density Impact Fee determination combined Phase IV and Phase V costs divided by the additional capacities gained in each one of the operational units. Table 4-4 also includes the financing costs associated with the treatment expansion due to density increases on a per gallon and EDU basis. The same financing terms as discussed in Section 2 and 3 are applied to the portion of future expansion assumed to be debt financed. A review of wastewater flow and EDU projections identifies that 84.5% of the future project costs will be debt financed. The remaining 15.5% is direct revenue generated by the Wastewater Density Impact Fees prior to the initiation of the project. The revenue from the Wastewater Density Impact Fee will be set aside in a restricted reserve account and will only be used to fund this or an associated project that provides treatment capacity for the District's wastewater customers.

Table 4-4 shows the cost per gallon and the cost per EDU for each one of the treatment unit processes for purpose of the Wastewater Density Impact Fee based on the ENR-CCI-LA of 10051.3, June 2011.

**Table 4-4:
Wastewater Treatment Impact Fee, June 2011 Dollars**

	Solids	Liquids	Disposal	Total
Phase IV	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722	\$ 58,894,195
Phase V	\$ 13,953,449	\$ 781,228	\$ -	\$ 14,734,677
Financing Costs	\$ 19,547,577	\$ 13,283,743	\$ 9,726,806	\$ 42,558,126
Total	\$ 58,490,647	\$ 38,744,824	\$ 18,951,527	\$ 116,186,998
Capacity (gpd)	5,310,000	2,540,000	2,350,000	
Fee Per Gallon	\$ 11.02	\$ 15.25	\$ 8.06	\$ 34.33
Gallons Per EDU	250	250	250	250
Impact Fee Per EDU	\$ 2,754	\$ 3,813	\$ 2,016	\$ 8,583

4.4 Application of Impact Fees

The District requires that a Water and Wastewater Study be performed for all new developments in order to determine if the current water and sewer infrastructure is sufficient to accommodate the development's water demands and sewage generation. The Water and Wastewater Study also determine the additional EDUs, if any, due to increased densities of a development. This study serves to identify the specific impacts of an individual development to fulfill the legal requirements for identifying impacts and costs. The Water and Wastewater Study, along with this report, creates the appropriate nexus in identifying a development's impact(s) and costs of those impact(s) on the District. The Water and Wastewater Study should:

- Project water demand and sewage generation based on the District's current adopted Master Plan duty factors for land use and/or adopted Ordinance(s) as deemed reasonable by the District for the proposed development/land use
- Identify the current and projected capacity for each existing system facility effected by the development
- Identify additional facilities or improvements that are required to accommodate growth or the proposed development's land use
- Allocate costs for providing the needed capital facilities between existing and future demand for the new development/land use

The Water and Wastewater Study serves as a basis to determine if the EDUs identified in a new development are included in the District's 2008 Master Plan. If the new development's EDUs are contained in the Master Plan, each wastewater EDU will pay the Wastewater Capital Facility Fee

as shown in Table 3-5. However, if the new development's EDUs are greater than the land use designation identified in the 2008 Master Plan, only the increase in EDUs will pay an additional Net Density Impact Cost as shown in Table 4-4

The Wastewater Density Impact Fee will only be applied to the density increase portion of a development. However, the Wastewater Capital Facility Fee also has a treatment component within it. This treatment component shall be subtracted from the Wastewater Treatment Impact Fee to preclude duplicate collection of the treatment component. A resulting Net Density Impact Cost will be charged to developments for the density increase portion only, as shown in Table 4-5

**Table 4-5
Calculation of Density Impact Cost per EDU**

Wastewater Density Impact Fee	\$ 8,583
Less Wastewater Treatment Capital Facility Fee	\$ (4,074)
Net Density Impact Cost	\$ 4,509

Table 4-6 illustrates an example of the calculation of Wastewater Capital Facility fees and Net Density Impact Costs. In this example, the Water and Wastewater Study concludes that of the 10 EDUs required to serve the project only 5 EDUs were included in the 2008 Master Plan land use designation. Consequently, the proposed development will be charged the Wastewater Capital Facility fee for 10 EDU's and a Net Density Impact Cost for 5 EDU's , which represent the increase in density beyond the land use designation in the 2008 Master Plan.

**Table 4-6
Sample Fee Calculation**

EDUs	Number	Fee	Total
Entire Development	10	\$ 9,316	\$ 93,160
Increased Density	5	\$ 4,509	\$ 22,546
			\$ 115,706

Appendix A
Water and Wastewater Capital Facility Fee

November 29, 2011

Appendix A
Water Capital Facility Fee

November 29, 2011

Vallecitos Water Capital Facility Fee Determination

	Expansion CIP
Water CIP	\$ 63,293,950
Existing Debt as of 6/30/10	\$ 31,435,910
Cash /Investment Deficit 6/30/10	\$ 105,077
Financing Costs	\$ 55,853,706
Total Water CIP w/Financing	\$ 150,688,643
Water EDUs	21,600
Total Water Capital Facility Fee Per EDU	\$ 6,976

Table 8-2 from Vallecitos Water Master Plan

District Funded CIP										Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total
CIP ID#	Pressure Zone	Project Description	Phase Needed	Diameter (in)	Length (ft)	Capacity (MG)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030					
R-1	815	Meadowlark #3	1			2.80		\$1,260,000/MG	1.00	\$3,943,000					\$2,562,950	\$0	\$0	\$0	\$0	\$0	65%	35%		100%	
PS-1	1028	Desalinated Water Pump Station - New	2				3,150	\$1000/gpm	1.00		\$3,200,000				\$0	\$3,200,000	\$0	\$0	\$0	\$0	100%			100%	
R-2	1549	Wulff #2	2			0.35		\$1,260,000/MG	1.20		\$720,000				\$0	\$468,000	\$0	\$0	\$0	\$0	65%	35%		100%	
R-3	1530	Coronado Hills #2	2			4.73		\$1,260,000/MG	1.00		\$6,000,000				\$0	\$6,000,000	\$0	\$0	\$0	\$0	100%			100%	
P-24	855	San Marcos Boulevard between Discovery Street and Las Posas Road	3	18	2,680			\$420/LF	1.30			\$1,500,000			\$0	\$0	\$600,000	\$0	\$0	\$0	40%	60%		100%	
P-52	900	Corre Camino Road and Elevado Road north	3	10	9,900			\$230/LF	1.00			\$2,300,000			\$0	\$0	\$506,000	\$0	\$0	\$0	22%	78%		100%	
P-53	1330	Via del Prado and Elevado Road south to the North Twin Oaks Reservoir #2	3	16	5,900			\$365/LF	1.00			\$2,200,000			\$0	\$0	\$1,210,000	\$0	\$0	\$0	55%	45%		100%	
56	1235	Deer Springs PS to the Deer Springs Reservoir	3	12	8,500			\$265/LF	1.00			\$2,300,000			\$0	\$0	\$690,000	\$0	\$0	\$0	30%	70%		100%	
P-30	1330	Mountain Belle Reservoir south to the connection with the existing 1330 Zone	3	16	1,800			\$365/LF	1.00			\$700,000			\$0	\$0	\$700,000	\$0	\$0	\$0	100%			100%	
PS-3	1235	1235 Deer Springs PS Expansion	3				4,800	\$80/gpm	1.00			\$400,000			\$0	\$0	\$212,000	\$0	\$0	\$0	53%	47%		100%	
R-4	1235	Deer Springs #2	3			1.00		\$1,260,000/MG	1.00		\$1,300,000				\$0	\$0	\$559,000	\$0	\$0	\$0	43%	57%		100%	
R-5	1608	Coggan #2	3			6.00		\$1,260,000/MG	1.00		\$7,600,000				\$0	\$0	\$5,928,000	\$0	\$0	\$0	78%	22%		100%	
P-64	1330	North Twin Oaks Reservoir #2 to North Twin Oaks PS	4	16	12,400			\$365/LF	1.00				\$4,500,000		\$0	\$0	\$0	\$2,070,000	\$0	\$0	46%	54%		100%	
R-10	1028	Twin Oaks #3	4			10.72		\$1,260,000/MG	1.00			\$13,500,000			\$0	\$0	\$0	\$13,500,000	\$0	\$0	100%			100%	
P-100	920	Rock Springs Road between Bennett Avenue and Rees Road	5	10	1,300			\$230/LF	1.00					\$300,000	\$0	\$0	\$0	\$0	\$108,000	\$0	36%	64%		100%	
P-42	1228	North Twin Oaks #2 Reservoir east to the Intersection of El Farra Street and Huckleberry Lane	5	12	7,000			\$265/LF	1.00				\$1,900,000		\$0	\$0	\$0	\$0	\$1,900,000	\$0	100%			100%	
PS-7	1608	1608 Coggan PS Expansion	5				9,000	\$80/gpm	1.00				\$700,000		\$0	\$0	\$0	\$0	\$231,000	\$0	33%	67%		100%	
PS-8	1115	1115 Schoolhouse PS Expansion	5				4,500	\$80/gpm	1.00				\$400,000		\$0	\$0	\$0	\$0	\$120,000	\$0	30%	70%		100%	
R-8	1500	Palos Vista #1 Rehab	5			0.52		\$1,260,000/MG	2.00				\$1,300,000		\$0	\$0	\$0	\$0	\$741,000	\$0	57%	43%		100%	
Total Costs										\$3,943,000	\$9,920,000	\$18,300,000	\$18,000,000	\$4,600,000	\$54,763,000	\$2,562,950	\$9,668,000	\$10,405,000	\$15,570,000	\$3,100,000	\$41,305,950				

District Funded Projects										Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total
CIP ID#	Pressure Zone	Project Description	Phase Needed	Diameter (in)	Length (ft)	Capacity (MG)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030					
P-43	1625	Woodland Heights Glen north to Rancho Luiseno Road	2	12	2,800			\$265/LF	1.00		\$700,000				\$0	\$371,000	\$0	\$0	\$0	\$0	53%		47%	100%	
PS-2	1625	1625 High Point Hydro PS - New	2				1,800	\$1000/gpm	0.60		\$1,100,000				\$0	\$0	\$0	\$0	\$0	\$0			100%	100%	
PS-4	1330	1330 Mountain Belle PS - New	3				4,500	\$1000/gpm	1.00			\$4,500,000			\$0	\$0	\$4,500,000	\$0	\$0	\$0	100%			100%	
R-6	1330	North Twin Oaks #3	4			3.60		\$1,260,000/MG	0.80				\$3,600,000		\$0	\$0	\$0	\$3,600,000	\$0	\$0	100%			100%	
R-7	815	Meadowlark #4	4			0.64		\$1,280,000/MG	1.20				\$1,000,000		\$0	\$0	\$0	\$1,000,000	\$0	\$0	100%			100%	
R-9	1530	Coronado Hills #3	5			3.21		\$1,260,000/MG	1.00				\$4,000,000		\$0	\$0	\$0	\$0	\$4,000,000	\$0	100%			100%	
R-11	1608	Coggan #3	5			6.10		\$1,260,000/MG	1.00				\$7,700,000		\$0	\$0	\$0	\$0	\$7,700,000	\$0	100%			100%	
P-57	1235	Deer Springs Reservoir south to 1235 Zone limits	5	10	7,900			\$230/LF	1.00				\$1,800,000		\$0	\$0	\$0	\$0	\$0	\$0			100%	100%	
PS-5	1330	1330 North Twin Oaks PS Expansion	5				8,850	\$80/gpm	1.00				\$700,000		\$0	\$0	\$0	\$0	\$567,000	\$0	81%	19%		100%	
PS-6	1530	1530 Southlake PS Expansion	5				6,750	\$80/gpm	1.00				\$500,000		\$0	\$0	\$0	\$0	\$250,000	\$0	50%	50%		100%	
Total Costs										\$0	\$1,800,000	\$4,500,000	\$4,600,000	\$14,700,000	\$25,600,000	\$0	\$371,000	\$4,500,000	\$4,600,000	\$12,517,000	\$21,988,000				

**Vallecitos Water District
Water Capital Facility Financing Costs**

Rate 6%
Issue cost 2%
term 25
Inflation 2%

Phase	Water											Total Payment	PV of Payments
	1		2		3		4		5				
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment			
2010	34,103,937	2,721,196										2,721,196	2,721,196
1 2011		2,721,196										2,721,196	2,667,839
2 2012		2,721,196										2,721,196	2,615,528
3 2013		2,721,196	10,653,467	850,053								3,571,249	3,365,268
4 2014		2,721,196		850,053								3,571,249	3,299,282
5 2015		2,721,196		850,053								3,571,249	3,234,591
6 2016		2,721,196		850,053								3,571,249	3,171,167
7 2017		2,721,196		850,053								3,571,249	3,108,987
8 2018		2,721,196		850,053	17,463,583	1,393,441						4,964,691	4,237,316
9 2019		2,721,196		850,053		1,393,441						4,964,691	4,154,231
10 2020		2,721,196		850,053		1,393,441						4,964,691	4,072,775
11 2021		2,721,196		850,053		1,393,441						4,964,691	3,992,917
12 2022		2,721,196		850,053		1,393,441						4,964,691	3,914,625
13 2023		2,721,196		850,053		1,393,441	26,092,046	2,081,917				7,046,608	5,447,257
14 2024		2,721,196		850,053		1,393,441		2,081,917				7,046,608	5,340,448
15 2025		2,721,196		850,053		1,393,441		2,081,917				7,046,608	5,235,733
16 2026		2,721,196		850,053		1,393,441		2,081,917				7,046,608	5,133,072
17 2027		2,721,196		850,053		1,393,441		2,081,917				7,046,608	5,032,423
18 2028		2,721,196		850,053		1,393,441		2,081,917	22,304,922	1,779,738		8,826,345	6,179,848
19 2029		2,721,196		850,053		1,393,441		2,081,917		1,779,738		8,826,345	6,058,675
20 2030		2,721,196		850,053		1,393,441		2,081,917		1,779,738		8,826,345	5,939,877
21 2031		2,721,196		850,053		1,393,441		2,081,917		1,779,738		8,826,345	5,823,409
22 2032		2,721,196		850,053		1,393,441		2,081,917		1,779,738		8,826,345	5,709,225
23 2033		2,721,196		850,053		1,393,441		2,081,917		1,779,738		8,826,345	5,597,279
24 2034		2,721,196		850,053		1,393,441		2,081,917		1,779,738		8,826,345	5,487,528
25 2035				850,053		1,393,441		2,081,917		1,779,738		6,105,149	3,721,277
26 2036				850,053		1,393,441		2,081,917		1,779,738		6,105,149	3,648,311
27 2037				850,053		1,393,441		2,081,917		1,779,738		6,105,149	3,576,775
28 2038						1,393,441		2,081,917		1,779,738		5,255,096	3,018,393
29 2039						1,393,441		2,081,917		1,779,738		5,255,096	2,959,209
30 2040						1,393,441		2,081,917		1,779,738		5,255,096	2,901,185
31 2041						1,393,441		2,081,917		1,779,738		5,255,096	2,844,299
32 2042						1,393,441		2,081,917		1,779,738		5,255,096	2,788,529
33 2043								2,081,917		1,779,738		3,861,655	2,008,944
34 2044								2,081,917		1,779,738		3,861,655	1,969,553
35 2045								2,081,917		1,779,738		3,861,655	1,930,934
36 2046								2,081,917		1,779,738		3,861,655	1,893,073
37 2047								2,081,917		1,779,738		3,861,655	1,855,953
38 2048										1,779,738		1,779,738	838,590
39 2049										1,779,738		1,779,738	822,147
40 2050										1,779,738		1,779,738	806,026
41 2051										1,779,738		1,779,738	790,222
42 2052										1,779,738		1,779,738	774,727
43 2053													150,688,643

**Vallecitos Water District
Projected Water System Demand for New Development***

Year	Average Annual Flows (MGD)	Additional Demand Per Period	Equivalent Dwelling Units (EDU)	Required Capacity Per Period (EDUs)
Existing 2007	18.3		36,600	
2010	20.4	2.1	40,800	4,200
2015	24.2	3.8	48,400	7,600
2020	26.9	2.7	53,800	5,400
2025	29.1	2.2	58,200	4,400
2030	31.2	2.1	62,400	4,200
Ultimate	34.1	2.9	68,200	5,800
Total Increase in EDUs 2010 to 2030				21,600
Total Additional EDUS to Ultimate				27,400

*Based Upon 500 GPD Per EDU

Appendix A
Wastewater Capital Facility Fee

November 29, 2011

Vallecitos Water District

General Wastewater Capital Facility Fee Determination			
	<u>Treatment</u>	<u>Conveyance</u>	<u>Land Outfall</u>
Wastewater CIP	\$ -	\$ 19,092,000	\$ -
Land Outfall CIP	\$ -	\$ -	\$ 28,200,000
Existing Debt as of 6/30/10	\$ 30,015,063	\$ -	\$ -
Cash /Investment Deficit 6/30/10	\$ 4,272,048	\$ 4,272,048	\$ -
Financing Costs	\$ 20,193,636	\$ 13,760,421	\$ 16,608,589
Total Wastewater CIP w/Financing	\$ 54,480,747	\$ 37,124,469	\$ 44,808,589
Wastewater EDUs	\$ 13,372	\$ 13,372	\$ 18,172
Wastewater Capital Facility Fee Components Per EDU	\$ 4,074	\$ 2,776	\$ 2,466
Total Wastewater Capital Facility Fee			\$ 9,316

Table 8-3 from Vallecitos Wastewater Master Plan – Conveyance Costs

District CIP								Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total	
CIP ID #	Pipeline Project Name	Phase	Diameter (in)	Length (ft)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030						Total
SP-2	San Marcos Interceptor Phase 1 Pipeline Replacement	1	39	3200		\$975/LF	1.30	\$4,100,000					\$2,911,000	\$0	\$0	\$0	\$0	\$0	71%	29%		100%		
SP-3	Linda Vista East Sewer Pipeline Replacement	1	15	3400		\$340/LF	1.60	\$2,000,000					\$880,000	\$0	\$0	\$0	\$0	\$0	44%	36%	20%	100%		
			15	500		\$340/LF	1.50	\$300,000					\$165,000	\$0	\$0	\$0	\$0	\$0	55%	45%		100%		
SP-5	Rock Springs Road Sewer Pipeline Replacement	1	12	2000		\$280/LF		\$800,000					\$440,000	\$0	\$0	\$0	\$0	\$0	55%	45%		100%		
SP-6	Old Questhaven Road Pipeline	2	24	1400		\$610/LF	1.00		\$900,000				\$0	\$207,000	\$0	\$0	\$0	\$0	23%	77%		100%		
SP-9	Nordahl Shopping Center Pipeline Replacement	2	12	100		\$280/LF	3.00		\$200,000				\$0	\$110,000	\$0	\$0	\$0	\$0	55%	45%		100%		
SP-10	Diamond Siphon Replacement	2	15	100		\$340/LF	4.00		\$700,000				\$0	\$385,000	\$0	\$0	\$0	\$0	55%	45%		100%		
			36	1400		\$800/LF	2.00		\$3,800,000				\$0	\$2,508,000	\$0	\$0	\$0	\$0	66%	34%		100%		
SP-11	San Marcos Interceptor Phase 2	2	8	800		\$180/LF			\$300,000				\$0	\$198,000	\$0	\$0	\$0	\$0	66%	34%		100%		
SP-12	San Marcos Interceptor Phase 3	2	36	2000		\$800/LF	1.20		\$3,400,000				\$0	\$2,244,000	\$0	\$0	\$0	\$0	66%	34%		100%		
LS-1	Montiel Lift Station	3			400	\$1000/gpm	3.00			\$1,200,000			\$0	\$0	\$600,000	\$0	\$0	\$0	50%	50%		100%		
SP-13	Camino De Amigos Sewer Pipeline Replacement	3	12	3200		\$280/LF	1.00		\$900,000				\$0	\$0	\$495,000	\$0	\$0	\$0	55%	45%		100%		
SP-15	San Pablo Walkway Sewer Pipeline Replacement	3	10	1800		\$230/LF	3.00		\$1,200,000				\$0	\$0	\$432,000	\$0	\$0	\$0	36%	64%		100%		
SP-20	Discovery Street East Pipeline Replacement	4	12	2100		\$280/LF	1.00				\$600,000		\$0	\$0	\$0	\$432,000	\$0	\$0	72%	28%		100%		
SP-21	Rock Springs Road West Sewer Pipeline Replacement	4	15	1300		\$340/LF	1.00				\$400,000		\$0	\$0	\$0	\$144,000	\$0	\$0	36%	64%		100%		
SP-22	Rock Springs Road East Sewer Pipeline Replacement	4	12	800		\$280/LF	1.00				\$200,000		\$0	\$0	\$0	\$110,000	\$0	\$0	55%	45%		100%		
			10	2100		\$230/LF	1.10				\$500,000		\$0	\$0	\$0	\$165,000	\$0	\$0	33%	67%		100%		
SP-23	Pacific Street & Descanso Avenue Pipeline Replacement	4	12	2200		\$280/LF					\$700,000		\$0	\$0	\$0	\$231,000	\$0	\$0	33%	67%		100%		
SP-25	San Marcos Interceptor East Pipeline Replacement	4	21	800		\$530/LF	1.10				\$500,000		\$0	\$0	\$0	\$130,000	\$0	\$0	26%	74%		100%		
SP-26	Woodward Street Pipeline Replacement	5	10	1600		\$230/LF	1.10				\$400,000		\$0	\$0	\$0	\$0	\$144,000	\$0	\$0	36%	64%		100%	
SP-27	Vineyard Road Sewer Pipeline Replacement	5	12	3000		\$280/LF	1.00				\$800,000		\$0	\$0	\$0	\$0	\$440,000	\$0	\$0	55%	45%		100%	
SP-28	Linda Vista / Rancho Santa Fe Intersection Sewer Pipeline Replacement	5	12	80		\$280/LF	3.00				\$100,000		\$0	\$0	\$0	\$0	\$55,000	\$0	\$0	55%	45%		100%	
SP-30	Madrid Manor Sewer Pipeline Replacement	5	10	2000		\$230/LF	1.20				\$600,000		\$0	\$0	\$0	\$0	\$216,000	\$0	\$0	36%	64%		100%	
Total Cost								\$7,200,000	\$9,300,000	\$3,300,000	\$2,900,000	\$1,900,000	\$24,600,000	\$4,396,000	\$5,652,000	\$1,527,000	\$1,212,000	\$855,000	\$13,642,000					

District Funded Projects								Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total	
CIP ID #	Pipeline Project Name	Phase	Diameter (in)	Length (ft)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030						Total
SP-7	Pico Ave/San Marcos Blvd Sewer Pipeline Replacement	2	12	1500		\$280/LF	1.10		\$500,000				\$0	\$275,000	\$0	\$0	\$0	\$0	55%	45%		100%		
SP-8	Pico Ave Sewer Pipeline Replacement	2	12	1200		\$280/LF	1.10		\$400,000				\$0	\$220,000	\$0	\$0	\$0	\$0	55%	45%		100%		
SP-18	Mission Alley Pipeline Replacement	3	10	1500		\$230/LF	1.00			\$300,000			\$0	\$0	\$0	\$0	\$0	\$0			100%	100%		
SP-19	Bingham Sewer Pipeline Replacement	4	15	2100		\$340/LF	1.10				\$800,000		\$0	\$0	\$0	\$576,000	\$0	\$0	72%	28%		100%		
			12	2000		\$280/LF	1.00				\$600,000		\$0	\$0	\$0	\$372,000	\$0	\$0	62%	38%		100%		
SP-24	Craven Road Pipeline Replacement	4	10	700		\$230/LF					\$200,000		\$0	\$0	\$0	\$124,000	\$0	\$0	62%	38%		100%		
SP-29	Vallecitos Pipeline Replacement	5	12	2500		\$280/LF	1.00				\$700,000		\$0	\$0	\$0	\$0	\$385,000	\$0	\$0	55%	45%		100%	
			12	5100		\$280/LF	1.00				\$1,400,000		\$0	\$0	\$0	\$0	\$924,000	\$0	\$0	66%	34%		100%	
SP-31	N. Twin Oaks Valley Road Pipeline Replacement	5	15	11600		\$340/LF					\$3,900,000		\$0	\$0	\$0	\$0	\$2,574,000	\$0	\$0	66%	34%		100%	
Total Cost								\$0	\$900,000	\$300,000	\$1,600,000	\$6,000,000	\$8,800,000	\$0	\$495,000	\$0	\$1,072,000	\$3,883,000	\$5,450,000					

**Vallecitos Water District
Wastewater Financing Costs – Conveyance**

Rate 6%
Issue cost 2%
term 25
Inflation 2%

Sewer w/o Land outfall

Phase	1		2		3		4		5		Total Payment	PV of Payments
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment		
2010	8,668,048	691,634									691,634	691,634
1 2011		691,634									691,634	678,073
2 2012		691,634									691,634	664,777
3 2013		691,634	6,523,246	520,498							1,212,132	1,142,219
4 2014		691,634		520,498							1,212,132	1,119,823
5 2015		691,634		520,498							1,212,132	1,097,866
6 2016		691,634		520,498							1,212,132	1,076,339
7 2017		691,634		520,498							1,212,132	1,055,234
8 2018		691,634		520,498	1,789,124	142,756					1,354,889	1,156,385
9 2019		691,634		520,498		142,756					1,354,889	1,133,710
10 2020		691,634		520,498		142,756					1,354,889	1,111,481
11 2021		691,634		520,498		142,756					1,354,889	1,089,687
12 2022		691,634		520,498		142,756					1,354,889	1,068,321
13 2023		691,634		520,498		142,756	2,954,598	235,751			1,590,640	1,229,616
14 2024		691,634		520,498		142,756		235,751			1,590,640	1,205,506
15 2025		691,634		520,498		142,756		235,751			1,590,640	1,181,869
16 2026		691,634		520,498		142,756		235,751			1,590,640	1,158,695
17 2027		691,634		520,498		142,756		235,751			1,590,640	1,135,975
18 2028		691,634		520,498		142,756		235,751	6,767,031	539,950	2,130,590	1,491,752
19 2029		691,634		520,498		142,756		235,751		539,950	2,130,590	1,462,502
20 2030		691,634		520,498		142,756		235,751		539,950	2,130,590	1,433,826
21 2031		691,634		520,498		142,756		235,751		539,950	2,130,590	1,405,712
22 2032		691,634		520,498		142,756		235,751		539,950	2,130,590	1,378,149
23 2033		691,634		520,498		142,756		235,751		539,950	2,130,590	1,351,126
24 2034		691,634		520,498		142,756		235,751		539,950	2,130,590	1,324,633
25 2035				520,498		142,756		235,751		539,950	1,438,955	877,088
26 2036				520,498		142,756		235,751		539,950	1,438,955	859,890
27 2037				520,498		142,756		235,751		539,950	1,438,955	843,029
28 2038						142,756		235,751		539,950	918,457	527,539
29 2039						142,756		235,751		539,950	918,457	517,195
30 2040						142,756		235,751		539,950	918,457	507,054
31 2041						142,756		235,751		539,950	918,457	497,111
32 2042						142,756		235,751		539,950	918,457	487,364
33 2043								235,751		539,950	775,701	403,542
34 2044								235,751		539,950	775,701	395,629
35 2045								235,751		539,950	775,701	387,872
36 2046								235,751		539,950	775,701	380,267
37 2047								235,751		539,950	775,701	372,810
38 2048										539,950	539,950	254,417
39 2049										539,950	539,950	249,429
40 2050										539,950	539,950	244,538
41 2051										539,950	539,950	239,743
42 2052										539,950	539,950	235,042
43 2053												<u>37,124,469</u>

Vallecitos Water District
Wastewater Financing Costs – Treatment

Rate 6%
 Issue cost 2%
 term 25
 inflation 2%

Sewer w/o Land outfall

Phase	1		2		3		4		5		Total Payment	PV of Payments
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment		
2010	34,287,111	2,735,812									2,735,812	2,735,812
1 2011		2,735,812									2,735,812	2,682,168
2 2012		2,735,812									2,735,812	2,629,577
3 2013		2,735,812		-							2,735,812	2,578,016
4 2014		2,735,812		-							2,735,812	2,527,467
5 2015		2,735,812		-							2,735,812	2,477,909
6 2016		2,735,812		-							2,735,812	2,429,322
7 2017		2,735,812		-							2,735,812	2,381,689
8 2018		2,735,812		-		-					2,735,812	2,334,989
9 2019		2,735,812		-		-					2,735,812	2,289,205
10 2020		2,735,812		-		-					2,735,812	2,244,318
11 2021		2,735,812		-		-					2,735,812	2,200,312
12 2022		2,735,812		-		-					2,735,812	2,157,169
13 2023		2,735,812		-		-					2,735,812	2,114,871
14 2024		2,735,812		-		-					2,735,812	2,073,403
15 2025		2,735,812		-		-					2,735,812	2,032,748
16 2026		2,735,812		-		-					2,735,812	1,992,890
17 2027		2,735,812		-		-					2,735,812	1,953,814
18 2028		2,735,812		-		-					2,735,812	1,915,504
19 2029		2,735,812		-		-					2,735,812	1,877,945
20 2030		2,735,812		-		-					2,735,812	1,841,123
21 2031		2,735,812		-		-					2,735,812	1,805,022
22 2032		2,735,812		-		-					2,735,812	1,769,630
23 2033		2,735,812		-		-					2,735,812	1,734,931
24 2034		2,735,812		-		-					2,735,812	1,700,913
25 2035		-		-		-					-	-
26 2036		-		-		-					-	-
27 2037		-		-		-					-	-
28 2038		-		-		-					-	-
29 2039		-		-		-					-	-
30 2040		-		-		-					-	-
31 2041		-		-		-					-	-
32 2042		-		-		-					-	-
33 2043		-		-		-					-	-
34 2044		-		-		-					-	-
35 2045		-		-		-					-	-
36 2046		-		-		-					-	-
37 2047		-		-		-					-	-
38 2048		-		-		-					-	-
39 2049		-		-		-					-	-
40 2050		-		-		-					-	-
41 2051		-		-		-					-	-
42 2052		-		-		-					-	-
43 2053		-		-		-					-	-
												<u>54,480,747</u>

Table 8-4 from Vallecitos Wastewater Master Plan -- Land Outfall Project

CIP ID#	W/S	Type	Project / Description	Units	Phase	Cost per Phase					CIP Cost ¹
						2010	2011-2015	2016-2020	2021-2025	2026 to 2030	
LO-1	Sewer	Pipeline	LO-1 - Parallel 12,900 feet of gravity sewer with sizes ranging from 36 to 48-inch diameter.	12,900 LF	2		\$10,300,000				\$10,300,000
LO-2	Sewer	Pipeline	LO-2 - Parallel 1,600 feet of gravity sewer with sizes ranging from 24-inch to 36-inch diameter.	1,600 LF	3			\$1,300,000			\$1,300,000
LO-3	Sewer	Pipeline	LO-3 - Parallel 1,800 feet of gravity sewer sizes ranging from 30 to 36-inch diameter.	1,800 LF	3			\$1,400,000			\$1,400,000
LO-4	Sewer	Pipeline	LO-4 - Upgrade 17,000 feet of abandoned 24-inch DIP with CIPP lining in Siphon Section A.	17,000 LF	4				\$9,700,000		\$9,700,000
LO-5	Sewer	Pipeline	LO-5 - Parallel 1,400 feet of gravity sewer and trenchless construction of 3,700 feet with sizes ranging from 24 to 36-inch diameter.	5,100 LF	4				\$4,000,000		\$4,000,000
LO-6	Sewer	Pipeline	LO-6 - Parallel 2,450 feet of gravity main and siphon sections with sizes ranging from 24 to 36-inch diameter.	2,450 LF	5					\$1,500,000	\$1,500,000
						\$0	\$10,300,000	\$2,700,000	\$13,700,000	\$1,500,000	\$28,200,000

1. Costs provided per the *Land Outfall Analysis - Second Draft*, October 2010.

**Vallecitos Water District
Wastewater Financing Costs -- Land Outfall**

Phase	Land Outfall											Total Payment	PV of Payments
	1		2		3		4		5				
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment			
2010	-	-										-	-
1 2011		-										-	-
2 2012		-										-	-
3 2013		-	10,930,442	872,154								872,154	821,850
4 2014		-		872,154								872,154	805,735
5 2015		-		872,154								872,154	789,936
6 2016		-		872,154								872,154	774,448
7 2017		-		872,154								872,154	759,262
8 2018		-		872,154	3,163,480	252,418						1,124,572	959,811
9 2019		-		872,154		252,418						1,124,572	940,991
10 2020		-		872,154		252,418						1,124,572	922,541
11 2021		-		872,154		252,418						1,124,572	904,451
12 2022		-		872,154		252,418						1,124,572	886,717
13 2023		-		872,154		252,418	17,722,411	1,414,093				2,538,665	1,962,471
14 2024		-		872,154		252,418		1,414,093				2,538,665	1,923,991
15 2025		-		872,154		252,418		1,414,093				2,538,665	1,886,266
16 2026		-		872,154		252,418		1,414,093				2,538,665	1,849,280
17 2027		-		872,154		252,418		1,414,093				2,538,665	1,813,020
18 2028		-		872,154		252,418		1,414,093	2,142,369	170,942		2,709,607	1,897,157
19 2029		-		872,154		252,418		1,414,093		170,942		2,709,607	1,859,958
20 2030		-		872,154		252,418		1,414,093		170,942		2,709,607	1,823,488
21 2031		-		872,154		252,418		1,414,093		170,942		2,709,607	1,787,733
22 2032		-		872,154		252,418		1,414,093		170,942		2,709,607	1,752,680
23 2033		-		872,154		252,418		1,414,093		170,942		2,709,607	1,718,314
24 2034		-		872,154		252,418		1,414,093		170,942		2,709,607	1,684,621
25 2035		-		872,154		252,418		1,414,093		170,942		2,709,607	1,651,589
26 2036		-		872,154		252,418		1,414,093		170,942		2,709,607	1,619,205
27 2037		-		872,154		252,418		1,414,093		170,942		2,709,607	1,587,456
28 2038		-		872,154		252,418		1,414,093		170,942		1,837,454	1,055,387
29 2039		-		872,154		252,418		1,414,093		170,942		1,837,454	1,034,693
30 2040		-		872,154		252,418		1,414,093		170,942		1,837,454	1,014,405
31 2041		-		872,154		252,418		1,414,093		170,942		1,837,454	994,514
32 2042		-		872,154		252,418		1,414,093		170,942		1,837,454	975,014
33 2043		-		872,154		252,418		1,414,093		170,942		1,585,036	824,581
34 2044		-		872,154		252,418		1,414,093		170,942		1,585,036	808,413
35 2045		-		872,154		252,418		1,414,093		170,942		1,585,036	792,562
36 2046		-		872,154		252,418		1,414,093		170,942		1,585,036	777,021
37 2047		-		872,154		252,418		1,414,093		170,942		1,585,036	761,785
38 2048		-		872,154		252,418		1,414,093		170,942		170,942	80,546
39 2049		-		872,154		252,418		1,414,093		170,942		170,942	78,967
40 2050		-		872,154		252,418		1,414,093		170,942		170,942	77,418
41 2051		-		872,154		252,418		1,414,093		170,942		170,942	75,900
42 2052		-		872,154		252,418		1,414,093		170,942		170,942	74,412
43 2053		-		872,154		252,418		1,414,093		170,942		170,942	72,924
													<u>44,808,589</u>

**Vallecitos Water District
Projected Wastewater Flows for New Development***

Year	Average Annual Flows (MGD)	Additional Demand Per Period	Equivalent Dwelling Units (EDU)	Required Capacity per Period (EDUs)
Purchased EDUs	6.7		36,628	
2010	7.7	1.0	30,800	(5,828)
2015	9.4	1.7	37,600	6,800
2020	10.6	1.2	42,400	4,800
2025	11.6	1.0	46,400	4,000
2030	12.5	0.9	50,000	3,600
2030 w/NTA	12.9	0.4	51,600	1,600
Ultimate	13.3	0.4	53,200	1,600
Ultimate w/NTA	13.7	0.4	54,800	1,600
EDUS for Wastewater CIP (2010 to 2030)				13,372
EDUs for Land Outfall Projects (2010 to Ultimate)				18,172



Appendix B

Water Capital Facilities

Water Expansion CIP

ENR July 2015

ENR Jan 2019

10981.02

12011.85

Water CIP Projects

CIP #	Pressure Zone	Project Name	Capacity / Size	CIP Phase	2015 Capital Cost	% VWD Expansion Fund Contribution	2015 Expansion Fund Share	2018 ENR Cost (Expansion Portion)	Type	Note
R-1	815	Proposed - Meadowlark #3	2.47	1	\$3,400,000	100%	\$3,400,000	\$3,719,171	Storage	-
P-101	1115	SCHOOLHOUSE PUMP STATION SOUTH TO SAN ELIJO ROAD	20-IN; 600 FT	2	\$300,000	36%	\$108,000	\$118,138	Pipeline	1
P-30	1330	MOUNTAIN BELLE CONNECTION SOUTH TO 1330 ZONE	16-IN; 1,800 FT	2	\$700,000	100%	\$700,000	\$765,712	Pipeline	-
P-400	920	EL NORTE PKWY-REES RD TO WOODLAND PKWY	20-IN; 5,300 FT	2	\$4,100,000	100%	\$4,100,000	\$4,484,883	Pipeline	-
PS-4	1330	Mountain Belle PS	N/A	2	\$3,300,000	100%	\$3,300,000	\$3,609,784	Pumping	-
PS-8	1115	Schoolhouse PS	3150gpm	2	\$500,000	33%	\$165,000	\$180,489	Pumping	2
R-3	1530	Proposed - Coronado Hills #2	2.60	2	\$3,600,000	100%	\$3,600,000	\$3,937,946	Storage	-
R-4	1235	Proposed - Deer Spring #2	1.00	2	\$1,400,000	43%	\$602,000	\$658,512	Storage	3
R-5	1608	Proposed - Coggan #2	6.00	3	\$8,300,000	78%	\$6,474,000	\$7,081,739	Storage	4
P-100	920	ROCK SPRINGS RD BETWEEN BENNETT AV AND REES RD	10-IN; 1,600 FT	5	\$400,000	36%	\$144,000	\$157,518	Pipeline	5
P-42	1228	EMERGENCY CONNECTION - NTO #2 RESERVOIR EAST TO EL FARRA ST AND HUCKLEBERRY LN	12-IN; 6,400 FT	5	\$1,900,000	100%	\$1,900,000	\$2,078,360	Pipeline	-
P-600	1608	UPSIZE PIPELINES DOWNSTREAM OF COGGAN PUMP STATION	20-IN; 8,900 FT	5	\$6,000,000	25%	\$1,500,000	\$1,640,811	Pipeline	6
P-64	1330	NTO #3 SOUTH AND EAST TO NTO PUMP STATION	20-IN; 12,600 FT	5	\$6,600,000	64%	\$4,224,000	\$4,620,523	Pipeline	7
PS-7	1608	Coggan PS	5400gpm	5	\$5,900,000	26%	\$1,534,000	\$1,678,002	Pumping	8
R-10	1028	Proposed - Twin Oaks #3	8.00	5	\$11,100,000	100%	\$11,100,000	\$12,141,999	Storage	-
R-11	1608	Proposed - Coggan #3	3.70	5	\$5,100,000	100%	\$5,100,000	\$5,578,756	Storage	-
R-6	1330	Proposed - North Twin Oaks #3	3.60	5	\$4,000,000	84%	\$3,360,000	\$3,675,416	Storage	9
R-7	815	Proposed - Meadowlark #4	3.50	5	\$5,800,000	63%	\$3,654,000	\$3,997,015	Storage	10
R-8	1500	Proposed - Palos Vista Rehab	0.53	5	\$1,100,000	100%	\$1,100,000	\$1,203,261	Storage	-
R-9	1530	Proposed - Coronado Hills #3	7.50	5	\$10,400,000	100%	\$10,400,000	\$11,376,287	Storage	-
					\$112,100,000		\$66,465,000	\$72,704,322		

Water Expansion CIP

Phase	Year	2015 ENR			
		Storage	Pipeline	Pumping	Total
1	2015-2020	3,400,000	-	-	3,400,000
2	2021-2025	4,202,000	4,908,000	3,465,000	12,575,000
3	2026-2030	6,474,000	-	-	6,474,000
4	2031-2035	-	-	-	-
5	2036-	34,714,000	7,768,000	1,534,000	44,016,000
		48,790,000	12,676,000	4,999,000	66,465,000

Phase	Year	Master Plan Water CIP (2019 ENR)			
		Storage	Pipeline	Pumping	Total
1	2015-2020	3,719,171	-	-	3,719,171
2	2021-2025	4,596,458	5,368,733	3,790,273	13,755,463
3	2026-2030	7,081,739	-	-	7,081,739
4	2031-2035	-	-	-	-
5	2036-	37,972,735	8,497,212	1,678,002	48,147,949
		53,370,102	13,865,944	5,468,275	72,704,322

NOTES:

CALCULATING PERCENTAGE OF EXPANSION WHEN UPSIZING

- 1 CIP P-101 Pipeline is being increased in diameter from 16" to 20" and will have an expansion capacity of 36% $\{((20^2)-(16^2))/(20^2)\}$
- 2 PS-8 Pump station has a capacity of 2,100gpm and is being upsized to 3,150gpm, and will have an expansion capacity of 33% $\{(3,150-2,100)/3,150\}$
- 3 R-4 Reservoir with a storage volume of 0.57MG is being demolished and replaced with a new reservoir of 1.00MG would have an expansion capacity of 43% $\{(1.00-0.57)/1.00\}$
- 4 R-5 Reservoir with a storage volume of 1.3MG is being demolished and replaced with a new reservoir of 6.0MG would have an expansion capacity of 78% $\{(6.0-1.3)/6.0\}$
- 5 CIP P-100 Pipeline is being increased in diameter from 8" to 10" and will have an expansion capacity of 36% $\{((10^2)-(8^2))/(10^2)\}$
- 6 CIP P-600 Pipelines are being increased in diameter from 16" and 18" to 20" and will have an expansion capacity of 25% $\{((20^2*8,900)-((18^2*5,500)+(16^2*3,400)))/(20^2*8,900)\}$
- 7 CIP P-64 Pipeline is being increased in diameter from 12" to 20" and will have an expansion capacity of 64% $\{((20^2)-(12^2))/(20^2)\}$
- 8 PS-7 Pump station has a capacity of 4,000gpm and is being upsized to 5,400gpm, and will have an expansion capacity of 26% $\{(5,400-4,000)/5,400\}$
- 9 R-6 Reservoir with a storage volume of 0.57MG is being demolished and replaced with a new reservoir of 3.6MG would have an expansion capacity of 84% $\{(3.60-0.57)/3.60\}$
- 10 R-7 Reservoir with a storage volume of 1.3MG is being demolished and replaced with a new reservoir of 3.5MG would have an expansion capacity of 63% $\{(3.5-1.3)/3.5\}$



Appendix C

Wastewater Capital

Facilities

Sewer Expansion CIP

ENR July 2015 ENR Jan 2019
10981.02 **12011.85**

Wastewater CIP Projects										
CIP #	Project Name	Project Description	Size	CIP Phase	2015 Capital Cost	% VWD Expansion Fund Contribution	2015 Expansion Fund Share	2018 ENR Cost (Expansion Portion)	Type	notes
LO-D1a	Gravity Section D	Replace existing 1,200 feet of gravity sewer sections with 36-inch diameter pipe.	36-in; 1,200 FT	1	\$1,600,000	30%	\$480,000	\$525,059	Outfall	2
SB-01	Montiel Lift Station Replacement	Upgrade the existing 100 gpm pump with two new 200 gpm pumps. Alternatively, construct new 1,000 ft open trench sewer and 300 ft of tunneling beneath SR-78.	400 gpm	1	\$1,500,000	50%	\$750,000	\$820,405	Pipeline / LS	1
SP-05	ROCK SPRINGS ROAD SEWER	Replace 2,600 feet of 8-inch gravity main with 15-inch diameter pipe.	12-in; 1,700 FT 15-in; 900 FT	1	\$3,500,000	63%	\$2,205,000	\$2,411,992	Pipeline / LS	3
SP-11	SAN MARCOS INTERCEPTOR PHASE 2	Replace 1,900 feet of 21-inch gravity main with 42-inch diameter pipe.	42-in; 1,900 FT	1	\$5,800,000	75%	\$4,350,000	\$4,758,351	Pipeline / LS	4
SP-12	SAN MARCOS INTERCEPTOR PHASE 3	Replace 1,800 feet of existing 21-inch of gravity main with 42-inch diameter pipe.	42-in; 1,800 FT	1	\$5,500,000	75%	\$4,125,000	\$4,512,229	Pipeline / LS	4
LO-D1b	Gravity Section D	Replace existing 5,400 feet of gravity sewer sections with 42-inch diameter pipe.	42-in; 5,400 FT	1	\$8,300,000	49%	\$4,067,000	\$4,448,785	Outfall	5
LO-D1c	Gravity Section D	Replace existing 1,300 feet of gravity sewer sections with 48-inch diameter pipe.	48-in; 1,300 FT	1	\$2,300,000	34%	\$782,000	\$855,409	Outfall	6
LO-A	Gravity Section A	Replace existing 1,500 feet of gravity sewer sections with 42-inch diameter pipe.	42-in; 1,500 FT	2	\$2,300,000	49%	\$1,127,000	\$1,232,796	Outfall	5
SP-06	OLD QUESTHAVEN ROAD SEWER	Replace 2,100 feet of 21-inch gravity main with 36-inch diameter pipe.	36-in; 2,100 FT	2	\$1,800,000	66%	\$1,188,000	\$1,299,522	Pipeline / LS	7
SP-09	NORDAHL SHOPPING CENTER SEWER	Replace 700 feet of 8-inch gravity main with 12-inch diameter pipe, and replace 3,100 feet of 8-inch gravity main with 15-inch diameter pipe.	12-in; 700 FT 15-in; 3,100 FT	2	\$2,100,000	69%	\$1,449,000	\$1,585,023	Pipeline / LS	8
SP-33	SAN MARCOS BLVD WEST SEWER REPLACEMENT	Replace 6,600 feet of 8-inch gravity main with 12-inch diameter pipe	12-in; 6,600 FT	2	\$4,100,000	55%	\$2,255,000	\$2,466,685	Pipeline / LS	9
LO-B	Gravity Section B	Replace existing 1,500 feet of gravity sewer sections with 36-inch diameter pipe.	36-in; 1,500 FT	3	\$2,000,000	30%	\$600,000	\$656,324	Outfall	2
SP-15	SAN PABLO WALKWAY SEWER	Replace 1,800 feet of 8-inch gravity main with 12-inch diameter pipe.	12-in; 1,800 FT	3	\$1,700,000	55%	\$935,000	\$1,022,772	Pipeline / LS	9
SP-20	DISCOVERY STREET EAST SEWER	Replace 2,100 feet of 8-inch gravity main with 12-inch diameter pipe.	12-in; 2,100 FT	3	\$700,000	55%	\$385,000	\$421,141	Pipeline / LS	9
SP-25	SAN MARCOS INTERCEPTOR EAST SEWER	Replace 800 feet of 18-inch gravity main with 24-inch diameter pipe.	24-in; 800 FT	3	\$800,000	44%	\$352,000	\$385,044	Pipeline / LS	10
SP-35	MISSION ROAD & MULBERRY DRIVE SEWER	Replace 3,600 feet of 8-inch with 12-inch diameter pipe.	12-in; 3,600 FT	3	\$1,700,000	55%	\$935,000	\$1,022,772	Pipeline / LS	9
	Siphon Section A	Parallel 18,200 feet of Siphon Section A with 30-inch diameter pipe.	30-in; 18,200 FT	3	\$21,000,000	100%	\$21,000,000	\$22,971,350	Outfall	
SP-21	ROCK SPRINGS WEST SEWER	Replace 1,300 feet of 12-inch gravity main with 15-inch diameter pipe.	15-in; 1,300 FT	4	\$500,000	36%	\$180,000	\$196,897	Pipeline / LS	11
SP-22	ROCK SPRINGS EAST SEWER	Replace 800 feet of 8-inch gravity main with 12-inch diameter pipe	12-in; 800 FT	4	\$200,000	55%	\$110,000	\$120,326	Pipeline / LS	9

Sewer Expansion CIP

ENR July 2015 ENR Jan 2019
10981.02 **12011.85**

Wastewater CIP Projects										
CIP #	Project Name	Project Description	Size	CIP Phase	2015 Capital Cost	% VWD Expansion Fund Contribution	2015 Expansion Fund Share	2018 ENR Cost (Expansion Portion)	Type	notes
SP-28	LINDA VISTA & RANCHO SANTA FE INTERSECTION	Replace 2,000 feet of 8-inch gravity main with 12-inch diameter pipe.	12-in; 2,000 FT	4	\$1,200,000	55%	\$660,000	\$721,957	Pipeline / LS	9
SP-34	SAN MARCOS CREEK NORTH OF MISSION RD SEWER	Replacet 1,000 feet of 18-inch with 24-inch diameter pipe.	24-in; 1,000 FT	4	\$1,300,000	44%	\$572,000	\$625,696	Pipeline / LS	10
SP-36	RICHLAND ROAD SEWER	Replace 2,000 feet of 15-inch gravity main with 18-inch diameter pipe.	18-in; 2,000 FT	4	\$1,000,000	30%	\$300,000	\$328,162	Pipeline / LS	12
LO-D2a	Gravity Section D	Replace existing 1,200 feet of gravity sewer sections with 36-inch diameter pipe.	36-in; 1,200 FT	5	\$1,600,000	30%	\$480,000	\$525,059	Outfall	2
SP-13	CAMINO DE AMIGOS SEWER	Replace 3,500 feet of 8-inch gravity main with 12-inch diameter pipe.	12-in; 3,500 FT	5	\$1,100,000	55%	\$605,000	\$661,794	Pipeline / LS	9
SP-23	PACIFIC ST & DESCONSO SEWER	Replace 2,100 feet of 8-inch gravity main with 12-inch diameter pipe, and replace 1,800 feet of 8-inch gravity main with 15-inch diameter pipe.	12-in; 2,100 FT 15-in; 1,800 FT	5	\$1,500,000	65%	\$975,000	\$1,066,527	Pipeline / LS	13
LO-D2b	Gravity Section D	Replace existing 3,700 feet of gravity sewer sections with 42-inch diameter pipe.	42-in; 3,700 FT	5	\$5,700,000	42%	\$2,394,000	\$2,618,734	Outfall	14
	Encina	Waste gas flare		1	\$182,290	100%	\$182,290	\$199,403	Treatment	
	Encina	Add'l Solids Improvements		1	\$4,419,157	100%	\$4,419,157	\$4,834,000	Treatment	
		Treatment		5	\$45,918,000	100%	\$45,918,000	\$50,228,497	Treatment	
					\$145,419,447		\$103,780,447	\$113,522,711		

Sewer Expansion CIP

		2015 ENR			
	Phase	Pipeline / LS	Outfall	Treatment	Total
2015-2020	1	11,430,000	5,329,000	4,601,447	21,360,447
2021-2025	2	4,892,000	1,127,000	-	6,019,000
2026-2030	3	2,607,000	21,600,000	-	24,207,000
2031-2035	4	1,822,000	-	-	1,822,000
2036-	5	1,580,000	2,874,000	45,918,000	50,372,000
		22,331,000	30,930,000	50,519,447	103,780,447

Master Plan Wastewater CIP (2019 ENR)						
	Phase	Year	Pipeline / LS	Outfall	Treatment	Total
1		2015-2020	12,502,977	5,829,253	5,033,403	23,365,633
2		2021-2025	5,351,231	1,232,796	-	6,584,026
3		2026-2030	2,851,729	23,627,674	-	26,479,403
4		2031-2035	1,993,038	-	-	1,993,038
5		2036-	1,728,321	3,143,793	50,228,497	55,100,611
			24,427,296	33,833,516	55,261,899	113,522,711

NOTES:

CALCULATING PERCENTAGE OF EXPANSION WHEN UPSIZING

- 1 SB-01 Lift station has a capacity of 200gpm and is being upsized to 400gpm, and will have an expansion capacity of 50% $((400-200)/400)$
- 2 LO-D1a, LO-B, LO-D2a Pipeline is being increased in diameter from 30" to 36" and will have an expansion capacity of 30% $(((36^2)-(30^2))/(36^2))$
- 3 SP-05 Pipelines are being increased in diameter from 8" to 12" and 15" and will have an expansion capacity of 63% $(((15^2*900)+(12^2*1,700))-(8^2*2,600))/((15^2*900)+(12^2*1,700))$
- 4 SP-11, SP-12 Pipelines are being increased in diameter from 21" to 42" and will have an expansion capacity of 75% $(((42^2)-(21^2))/(42^2))$
- 5 LO-D1b, LO-A Pipeline is being increased in diameter from 30" to 42" and will have an expansion capacity of 49% $(((42^2)-(30^2))/(42^2))$
- 6 LO-D1c Pipeline is being increased in diameter from 39" to 48" and will have an expansion capacity of 34% $(((48^2)-(39^2))/(48^2))$
- 7 SP-06 Pipeline is being increased in diameter from 21" to 36" and will have an expansion capacity of 66% $(((36^2)-(21^2))/(36^2))$
- 8 SP-09 Pipelines are being increased in diameter from 8" to 12" and 15" and will have an expansion capacity of 69% $(((15^2*3,100)+(12^2*700))-(8^2*3,800))/((15^2*3,100)+(12^2*700))$
- 9 SP-22, SP-15, SP-20, SP-35, Pipeline is being increased in diameter from 8" to 12" and will have an expansion capacity of 55% $(((12^2)-(8^2))/(12^2))$
- 10 SP-22, SP-28, SP-13 Pipeline is being increased in diameter from 18" to 24" and will have an expansion capacity of 44% $(((24^2)-(18^2))/(24^2))$
- 11 SP-25, SP-34 Pipeline is being increased in diameter from 18" to 24" and will have an expansion capacity of 44% $(((24^2)-(18^2))/(24^2))$
- 12 SP-21 Pipeline is being increased in diameter from 12" to 15" and will have an expansion capacity of 36% $(((15^2)-(12^2))/(15^2))$
- 13 SP-36 Pipeline is being increased in diameter from 15" to 18" and will have an expansion capacity of 30% $(((18^2)-(15^2))/(18^2))$
- 14 SP-23 Pipelines are being increased in diameter from 8" to 12" and 15" and will have an expansion capacity of 65% $(((15^2*1,800)+(12^2*2,100))-(8^2*3,900))/((15^2*1,800)+(12^2*2,100))$
- 15 LO-D2b Pipelines are being increased in diameter from 30" and 36" to 42" and will have an expansion capacity of 42% $(((42^2*3,700)-((36^2*1,200)+(30^2*2,500)))/(42^2*3,700))$

ORDINANCE NO.

**AN ORDINANCE OF THE BOARD OF DIRECTORS
OF THE VALLECITOS WATER DISTRICT, ADOPTING INCREASED
WATER AND WASTEWATER CAPITAL FACILITY FEES AND
MAKING CERTAIN FINDINGS AND
TAKING CERTAIN ACTIONS RELATING THERETO**

WHEREAS, the Board of Directors of the Vallecitos Water District (the "District") is authorized pursuant to California Government Code section 66013 to impose water and wastewater capacity fees and charges for public facilities in existence at the time the fee or charge is imposed, or for new facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged; and

WHEREAS, the District previously adopted its water and wastewater capital facility fees ("Water Charge" and "Wastewater Charge," respectively, or collectively, the "Charges"), which are each "capacity fees" within the definition of Government Code section 66013; and

WHEREAS, the Charges were previously adopted pursuant to the recommendations of a Capacity and Impact Fee Study Final Report, dated November 8, 2011 ("Prior Report"), prepared for the District by an independent consultant, which has since been updated as described in more detail below; and

WHEREAS, pursuant to the Prior Report, the Water Charge is imposed per equivalent dwelling unit, (each an "EDU"), and is determined by identifying necessary capital improvements to fund new connections to the water system, financing costs discounted to present value, existing debt, and other expenses related to offsetting the impact of new connections to the system, which are then allocated to new growth to be served by the new facilities and extra capacity in existing facilities based on projected EDUs; and

WHEREAS, each EDU is based on District data leading to the allocation of up to 500 gallons of water consumption per day per EDU for purposes of the Water Charge, and up to 250 gallons of wastewater generation per day per EDU for purposes of the Wastewater Charge; and

WHEREAS, EDUs are assigned based on projected water use and wastewater generation, as provided by the applicant and reviewed by the District Engineer; and

WHEREAS, a minimum of one EDU is assigned to each single-family dwelling unit; and

WHEREAS, for non-residential connections, EDUs shall be assigned based on projected water use or wastewater generation, with each EDU equaling up to 500 gallons per day of water use and 250 gallons per day of wastewater generation, and any projected usage above such amounts shall be prorated; and

WHEREAS, it is the policy of the Board that, to the extent a connection uses greater amounts of water than projected, or generates greater amounts of wastewater, the applicant will be required to purchase or lease additional EDUs; and

WHEREAS, the Prior Report has since been updated to account for the District's 2018 Water, Wastewater, and Recycled Water Master Plan, adopted by the District Board on May 1, 2019, which accounts for the latest land use revisions from the County of San Diego, and Cities of Escondido, Vista, Carlsbad, and San Marcos, as well as to bring Master Plan costs to January 2019 values using the Engineering News Record Construction Cost Index (the "Updated Report"); and

WHEREAS, the Updated Report, which maintains the same model and method of calculating the Charges as the Prior Report but updates the model to account for updated data, has been presented to the Board and has been made available to the public for inspection for at least ten (10) days prior to the meeting at which this Ordinance is considered; and

WHEREAS, the Board of Directors finds that it is appropriate at this time to adjust the amount of the Charges, based on the findings and analysis contained in the Updated Report; and

WHEREAS, the District now wishes to adopt increases to the Charges, in the amounts set forth in Exhibit "A" hereto; and

WHEREAS, the Board of Directors has determined that: (1) its proposed Charges do not exceed the estimated reasonable cost of the services and facilities for which the Charges will be imposed; and (2) the allocation of those costs bear a fair or reasonable relationship to the burdens on, or benefits that those who pay the Charges will receive from such services and facilities, as evidenced by the Updated Report;

BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE VALLECITOS WATER DISTRICT:

SECTION 1. Incorporation of Recitals: The Recitals set forth above are incorporated herein, are made findings and determination of the Board of Directors, and are an operative part of this Ordinance.

SECTION 2. CEQA Compliance:

(a) The District, as lead agency under the California Environmental Quality Act ("CEQA"), has evaluated the potential environmental impacts of adopting the Charges. As the decision making body for the District, the Board of Directors has reviewed and considered the information contained in the administrative record for the adoption of the Charges.

(b) The Board of Directors finds that the Charges are intended to fund as-yet unknown, future projects, programs, and capital improvement projects related to the District's need to finance capital improvements to provide adequate infrastructure to meet growth-related needs. This Ordinance does not commit the District to approve any particular project, program, or capital improvement, but will be placed in a separate fund for potential future projects. These Charges are in response to the District's projected need for additional facilities and infrastructure to provide services to its existing customers and new development. Any activities, including infrastructure improvements, to be funded by these Charges, will be subject

to future environmental review under CEQA, as applicable, prior to District approval.

(c) The District therefore finds that the Charges are not subject to environmental review under CEQA. First, the Charges, in and of themselves, do not have the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment and therefore are not considered a “project” under CEQA. (Pub. Resources Code, § 21065, 14 Cal. Code Regs., § 15378, subd. (a).) Second, the Charges are covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment; here, there is no possibility that the Charges, in and of themselves, may have a significant effect on the environment. (14 Cal. Code Regs., § 15061, subd. (b)(3).) And third, the Charges are considered a government funding mechanism that do not involve any commitment on behalf of the District to any specific project which may result in a potentially significant physical impact on the environment. (14 Cal. Code Regs., § 15378, subd. (b)(4).)

(d) The Board of Directors has considered any comments received at the public meeting on August 7, 2019, prior to adoption of this Ordinance.

(e) The determination that the Charges are not subject to CEQA review reflects the Board of Directors’ independent judgment and analysis.

(f) The documents and materials that constitute the record of proceedings on which these findings have been based are located at 201 Vallecitos de Oro, San Marcos, CA 92069. The custodian for these records is the Board Secretary.

SECTION 3. Adoption of Charges: The Board of Directors hereby adopts the Charges in the amounts set forth in Exhibit “A” hereto. EDUs for Water Charges and for Wastewater Charges are assigned as set forth in the fee schedule set forth in Exhibit “A” hereto. The Charge shall be imposed on any property or any person requesting a new, additional, or expanded connection to the District’s water or wastewater system, and the amount of the Charge imposed shall vary in accordance with the number of EDUs assigned to the property, and shall equal the estimated reasonable cost of providing the service for which the Charge is imposed. EDUs shall be determined based on projected water use or wastewater generation, as provided by the applicant and confirmed by District staff. In the event actual water use or wastewater generation exceeds projected demand, the District may increase the assigned EDU to such connection, and require the applicant to purchase or lease such additional EDUs at such later date. Additionally, the fee schedule set forth in Exhibit “A” includes assigned EDUs based on meter sizes. In the event that a particular connection requires water use or wastewater generation that exceeds the meter size assigned to such property, but the District allows the applicant to install a smaller meter, the District shall assign the applicant additional EDUs for purposes of determining the Charges based on projected use, regardless of whether such EDUs exceed the amounts set forth in Exhibit “A” for such meter size.

SECTION 4. Annual Adjustments to Charges: Commencing January 1, 2020, and each January 1 thereafter, the Charges (subject to any decrease set forth in Section 3 above), shall be automatically increased annually by the percentage change in the Engineering News Report Construction Cost Index - Los Angeles measured from the immediately preceding

December and December of the prior year.

SECTION 5. Inconsistency with Other Fees and Charges: To the extent that the Charges established by this Ordinance are inconsistent with any rates, fees or charges previously adopted by the District, it is the explicit intention of the Board of Directors that the Charges adopted in this Ordinance shall prevail.

SECTION 6. Severability: If any section, subsection, clause or phrase in this Ordinance or the application thereof to any person or circumstances is for any reason held invalid, the validity of the remainder of this Ordinance or the application of such provisions to other persons or circumstances shall not be affected thereby. The Board of Directors hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses or phrases or the application thereof to any person or circumstance be held invalid.

SECTION 7. Future Amendments: It is the explicit intention of the Board of Directors in adopting this Ordinance that future amendments to the Charges may be adopted either by ordinance or resolution of the District.

SECTION 8. Authority to General Manager: The General Manager, or his or her designee, is hereby authorized and directed to take all actions necessary to implement the Charges effective October 7, 2019, as well as to implement any increase to the Charges as authorized herein and in accordance with the schedule of rates in Exhibit "A" hereto. Additionally, the General Manager, or his or her designee, is hereby authorized and directed to account for all proceeds of the Charges in accordance with the requirements of Government Code section 66013.

SECTION 9. Effective Date: This Ordinance shall become effective immediately upon adoption, subject to the effective date set forth above.

PASSED, APPROVED AND ADOPTED by the Board of Directors of the Vallecitos Water District at a regular meeting held on this 7th day of August, 2019 by the following roll call vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

Hal J. Martin, President
Board of Directors
Vallecitos Water District

ATTEST:

Glenn Pruim, Secretary
Board of Directors
Vallecitos Water District

EXHIBIT "A"

Table of Water and Sewer Fees

	Capital Facility Fee
Water	\$8,254
Sewer	\$16,570

DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
SUBJECT: ORDINANCE ESTABLISHING ADMINISTRATIVE CHARGES TO RECOVER INDIRECT COSTS FOR FISCAL YEAR 2019-20

BACKGROUND:

On July 29, 2019, the Finance Committee met to review the Overhead rate for fiscal year 2019-20 as presented by staff. A side-by-side comparison of previous fiscal years’ calculations was presented and is included in this staff report for the full Board.

DISCUSSION:

The 2013 Cost of Service Report (Report) recommended applying a single overhead rate to direct labor costs and adjusting the rate annually using the approved District budget in accordance with the methodology established in the Report. The methodology established a formula to be used when calculating the rate. The calculation to arrive at the overhead rate is Budgeted Indirect Costs and Employee Benefits divided by Direct Labor Costs as follows:

$$\text{Overhead Rate} = \frac{\text{Budgeted Indirect Costs and Employee Benefits}}{\text{Direct Labor Costs}}$$

A brief history of adopted overhead rates follow:

Adopted Date	Adopted Rate	Effective for FY	Indirect Costs	Direct Costs
03/05/90	75%	90/91	NA	NA
09/04/13	195%	13/14	10,154,626	5,215,174
07/16/14	188%	14/15	10,420,378	5,535,622
07/15/15	198%*	15/16	11,367,536	5,352,464
07/20/16	205%	16/17	11,607,237	5,643,763
08/16/17	221%	17/18	12,031,103	5,427,897
07/18/18	219%	18/19	12,116,219	5,521,781
08/07/19	217%**	19/20	12,522,775	5,758,225
*This year the calculation result was 212% but because of one time expenses it was adopted at a lower rate of 198%				
*Proposed not adopted				

Excerpts from the 2013 Cost of Service Report explaining the formula and types of activities where the rate is applied:

1.3.4 District Staff Labor Overhead Rate

1. Black & Veatch recommends that the District utilize a 195 percent overhead rate for FY 13/14. The District can use this rate to apply to outside contractor costs, developer projects and miscellaneous billings to help recover District support associated with these costs.
2. Furthermore, Black & Veatch recommends that the District conduct an annual review of direct and indirect costs and the resulting overhead rate as these costs tend to change from year to year. The review and implementation of overhead rates should be effective as of July 1 of each fiscal year based on that year’s approved budget.

6.1.1 OVERHEAD RATE ANALYSIS

The overhead rate analysis is a simple one that consists of identifying District indirect costs that support direct services provided by the District, grouping direct labor costs of the District (less benefits), and finally dividing the total indirect costs by the total direct costs. Table 6-1 shows the overhead calculation and resulting rate.

Examples of types of activities where the rate is applied are:

- Outside contractor costs such as when VWD provides another agency with VWD personnel on a temporary and fee for services basis.
- Developer projects where VWD staff will review plans presented by someone at the engineering counter and bill at the staff person's hourly rate plus the overhead rate.
- Miscellaneous billings such as when a VWD asset is damaged in a traffic accident and costs of repairs are billed to the responsible party.

The proposed Ordinance recommends an overhead rate of 217% and was derived by dividing adopted FY 19/20 budgeted indirect costs by direct labor costs per the recommended methodology in the Report.

A side-by-side comparison of the applicable costs for the current fiscal year over the preceding four fiscal years is presented in the attachment.

FISCAL IMPACT:

The District budget estimates the recovery of \$1.5 million of overhead costs in fiscal year 2019/20.

RECOMMENDATION:

Adopt Ordinance

ATTACHMENTS:

1. Overhead rate calculation
2. Cost change from prior year
3. Ordinance

**ATTACHMENT 1
VALLECITOS WATER DISTRICT
OVERHEAD RATE CALCULATION**

Line No.	Description	Budget				
		FY 2019/20	FY 2018/19	FY 2017/18	FY 2016/17	FY 2015/16
	Indirect Costs					
1	Water - Safety & Regulatory Affairs	246,000	268,000	261,000	272,000	253,000
2	Water - Building & Grounds	392,000	377,000	362,000	318,000	349,000
3	Water - Information Technology	1,027,000	973,000	1,003,000	941,000	910,000
4	Water - General & Administration	2,986,000	2,985,000	2,812,000	2,773,000	3,137,000
5	Water - G & A Transfer	961,000	921,000	1,020,000	936,000	675,000
7	Wastewater - Safety & Regulatory Affairs	190,000	203,000	189,000	165,000	154,000
8	Wastewater - Building & Grounds	272,000	260,000	257,000	230,000	169,000
9	Wastewater - Information Technology	833,000	845,000	831,000	734,000	705,000
10	Wastewater - General & Administration	1,444,000	1,452,000	1,455,000	1,261,000	1,266,000
11	Wastewater - G & A Transfer	548,000	527,000	548,000	613,000	522,000
12	Water/Wastewater Benefits	3,623,775	3,305,219	3,293,103	3,364,237	3,227,536
	Total District Indirect Costs	12,522,775	12,116,219	12,031,103	11,607,237	11,367,536
	Direct Costs					
13	Water - Pumping Cost of Labor	119,000	118,000	104,000	86,000	115,000
14	Water - Water Quality Cost of Labor	58,000	54,000	63,000	89,000	111,000
15	Water - Water Treatment Cost of Labor	411,000	393,000	375,000	329,000	219,000
16	Water - Tanks & Reservoirs Cost of Labor	244,000	233,000	248,000	249,000	291,000
17	Water - T&D Cost of Labor	1,185,000	1,122,000	1,178,000	1,074,000	1,010,000
18	Water - Services Cost of Labor	45,000	102,000	100,000	120,000	99,000
19	Water - Meters Cost of Labor	663,000	622,000	565,000	595,000	575,000
20	Water - Backflow Prevention Cost of Labor	21,000	20,000	25,000	70,000	64,000
21	Water - Customer Accounts Cost of Labor	496,000	466,000	487,000	546,000	562,000
22	Water - Engineering Cost of Labor	1,518,000	1,419,000	1,315,000	1,397,000	1,281,000
23	Water - Equipment & Vehicles Cost of Labor	129,000	122,000	114,000	132,000	127,000
24	Wastewater - Collection Cost of Labor	1,642,000	1,566,000	1,517,000	1,607,000	1,555,000
25	Wastewater - Lift Stations Cost of Labor	183,000	168,000	187,000	167,000	152,000
26	Wastewater - Peroxide Station Cost of Labor	-	-	-	-	5,000
27	Wastewater - Source Control Cost of Labor	176,000	164,000	153,000	144,000	151,000
28	Wastewater - MRF Lift Station Cost of Labor	107,000	105,000	102,000	122,000	98,000
29	Wastewater - MRF Cost of Labor	1,124,000	1,023,000	1,009,000	1,033,000	1,058,000
30	Wastewater - Mahr Reservoir Cost of Labor	95,000	84,000	96,000	127,000	106,000
31	Wastewater - Customer Accounts Cost of Labor	358,000	334,000	364,000	362,000	341,000
32	Wastewater - Equip & Vehicles Cost of Labor	137,000	124,000	107,000	133,000	88,000
33	Wastewater - Engineering Cost of Labor	671,000	588,000	612,000	626,000	572,000
34	Total District Direct Costs	9,382,000	8,827,000	8,721,000	9,008,000	8,580,000
	Benefit % per budget	62.9%	59.9%	60.7%	59.6%	60.3%
	Direct Costs less Benefits	5,758,225	5,521,781	5,427,897	5,643,763	5,352,464
	Overhead Rate	217.48%	219.43%	221.65%	205.66%	212.38%

**ATTACHMENT 2
VALLECITOS WATER DISTRICT
COST CHANGE FROM PRIOR YEAR**

Line No.	Description	Change from Previous Fiscal Year Budget				
		FY 2019/20	FY 2018/19	FY 2017/18	FY 2016/17	FY 2015/16
	Indirect Costs					
1	Water - Safety & Regulatory Affairs	(22,000)	7,000	(11,000)	19,000	13,000
2	Water - Building & Grounds	15,000	15,000	44,000	(31,000)	10,000
3	Water - Information Technology	54,000	(30,000)	62,000	31,000	274,000
4	Water - General & Administration	1,000	173,000	39,000	(364,000)	104,000
5	Water - G & A Transfer	40,000	(99,000)	84,000	261,000	(8,000)
7	Wastewater - Safety & Regulatory Affairs	(13,000)	14,000	24,000	11,000	6,000
8	Wastewater - Building & Grounds	12,000	3,000	27,000	61,000	(18,000)
9	Wastewater - Information Technology	(12,000)	14,000	97,000	29,000	261,000
10	Wastewater - General & Administration	(8,000)	(3,000)	194,000	(5,000)	95,000
11	Wastewater - G & A Transfer	21,000	(21,000)	(65,000)	91,000	(6,000)
12	Water/Wastewater Benefits	318,556	12,116	(71,134)	136,701	216,158
	Total District Indirect Costs	<u>406,556</u>	<u>85,116</u>	<u>423,866</u>	<u>239,701</u>	<u>947,158</u>
	Direct Costs					
13	Water - Pumping Cost of Labor	1,000	14,000	18,000	(29,000)	46,000
14	Water - Water Quality Cost of Labor	4,000	(9,000)	(26,000)	(22,000)	26,000
15	Water - Water Treatment Cost of Labor	18,000	18,000	46,000	110,000	(81,000)
16	Water - Tanks & Reservoirs Cost of Labor	11,000	(15,000)	(1,000)	(42,000)	13,000
17	Water - T&D Cost of Labor	63,000	(56,000)	104,000	64,000	30,000
18	Water - Services Cost of Labor	(57,000)	2,000	(20,000)	21,000	(17,000)
19	Water - Meters Cost of Labor	41,000	57,000	(30,000)	20,000	5,000
20	Water - Backflow Prevention Cost of Labor	1,000	(5,000)	(45,000)	6,000	5,000
21	Water - Customer Accounts Cost of Labor	30,000	(21,000)	(59,000)	(16,000)	33,000
22	Water - Engineering Cost of Labor	99,000	104,000	(82,000)	116,000	(74,000)
23	Water - Equipment & Vehicles Cost of Labor	7,000	8,000	(18,000)	5,000	6,000
24	Wastewater - Collection Cost of Labor	76,000	49,000	(90,000)	52,000	(66,000)
25	Wastewater - Lift Stations Cost of Labor	15,000	(19,000)	20,000	15,000	(8,000)
27	Wastewater - Source Control Cost of Labor	12,000	11,000	9,000	(7,000)	11,000
28	Wastewater - MRF Lift Station Cost of Labor	2,000	3,000	(20,000)	24,000	(8,000)
29	Wastewater - MRF Cost of Labor	101,000	14,000	(24,000)	(25,000)	119,000
30	Wastewater - Mahr Reservoir Cost of Labor	11,000	(12,000)	(31,000)	21,000	(6,000)
31	Wastewater - Customer Accounts Cost of Labor	24,000	(30,000)	2,000	21,000	21,000
32	Wastewater - Equip & Vehicles Cost of Labor	13,000	17,000	(26,000)	45,000	5,000
33	Wastewater - Engineering Cost of Labor	<u>83,000</u>	<u>(24,000)</u>	<u>(14,000)</u>	<u>54,000</u>	<u>(26,000)</u>
34	Total District Direct Costs	<u>555,000</u>	<u>106,000</u>	<u>(287,000)</u>	<u>428,000</u>	<u>33,000</u>

ORDINANCE NO.

**ORDINANCE OF THE VALLECITOS WATER DISTRICT
ESTABLISHING A COST RECOVERY OVERHEAD RATE FOR FISCAL YEAR 2019-20,
AND REPEALING ORDINANCE NO. 209**

WHEREAS, the Board of Directors of the Vallecitos Water District (District) wishes to recover all direct costs and expenses associated with services provided by the District, development expenses and repair costs of damaged facilities; and

WHEREAS, on August 21, 2013, the Board of Directors accepted the District's Cost of Service Study, "Water Validation, Cost of Service & Rate Design Analysis; Wastewater Validation & Rate Analysis; Miscellaneous Fees & Overhead Rate Analysis (Report)", which established the methodology for calculating the overhead rate identified below; and

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE VALLECITOS WATER DISTRICT AS FOLLOWS:

SECTION 1, DIRECT COST RECOVERY: Direct costs and expenses incurred by the District such as legal services, permits, reproduction services, consulting engineers and other professional services shall be recovered at direct costs only and the administrative overhead charge shall not apply.

SECTION 2, ADMINISTRATIVE OVERHEAD CHARGE: All direct labor costs and services provided on a time and material basis, by the District, are subject to the Administrative Overhead Charge. The charge for Fiscal Year 2019/20 is hereby established as 217% of the total direct labor costs. This charge will not apply to services provided on a fixed fee basis.

SECTION 3, ADMINSTRATIVE OVERHEAD CALCULATION: The overhead rate shall be calculated concurrent with adoption of the annual budget by the Board of Directors and utilize the following methodology:

$$\frac{\text{Budgeted indirect costs and employee benefits}}{\text{Direct labor costs}}$$

SECTION 4, EQUIPMENT USAGE CHARGE: All services provided by the District for which District owned equipment is used and charged on a time and material basis will be subject to an Equipment Usage Charge. The charge is hereby established as a per hour rate in accordance with the current State of California, Department of Transportation, Division of Construction Equipment Rental Rates and shall be included in the final actual cost determination. Direct rental costs for other equipment shall be recovered based upon actual expenses. This charge will not apply to services provided on a fixed fee basis.

All other Ordinances, Articles or Sections of Ordinances in conflict with this Ordinance are hereby repealed.

This ordinance shall be effective upon adoption.

PASSED, APPROVED, AND ADOPTED by the Board of Directors of the Vallecitos Water District at a regular meeting held this 7TH day of August, 2019, by the following roll call vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

Hal J. Martin, President
Board of Directors
Vallecitos Water District

ATTEST:

Glenn Pruij, Secretary
Board of Directors
Vallecitos Water District

DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
**SUBJECT: SET PUBLIC HEARING FOR REPORT ON DISTRICT WATER QUALITY
RELATIVE TO PUBLIC HEALTH GOALS**

BACKGROUND:

California Health and Safety Code §116470 requires water utilities with more than 10,000 service connections prepare a special report once every three years, if their water quality constituents have exceeded any Public Health Goals (PHG's). PHG's are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level Goals (MCLG's) adopted by USEPA. Only constituents which have a California primary drinking water standard and for which a PHG or MCLG has been established need to be addressed.

DISCUSSION:

The law requires that a Public Hearing be held (which can be part of a regularly scheduled public meeting) for the purpose of accepting and responding to public comment on the Report. The law requires that the Report be made available to the public at least 15 days prior to the acceptance of the Report. A Notice of Public Hearing will be placed in a local newspaper upon the setting of the Public Hearing date. The Report will be available at the District office for public review.

RECOMMENDATION:

Staff recommends the Public Hearing be scheduled as part of the Regular Board Meeting on September 4, 2019.

2019 Report on District Water Quality Relative to Public Health Goals

The California Health and Safety Code §116470¹ specifies that water utilities with more than 10,000 service connections prepare a special report by July 1, 2019 if their water quality measurements have exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by USEPA. Only constituents which have a California primary drinking water standard and for which either a PHG or MCLG has been established need to be addressed⁴.

There are several constituents that are routinely detected in water systems at levels usually well below the drinking water standards for which no PHG nor MCLG has yet been adopted by OEHHA or USEPA including Total Trihalomethanes. These will be addressed in a future required report after a PHG has been adopted. California Health and Safety Code §116470 specifies what information is to be provided in the report.

If a constituent was detected in the District's water supply between 2016 and 2018 at a level exceeding an applicable PHG or MCLG, this report provides the information required. Included is the numerical public health risk² associated with the Maximum Contaminant Level (MCL) and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent, the best treatment technology available that could be used to reduce the constituent level, and an estimate of the cost to install that treatment if it is appropriate and feasible.

What Are PHGs?

PHGs are set by the Cal-EPA's OEHHA and are based solely on public health care considerations. None of the practical risk-management factors that are considered by the USEPA or the State Water Resources Control Board (SWRCB) in setting drinking water standards (MCLs) are considered in setting the PHGs. These factors include analytical detection capability, treatment technology availability, benefits and costs. The PHGs are not enforceable and are not required to be met by any public water system. MCLGs are the federal equivalent of PHGs.

Water Quality Data Considered:

All of the water quality data collected by our water system, including data provided by the Metropolitan Water District of Southern California, the San Diego County Water Authority, Olivenhain Municipal Water District, Carlsbad Desalination Plant and the City of Oceanside, between 2016 and 2018 for determining compliance with drinking water standards was considered. This data was summarized in our 2016, 2017 and 2018 Consumer Confidence Reports which were mailed to and/or made available electronically for all of our customers in compliance with the California Health and Safety Code §116470¹.

Guidelines Followed:

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing these required reports. The ACWA guidelines were used in preparation of this report. No guidance was available from or provided by state regulatory agencies.

Best Available Treatment Technology and Cost Estimates:

Both the USEPA and SWRCB adopt what are known as BATs or Best Available Technologies which are the best known methods of reducing contaminant levels to the MCL. Implementation of these technologies can be extremely expensive and, depending on the water available, can be cost prohibitive. Costs can be estimated by utilizing various pilot studies and reports. However, since many PHGs and all MCLGs are set much lower than the MCL, it is not always possible or feasible to determine what treatment is needed to further reduce a constituent downward to or near the PHG or MCLG, many of which are set at zero. Estimating the costs to reduce a constituent to zero is difficult, if not impossible because it may not be possible to verify, by analytical means, that the level has been lowered to zero. In some cases, installing treatment to reduce very low levels of one constituent may have adverse effects on other aspects of water quality.

Constituents Detected That Exceed a PHG or an MCLG:

The following is a discussion of constituents that were detected in one or more of our drinking water sources at levels above the PHG, or if no PHG, above the MCLG.

Arsenic:

Arsenic is a naturally occurring element in the earth's crust and is very widely distributed in the environment. All humans are exposed to microgram quantities of arsenic (inorganic and organic) largely from food (25 to 50 µg/day) and to a lesser degree from drinking water and air. In certain geographical areas, natural mineral deposits may contain large quantities of arsenic and this may result in higher levels of arsenic in water. Waste chemical disposal sites may also be a source of arsenic contamination of water supplies. The main commercial use of arsenic in the U.S. is in pesticides, mostly herbicides and in wood preservatives. Misapplication or accidental spills of these materials could result in contamination of nearby water supplies. Arsenic does not have a tendency to accumulate in the body at low environmental exposure levels.

Studies in humans have shown considerable individual variability in arsenic toxicity. The levels of arsenic that most people ingest in food and water (ca. 50 µg/day) have not usually been considered to be of health concern for non-cancer effects.

The MCL for arsenic is 10 parts-per-billion (ppb), the PHG and MCLG for arsenic is 0.004 ppb. The San Diego County Water Authority (SDCWA), detected arsenic above the Detection Limit for Reporting Purposes of 2 ppb. The San Diego County Water Authority (SDCWA) detected it in 2016, 2017 and 2018. The maximum level detected

was 3.0 ppb³. The health risk associated with arsenic, and the reason that a drinking water standard was adopted for it, is that people who drink water containing arsenic above the MCL throughout their lifetime could experience an increased risk of getting cancer. OEHHA has set the PHG at 4 parts-per-trillion (ppt) (0.004 ppb). The PHG is based on a level that will result in not more than 1 excess cancer in 1 million people who drink 2 liters daily of this water for 70 years. The actual cancer risk may be lower or zero.

The arsenic in our water system comes from our already treated water from SDCWA. It is not required for SDCWA to lower arsenic levels to the PHG and MCLG levels because it already meets federal and state health-based standards. The best available technology (BAT) cited in literature to remove arsenic is reverse osmosis. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$2.01-\$7.33 per 1000 gallons to treat arsenic using RO treatment. These values were assessed using ACWA's 2018 'Suggested Guidelines' for reverse osmosis treatment technology and includes annualized capital and O&M costs⁵.

Bromate:

Bromate is formed when naturally occurring bromide reacts with ozone during the disinfection process. The District's water wholesalers, the Metropolitan Water District (MWD) and the San Diego County Water Authority (SDCWA) use ozone in their treatment plants to treat drinking water. Since the treatment plants' source water contains naturally occurring bromide, bromate is formed during this process.

The MCL for bromate is 10 ppb and the PHG for bromate is 0.1 ppb. SDCWA and MWD detected bromate above the Detection Limit for Reporting Purposes (DLR) of 5.0. The San Diego County Water Authority (SDCWA) detected it in 2016, 2017 and 2018. The Metropolitan Water District detected it in 2016, 2017 and 2018. The maximum level detected from both agencies was 15.0 ppb³. One of the most effective best available technologies for bromate reduction is reverse osmosis (RO). RO treatment reduces the naturally occurring bromide in source water by reducing the natural organic matter (NOM) in water. When this is reduced, the demand for ozone decreases, therefore reducing bromate formation. Because the DLR for bromate is greater than the PHG, it would be difficult to assess the effectiveness of RO treatment on reaching the PHG level.

The bromate in our water system comes from our already treated water from MWD and SDCWA. It is not required for either agency to lower bromate levels to the PHG and MCLG levels because it already meets federal and state health-based standards. The best available technology (BAT) cited in literature to remove bromate is reverse osmosis. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$1.85-\$3.55 per 1000 gallons to treat bromate using RO treatment. These values were assessed using ACWA's 2018 'Suggested Guidelines' for reverse osmosis treatment technology and includes annualized capital and O&M costs⁵.

Coliform Bacteria:

The MCL for coliform bacteria is 5% positive samples of all samples per month. The MCLG is zero. The reason for the coliform drinking water standard is to minimize the possibility of the water containing pathogens, which are organisms that can cause waterborne disease. Because coliform is only a surrogate indicator of the potential presence of pathogens, it is not possible to state a specific numerical health risk. While USEPA normally sets MCLGs “at a level where no known or anticipated adverse effects on persons would occur”, they indicate that they cannot do so with coliforms. Therefore, the MCLG for coliform bacteria has been set at zero by the USEPA.

In the month of May 2017, the District collected 133 samples from our distribution system for coliform analysis. Of these samples, one tested positive for coliform bacteria (0.75%)³.

The District re-tested the source noted above in accordance with SWRCB guidelines and all sources tested negative for coliform bacteria. The District collected a total of 4059 samples for all three years in this report with only the one sample in 2017 testing positive for coliform bacteria (0.02% over 3 years).

Coliform bacteria are an indicator organism that are ubiquitous in nature and are not generally considered harmful. They are used because of the ease in monitoring and analysis. If a positive sample is found, it indicates a potential problem that needs to be investigated and follow up sampling done. It is not at all unusual for a system to have an occasional positive sample. It is difficult, if not impossible, to assure that a system will never have a positive sample.

The District operates its distribution system in a manner that assures the best possible water quality. Important measures that have been implemented include: supplemental injection of chlorine at the Twin Oaks Reservoir Facility to increase chloramine disinfectant residual in the distribution system, a comprehensive nitrification control program, an effective cross-connection control program, maintenance of a disinfectant residual throughout our system, an effective monitoring program using an advanced SCADA system and maintaining positive pressures in our distribution system. Our system has already taken all of the steps described by SWRCB as “best available technology” for coliform bacteria in Section 64447, Title 22, CCR. Therefore, no estimate of cost has been included.

Copper:

There is no MCL for copper. Instead, the 90th percentile value of all samples from household taps in the distribution system cannot exceed an Action Level of 1.3 mg/l for copper. The PHG for copper is 0.3 mg/l.

The category of health risk for copper is gastrointestinal irritation. Numerical health risk data on copper has not yet been provided by OEHHA, the State agency responsible for providing that information.

The District is required to sample for copper every three years. Our latest sampling period was in 2018. Based on extensive sampling of our distribution system in 2018, our 90th percentile value for copper was 0.270 mg/l³. The highest level of copper detected during our sampling was 0.430 mg/l. Our water system is in full compliance with the Federal and State Lead and Copper Rule. Based on our sampling, it was determined according to State regulatory requirements that we meet the Action Level for copper. Therefore, we are deemed by SWRCB to have “optimized corrosion control” for our system.

In general, optimizing corrosion control is considered to be the best available technology to deal with corrosion issues and with any lead or copper findings. We continue to monitor our water quality parameters that relate to corrosivity, such as the pH, hardness, alkalinity, total dissolved solids, and will take action if necessary to maintain our system in an “optimized corrosion control” condition.

Since we are meeting the “optimized corrosion control” requirements, it is not prudent to initiate additional corrosion control treatment as it involves the addition of other chemicals and there could be additional water quality issues raised. Therefore, no estimate of cost has been included.

Lead:

There is no MCL for lead. Instead, the 90th percentile value of all samples from household taps in the distribution system cannot exceed an Action Level of 0.015 mg/l for lead. The PHG for lead is 0.0002 mg/l.

The category of health risk for lead is developmental neurotoxicity. Numerical health risk data on lead has not yet been provided by OEHHA, the State agency responsible for providing that information.

The District is required to sample for lead every three years. Our latest sampling period was in 2018. Based on extensive sampling of our distribution system in 2018, our 90th percentile value for lead was 0.0012 mg/l³. The highest level of lead detected during our sampling was 0.0020 mg/l. Our water system is in full compliance with the Federal and State Lead and Copper Rule. Based on our sampling, it was determined according to State regulatory requirements that we meet the Action Level for lead. Therefore, we are deemed by SWRCB to have “optimized corrosion control” for our system.

In general, optimizing corrosion control is considered to be the best available technology to deal with corrosion issues and with any lead or copper findings. We continue to monitor our water quality parameters that relate to corrosivity, such as the pH, hardness, alkalinity, total dissolved solids, and will take action if necessary to maintain our system in an “optimized corrosion control” condition.

Since we are meeting the “optimized corrosion control” requirements, it is not prudent to initiate additional corrosion control treatment as it involves the addition of other chemicals and there could be additional water quality issues raised. Therefore, no estimate of cost has been included.

Radiologicals:

The water delivered to Vallecitos by MWD, OMWD and SDCWA exceeded the PHG for several of the radiologicals in 2016, 2017 and 2018³. Radiological contaminants are considered by USEPA and SWRCB as carcinogenic or capable of producing cancer.

At the present time, there are no plans by MWD, OMWD or SDCWA to treat their water to remove the radiologicals. If the agencies were to treat their water to remove the radiologicals, they would likely use reverse osmosis, and the cost of the treated water would increase by approximately \$2.57-\$4.10 per 1000 gallons. This cost estimate is in addition to the current wholesale cost of treated water to the District. These values were assessed using ACWA's 2018 'Suggested Guidelines' for reverse osmosis treatment technology and includes annualized capital and O&M costs⁵.

MWD, and other Southern California water agencies, have successfully lobbied for federal legislation that should result in the removal or containment of one or more of the sources of radiologicals in our Colorado River supplies. The primary source of radiologicals is a pile of mine tailings in Moab, Utah. The water from the MWD, OMWD, the SDCWA and the City of Oceanside to Vallecitos is on average approximately 70-80% Colorado River Water with the remaining 20-30% from the State Water Project.

Presently, the District proposes that all affected water agencies continue to pursue the removal/containment of the major source of the radiological contamination from mine tailings in Moab, Utah.

Hexavalent Chromium:

Hexavalent chromium is a chemical compound that can occur naturally in the environment or be introduced from industrial activities such as corrosion control or metal plating.

The category of health risk for hexavalent chromium is carcinogenicity (cancer causing). Numerical health risk data on hexavalent chromium has not yet been provided by OEHHA, the State agency responsible for providing that information.

The MCL for hexavalent chromium is 10 ppb and the PHG for hexavalent chromium is 0.02 ppb. The Detection Limit for Reporting Purposes (DLR) is 1.0 ppb³. The highest level of hexavalent chromium reported was 0.17 ppb. One of the most effective best available technologies for hexavalent chromium reduction is additional treatment facility filtration.

The hexavalent chromium in our water system comes from our already treated water. It is not required for agencies to lower hexavalent chromium levels to the PHG and MCLG levels because it already meets federal and state health-based standards. The best available technology (BAT) cited in literature to remove hexavalent chromium is additional treatment. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately \$1.74-\$10.97 per 1000 gallons to treat hexavalent chromium using additional treatment

with coagulation and filtration. These values were assessed using ACWA's 2018 'Suggested Guidelines' for coagulation filtration treatment technology and includes annualized capital and O&M costs⁵.

N-Nitrosodimethylamine (NDMA):

NDMA is a chemical that is a byproduct of manufacturing processes; component of tobacco smoke. Formerly used as a component of rocket fuels.

The category of health risk for NDMA is carcinogenicity (cancer causing). Numerical health risk data on NDMA has not yet been provided by OEHHA, the State agency responsible for providing that information. This contaminant isn't currently regulated in drinking water.

The Notification Level (NL) for NDMA is 10 ppt and the PHG for NDMA is 3 ppt. The Detection Limit for Reporting Purposes (DLR) is 2 ppt³. The highest level of NDMA reported was 5.1 ppt. One of the most effective best available technologies for NDMA reduction is additional treatment facility filtration.

The NDMA in our water system comes from our already treated water. It is not required for agencies to lower NDMA levels to the PHG and MCLG levels because it already meets federal and state health-based standards. NDMA is a new contaminant monitored in drinking water. The Association of California Water Agencies has not established a best available technology (BAT) to remove NDMA. This information was assessed using ACWA's 2018 'Suggested Guidelines'.

FISCAL IMPACT:

There is no fiscal impact associated with the recommended action.

Recommendations for Further Action:

The drinking water of the Vallecitos Water District meets all State of California, State Water Resources Control Board, Department of Drinking Water and USEPA drinking water standards set to protect public health. To further reduce the levels of the constituents identified in this report that are already significantly below the health-based Maximum Contaminant Levels established to provide "safe drinking water", additional costly treatment processes would be required. The effectiveness of the treatment processes to provide any significant reductions in constituent levels at these already low values is uncertain. The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable. Therefore, no action is proposed.

References:

- 1 Excerpt from California Health and Safety Code: Section §116470(b) (SWRCB)

- 2 Health Risk Information for PHG Exceedance Reports (OEHHA)
- 3 Excerpts from the 2016, 2017 and 2018 Metropolitan Water District of Southern California - Water Quality Reports; Excerpts from the 2016, 2017 and 2018 San Diego County Water Authority - Water Quality Reports; Excerpts from 2016, 2017 and 2018 Oceanside Treatment Plant – Water Quality Reports; Excerpts from the 2016, 2017 and 2018 Olivenhain Municipal Water District – Water quality Reports; Excerpts from the 2016, 2017 and 2018 Carlsbad Desalination Plant – Water Quality Reports; Excerpts from 2016, 2017 and 2018 Vallecitos Water District - Monthly Summary of Distribution System Coliform Monitoring for May 2017; Vallecitos Water District – Lead and Copper Report: 2018.
- 4 California MCLs and PHGs and Federal MCLGs (ACWA)
- 5 Cost Estimates for Treatment Technologies (ACWA)

Reference No. 1

Health and Safety Code §116470

a) As a condition of its operating permit, every public water system shall annually prepare a consumer confidence report and mail or deliver a copy of that report to each customer, other than an occupant, as defined in Section 799.28 of the Civil Code, of a recreational vehicle park. A public water system in a recreational vehicle park with occupants as defined in Section 799.28 of the Civil Code shall prominently display on a bulletin board at the entrance to or in the office of the park, and make available upon request, a copy of the report. The report shall include all of the following information:

(1) The source of the water purveyed by the public water system.

(2) A brief and plainly worded definition of the terms "maximum contaminant level," "primary drinking water standard," and "public health goal."

(3) If any regulated contaminant is detected in public drinking water supplied by the system during the past year, the report shall include all of the following information:

(A) The level of the contaminant found in the drinking water, and the corresponding public health goal and primary drinking water standard for that contaminant.

(B) Any violations of the primary drinking water standard that have occurred as a result of the presence of the contaminant in the drinking water and a brief and plainly worded statement of health concerns that resulted in the regulation of that contaminant.

(C) The public water system's address and phone number to enable customers to obtain further information concerning contaminants and potential health effects.

(4) Information on the levels of unregulated contaminants, if any, for which monitoring is required pursuant to state or federal law or regulation.

(5) Disclosure of any variances or exemptions from primary drinking water standards granted to the system and the basis therefor.

(b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:

(1) Identifies each contaminant detected in drinking water that exceeds the applicable public health goal.

(2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.

(3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.

Reference No. 1 (continued)

(4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.

(5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.

(6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.

(c) Public water systems required to prepare a report pursuant to subdivision (b) shall hold a public hearing for the purpose of accepting and responding to public comment on the report. Public water systems may hold the public hearing as part of any regularly scheduled meeting.

(d) The department shall not require a public water system to take any action to reduce or eliminate any exceedance of a public health goal.

(e) Enforcement of this section does not require the department to amend a public water system's operating permit.

(f) Pending adoption of a public health goal by the Office of Environmental Health Hazard Assessment pursuant to subdivision (c) of Section 116365, and in lieu thereof, public water systems shall use the national maximum contaminant level goal adopted by the United States Environmental Protection Agency for the corresponding contaminant for purposes of complying with the notice and hearing requirements of this section.

(g) This section is intended to provide an alternative form for the federally required consumer confidence report as authorized by 42 U.S.C. Section 300g-3(c).

Health Risk Information for Public Health Goal Exceedance Reports

Prepared by

Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

February 2019

Under the Calderon-Sher Safe Drinking Water Act of 1996 (the Act), public water systems with more than 10,000 service connections are required to prepare a report every three years for contaminants that exceed their respective Public Health Goals (PHGs).¹ This document contains health risk information on regulated drinking water contaminants to assist public water systems in preparing these reports. A PHG is the concentration of a contaminant in drinking water that poses no significant health risk if consumed for a lifetime. PHGs are developed and published by the Office of Environmental Health Hazard Assessment (OEHHA) using current risk assessment principles, practices and methods.²

The water system's report is required to identify the health risk category (e.g., carcinogenicity or neurotoxicity) associated with exposure to each regulated contaminant in drinking water and to include a brief, plainly worded description of these risks. The report is also required to disclose the numerical public health risk, if available, associated with the California Maximum Contaminant Level (MCL) and with the PHG for each contaminant. This health risk information document is prepared by OEHHA every three years to assist the water systems in providing the required information in their reports.

Numerical health risks: Table 1 presents health risk categories and cancer risk values for chemical contaminants in drinking water that have PHGs.

The Act requires that OEHHA publish PHGs based on health risk assessments using the most current scientific methods. As defined in statute, PHGs for non-carcinogenic

¹ Health and Safety Code Section 116470(b)

² Health and Safety Code Section 116365

Reference No. 2 (Continued)

chemicals in drinking water are set at a concentration “at which no known or anticipated adverse health effects will occur, with an adequate margin of safety.” For carcinogens, PHGs are set at a concentration that “does not pose any significant risk to health.” PHGs provide one basis for revising MCLs, along with cost and technological feasibility. OEHHA has been publishing PHGs since 1997 and the entire list published to date is shown in Table 1.

Table 2 presents health risk information for contaminants that do not have PHGs but have state or federal regulatory standards. The Act requires that, for chemical contaminants with California MCLs that do not yet have PHGs, water utilities use the federal Maximum Contaminant Level Goal (MCLG) for the purpose of complying with the requirement of public notification. MCLGs, like PHGs, are strictly health based and include a margin of safety. One difference, however, is that the MCLGs for carcinogens are set at zero because the US Environmental Protection Agency (US EPA) assumes there is no absolutely safe level of exposure to such chemicals. PHGs, on the other hand, are set at a level considered to pose no *significant* risk of cancer; this is usually no more than a one-in-one-million excess cancer risk (1×10^{-6}) level for a lifetime of exposure. In Table 2, the cancer risks shown are based on the US EPA’s evaluations.

For more information on health risks: The adverse health effects for each chemical with a PHG are summarized in a PHG technical support document. These documents are available on the OEHHA website (<http://www.oehha.ca.gov>). Also, technical fact sheets on most of the chemicals having federal MCLs can be found at <http://www.epa.gov/your-drinking-water/table-regulated-drinking-water-contaminants>.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Alachlor	carcinogenicity (causes cancer)	0.004	NA ^{5,6}	0.002	NA
Aluminum	neurotoxicity and immunotoxicity (harms the nervous and immune systems)	0.6	NA	1	NA
Antimony	digestive system toxicity (causes vomiting)	0.02	NA	0.006	NA
Arsenic	carcinogenicity (causes cancer)	0.000004 (4×10 ⁻⁶)	1×10 ⁻⁶ (one per million)	0.01	2.5×10 ⁻³ (2.5 per thousand)
Asbestos	carcinogenicity (causes cancer)	7 MFL ⁷ (fibers >10 microns in length)	1×10 ⁻⁶	7 MFL (fibers >10 microns in length)	1×10 ⁻⁶ (one per million)
Atrazine	carcinogenicity (causes cancer)	0.00015	1×10 ⁻⁶	0.001	7×10 ⁻⁶ (seven per million)

¹ Based on the OEHHA PHG technical support document unless otherwise specified. The categories are the hazard traits defined by OEHHA for California's Toxics Information Clearinghouse (online at: http://oehha.ca.gov/multimedia/green/pdf/GC_Regtext011912.pdf).

² mg/L = milligrams per liter of water or parts per million (ppm)

³ Cancer Risk = Upper bound estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. 1×10⁻⁶ means one excess cancer case per million people exposed.

⁴ MCL = maximum contaminant level.

⁵ NA = not applicable. Cancer risk cannot be calculated.

⁶ The PHG for alachlor is based on a threshold model of carcinogenesis and is set at a level that is believed to be without any significant cancer risk to individuals exposed to the chemical over a lifetime.

⁷ MFL = million fibers per liter of water.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Barium	cardiovascular toxicity (causes high blood pressure)	2	NA	1	NA
Bentazon	hepatotoxicity and digestive system toxicity (harms the liver, intestine, and causes body weight effects ⁸)	0.2	NA	0.018	NA
Benzene	carcinogenicity (causes leukemia)	0.00015	1×10^{-6}	0.001	7×10^{-6} (seven per million)
Benzo[a]pyrene	carcinogenicity (causes cancer)	0.000007 (7×10^{-6})	1×10^{-6}	0.0002	3×10^{-5} (three per hundred thousand)
Beryllium	digestive system toxicity (harms the stomach or intestine)	0.001	NA	0.004	NA
Bromate	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.01	1×10^{-4} (one per ten thousand)
Cadmium	nephrotoxicity (harms the kidney)	0.00004	NA	0.005	NA
Carbofuran	reproductive toxicity (harms the testis)	0.0007	NA	0.018	NA

⁸ Body weight effects are an indicator of general toxicity in animal studies.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Carbon tetrachloride	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.0005	5×10^{-6} (five per million)
Chlordane	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.0001	3×10^{-6} (three per million)
Chlorite	hematotoxicity (causes anemia) neurotoxicity (causes neurobehavioral effects)	0.05	NA	1	NA
Chromium, hexavalent	carcinogenicity (causes cancer)	0.00002	1×10^{-6}	none	NA
Copper	digestive system toxicity (causes nausea, vomiting, diarrhea)	0.3	NA	1.3 (AL ⁹)	NA
Cyanide	neurotoxicity (damages nerves) endocrine toxicity (affects the thyroid)	0.15	NA	0.15	NA
Dalapon	nephrotoxicity (harms the kidney)	0.79	NA	0.2	NA
Di(2-ethylhexyl) adipate (DEHA)	developmental toxicity (disrupts development)	0.2	NA	0.4	NA
Diethylhexyl-phthalate (DEHP)	carcinogenicity (causes cancer)	0.012	1×10^{-6}	0.004	3×10^{-7} (three per ten million)

⁹ AL = action level. The action levels for copper and lead refer to a concentration measured at the tap. Much of the copper and lead in drinking water is derived from household plumbing (The Lead and Copper Rule, Title 22, California Code of Regulations [CCR] section 64672.3).

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
1,2-Dibromo-3-chloropropane (DBCP)	carcinogenicity (causes cancer)	0.0000017 (1.7×10 ⁻⁶)	1×10 ⁻⁶	0.0002	1×10 ⁻⁴ (one per ten thousand)
1,2-Dichlorobenzene (o-DCB)	hepatotoxicity (harms the liver)	0.6	NA	0.6	NA
1,4-Dichlorobenzene (p-DCB)	carcinogenicity (causes cancer)	0.006	1×10 ⁻⁶	0.005	8×10 ⁻⁷ (eight per ten million)
1,1-Dichloroethane (1,1-DCA)	carcinogenicity (causes cancer)	0.003	1×10 ⁻⁶	0.005	2×10 ⁻⁶ (two per million)
1,2-Dichloroethane (1,2-DCA)	carcinogenicity (causes cancer)	0.0004	1×10 ⁻⁶	0.0005	1×10 ⁻⁶ (one per million)
1,1-Dichloroethylene (1,1-DCE)	hepatotoxicity (harms the liver)	0.01	NA	0.006	NA
1,2-Dichloroethylene, cis	nephrotoxicity (harms the kidney)	0.013	NA	0.006	NA
1,2-Dichloroethylene, trans	immunotoxicity (harms the immune system)	0.05	NA	0.01	NA
Dichloromethane (methylene chloride)	carcinogenicity (causes cancer)	0.004	1×10 ⁻⁶	0.005	1×10 ⁻⁶ (one per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
2,4-Dichloro-phenoxyacetic acid (2,4-D)	hepatotoxicity and nephrotoxicity (harms the liver and kidney)	0.02	NA	0.07	NA
1,2-Dichloro-propane (propylene dichloride)	carcinogenicity (causes cancer)	0.0005	1×10 ⁻⁶	0.005	1×10 ⁻⁵ (one per hundred thousand)
1,3-Dichloro-propene (Telone II®)	carcinogenicity (causes cancer)	0.0002	1×10 ⁻⁶	0.0005	2×10 ⁻⁶ (two per million)
Dinoseb	reproductive toxicity (harms the uterus and testis)	0.014	NA	0.007	NA
Diquat	ocular toxicity (harms the eye) developmental toxicity (causes malformation)	0.006	NA	0.02	NA
Endothall	digestive system toxicity (harms the stomach or intestine)	0.094	NA	0.1	NA
Endrin	neurotoxicity (causes convulsions) hepatotoxicity (harms the liver)	0.0003	NA	0.002	NA
Ethylbenzene (phenylethane)	hepatotoxicity (harms the liver)	0.3	NA	0.3	NA
Ethylene dibromide (1,2-Dibromoethane)	carcinogenicity (causes cancer)	0.00001	1×10 ⁻⁶	0.00005	5×10 ⁻⁶ (five per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Fluoride	musculoskeletal toxicity (causes tooth mottling)	1	NA	2	NA
Glyphosate	nephrotoxicity (harms the kidney)	0.9	NA	0.7	NA
Heptachlor	carcinogenicity (causes cancer)	0.000008 (8×10 ⁻⁶)	1×10 ⁻⁶	0.00001	1×10 ⁻⁶ (one per million)
Heptachlor epoxide	carcinogenicity (causes cancer)	0.000006 (6×10 ⁻⁶)	1×10 ⁻⁶	0.00001	2×10 ⁻⁶ (two per million)
Hexachlorobenzene	carcinogenicity (causes cancer)	0.00003	1×10 ⁻⁶	0.001	3×10 ⁻⁵ (three per hundred thousand)
Hexachlorocyclopentadiene (HCCPD)	digestive system toxicity (causes stomach lesions)	0.002	NA	0.05	NA
Lead	developmental neurotoxicity (causes neurobehavioral effects in children) cardiovascular toxicity (causes high blood pressure) carcinogenicity (causes cancer)	0.0002	<1×10 ⁻⁶ (PHG is not based on this effect)	0.015 (AL ⁸)	2×10 ⁻⁶ (two per million)
Lindane (γ-BHC)	carcinogenicity (causes cancer)	0.000032	1×10 ⁻⁶	0.0002	6×10 ⁻⁶ (six per million)
Mercury (inorganic)	nephrotoxicity (harms the kidney)	0.0012	NA	0.002	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Methoxychlor	endocrine toxicity (causes hormone effects)	0.00009	NA	0.03	NA
Methyl tertiary-butyl ether (MTBE)	carcinogenicity (causes cancer)	0.013	1×10 ⁻⁶	0.013	1×10 ⁻⁶ (one per million)
Molinate	carcinogenicity (causes cancer)	0.001	1×10 ⁻⁶	0.02	2×10 ⁻⁵ (two per hundred thousand)
Monochlorobenzene (chlorobenzene)	nephrotoxicity (harms the kidney)	0.07	NA	0.07	NA
Nickel	developmental toxicity (causes increased neonatal deaths)	0.012	NA	0.1	NA
Nitrate	hematotoxicity (causes methemoglobinemia)	45 as nitrate	NA	10 as nitrogen (=45 as nitrate)	NA
Nitrite	hematotoxicity (causes methemoglobinemia)	3 as nitrite	NA	1 as nitrogen (=3 as nitrite)	NA
Nitrate and Nitrite	hematotoxicity (causes methemoglobinemia)	10 as nitrogen ¹⁰	NA	10 as nitrogen	NA

¹⁰ The joint nitrate/nitrite PHG of 10 mg/L (10 ppm, expressed as nitrogen) does not replace the individual values, and the maximum contribution from nitrite should not exceed 1 mg/L nitrite-nitrogen.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
N-nitroso-dimethyl-amine (NDMA)	carcinogenicity (causes cancer)	0.000003 (3×10 ⁻⁶)	1×10 ⁻⁶	none	NA
Oxamyl	general toxicity (causes body weight effects)	0.026	NA	0.05	NA
Pentachloro-phenol (PCP)	carcinogenicity (causes cancer)	0.0003	1×10 ⁻⁶	0.001	3×10 ⁻⁶ (three per million)
Perchlorate	endocrine toxicity (affects the thyroid) developmental toxicity (causes neurodevelopmental deficits)	0.001	NA	0.006	NA
Picloram	hepatotoxicity (harms the liver)	0.166	NA	0.5	NA
Polychlorinated biphenyls (PCBs)	carcinogenicity (causes cancer)	0.00009	1×10 ⁻⁶	0.0005	6×10 ⁻⁶ (six per million)
Radium-226	carcinogenicity (causes cancer)	0.05 pCi/L	1×10 ⁻⁶	5 pCi/L (combined Ra ²²⁶⁺²²⁸)	1×10 ⁻⁴ (one per ten thousand)
Radium-228	carcinogenicity (causes cancer)	0.019 pCi/L	1×10 ⁻⁶	5 pCi/L (combined Ra ²²⁶⁺²²⁸)	3×10 ⁻⁴ (three per ten thousand)
Selenium	integumentary toxicity (causes hair loss and nail damage)	0.03	NA	0.05	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Silvex (2,4,5-TP)	hepatotoxicity (harms the liver)	0.003	NA	0.05	NA
Simazine	general toxicity (causes body weight effects)	0.004	NA	0.004	NA
Strontium-90	carcinogenicity (causes cancer)	0.35 pCi/L	1×10^{-6}	8 pCi/L	2×10^{-5} (two per hundred thousand)
Styrene (vinylbenzene)	carcinogenicity (causes cancer)	0.0005	1×10^{-6}	0.1	2×10^{-4} (two per ten thousand)
1,1,2,2-Tetrachloroethane	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.001	1×10^{-5} (one per hundred thousand)
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD, or dioxin)	carcinogenicity (causes cancer)	5×10^{-11}	1×10^{-6}	3×10^{-8}	6×10^{-4} (six per ten thousand)
Tetrachloroethylene (perchloroethylene, or PCE)	carcinogenicity (causes cancer)	0.00006	1×10^{-6}	0.005	8×10^{-5} (eight per hundred thousand)
Thallium	integumentary toxicity (causes hair loss)	0.0001	NA	0.002	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Thiobencarb	general toxicity (causes body weight effects) hematotoxicity (affects red blood cells)	0.042	NA	0.07	NA
Toluene (methylbenzene)	hepatotoxicity (harms the liver) endocrine toxicity (harms the thymus)	0.15	NA	0.15	NA
Toxaphene	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.003	1×10^{-4} (one per ten thousand)
1,2,4-Trichlorobenzene	endocrine toxicity (harms adrenal glands)	0.005	NA	0.005	NA
1,1,1-Trichloroethane	neurotoxicity (harms the nervous system), reproductive toxicity (causes fewer offspring) hepatotoxicity (harms the liver) hematotoxicity (causes blood effects)	1	NA	0.2	NA
1,1,2-Trichloroethane	carcinogenicity (causes cancer)	0.0003	1×10^{-6}	0.005	2×10^{-5} (two per hundred thousand)
Trichloroethylene (TCE)	carcinogenicity (causes cancer)	0.0017	1×10^{-6}	0.005	3×10^{-6} (three per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category ¹	California PHG (mg/L) ²	Cancer Risk ³ at the PHG	California MCL ⁴ (mg/L)	Cancer Risk at the California MCL
Trichlorofluoromethane (Freon 11)	accelerated mortality (increase in early death)	1.3	NA	0.15	NA
1,2,3-Trichloropropane (1,2,3-TCP)	carcinogenicity (causes cancer)	0.0000007 (7×10^{-7})	1×10^{-6}	0.000005 (5×10^{-6})	7×10^{-6} (seven per million)
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	hepatotoxicity (harms the liver)	4	NA	1.2	NA
Tritium	carcinogenicity (causes cancer)	400 pCi/L	1×10^{-6}	20,000 pCi/L	5×10^{-5} (five per hundred thousand)
Uranium	carcinogenicity (causes cancer)	0.43 pCi/L	1×10^{-6}	20 pCi/L	5×10^{-5} (five per hundred thousand)
Vinyl chloride	carcinogenicity (causes cancer)	0.00005	1×10^{-6}	0.0005	1×10^{-5} (one per hundred thousand)
Xylene	neurotoxicity (affects the senses, mood, and motor control)	1.8 (single isomer or sum of isomers)	NA	1.75 (single isomer or sum of isomers)	NA

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category ¹	US EPA MCLG ² (mg/L)	Cancer Risk ³ @ MCLG	California MCL ⁴ (mg/L)	Cancer Risk @ California MCL
Disinfection byproducts (DBPs)					
Chloramines	acute toxicity (causes irritation) digestive system toxicity (harms the stomach) hematotoxicity (causes anemia)	4 ^{5,6}	NA ⁷	none	NA
Chlorine	acute toxicity (causes irritation) digestive system toxicity (harms the stomach)	4 ^{5,6}	NA	none	NA
Chlorine dioxide	hematotoxicity (causes anemia) neurotoxicity (harms the nervous system)	0.8 ^{5,6}	NA	none	NA
Disinfection byproducts: haloacetic acids (HAA5)					
Monochloroacetic acid (MCA)	general toxicity (causes body and organ weight changes ⁸)	0.07	NA	none	NA
Dichloroacetic acid (DCA)	carcinogenicity (causes cancer)	0	0	none	NA

¹ Health risk category based on the US EPA MCLG document or California MCL document unless otherwise specified.

² MCLG = maximum contaminant level goal established by US EPA.

³ Cancer Risk = Upper estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. 1×10^{-6} means one excess cancer case per million people exposed.

⁴ California MCL = maximum contaminant level established by California.

⁵ Maximum Residual Disinfectant Level Goal, or MRDLG.

⁶ The federal Maximum Residual Disinfectant Level (MRDL), or highest level of disinfectant allowed in drinking water, is the same value for this chemical.

⁷ NA = not available.

⁸ Body weight effects are an indicator of general toxicity in animal studies.

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category ¹	US EPA MCLG ² (mg/L)	Cancer Risk ³ @ MCLG	California MCL ⁴ (mg/L)	Cancer Risk @ California MCL
Trichloroacetic acid (TCA)	hepatotoxicity (harms the liver)	0.02	NA	none	NA
Monobromoacetic acid (MBA)	NA	none	NA	none	NA
Dibromoacetic acid (DBA)	NA	none	NA	none	NA
Total haloacetic acids (sum of MCA, DCA, TCA, MBA, and DBA)	general toxicity, hepatotoxicity and carcinogenicity (causes body and organ weight changes, harms the liver and causes cancer)	none	NA	0.06	NA
Disinfection byproducts: trihalomethanes (THMs)					
Bromodichloromethane (BDCM)	carcinogenicity (causes cancer)	0	0	none	NA
Bromoform	carcinogenicity (causes cancer)	0	0	none	NA
Chloroform	hepatotoxicity and nephrotoxicity (harms the liver and kidney)	0.07	NA	none	NA
Dibromo-chloromethane (DBCM)	hepatotoxicity, nephrotoxicity, and neurotoxicity (harms the liver, kidney, and nervous system)	0.06	NA	none	NA

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category ¹	US EPA MCLG ² (mg/L)	Cancer Risk ³ @ MCLG	California MCL ⁴ (mg/L)	Cancer Risk @ California MCL
Total trihalomethanes (sum of BDCM, bromoform, chloroform and DBCM)	carcinogenicity (causes cancer), hepatotoxicity, nephrotoxicity, and neurotoxicity (harms the liver, kidney, and nervous system)	none	NA	0.08	NA
Radionuclides					
Gross alpha particles ⁹	carcinogenicity (causes cancer)	0 (²¹⁰ Po included)	0	15 pCi/L ¹⁰ (includes ²²⁶ Ra but not radon and uranium)	up to 1x10 ⁻³ (for ²¹⁰ Po, the most potent alpha emitter)
Beta particles and photon emitters ⁹	carcinogenicity (causes cancer)	0 (²¹⁰ Pb included)	0	50 pCi/L (judged equiv. to 4 mrem/yr)	up to 2x10 ⁻³ (for ²¹⁰ Pb, the most potent beta-emitter)

⁹ MCLs for gross alpha and beta particles are screening standards for a group of radionuclides. Corresponding PHGs were not developed for gross alpha and beta particles. See the OEHHA memoranda discussing the cancer risks at these MCLs at <http://www.oehha.ca.gov/water/reports/grossab.html>.

¹⁰ pCi/L = picocuries per liter of water.

Reference No. 3

Contaminants Exceeding the Public Health Goals & Maximum Contaminant Level Goals

2016 Water Quality Effluent Report from SDCWA, MWD, OTP, Carlsbad Desal, OMWD and VWD Distribution

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	SDCWA	MWD	OTP	Desal	OMWD	VWD	
Uranium	pCi/L	20	0.43	1	Range	2.7 - 3.1	1 - 2	NA	2.189	2 - 3	NA	
					Average	2.9	2	3.6	2.189	2	NA	Erosion of natural deposits
Arsenic	ppb	10	0.004	2	Range	Single Sample	ND	NA	ND	NR	NA	Natural deposits erosion, glass
					Average	2.4	ND	ND	ND	NR	NA	and electronics production wastes
Bromate	ppb	10	0.1	5.0	Range	3.0 - 8.2	ND - 9.1	NR	NA	NR	NA	
					High RAA	5.9	4.2	NR	NA	NR	NA	By-product of drinking water ozonation
NDMA	ppt	NL = 10	3	2	Range	Single Sample	ND - 2.3	NR	NA	NR	NA	By-product of drinking water
					Average	ND	ND - 5.1	NR	NA	NR	NA	chloramination; industrial processes
Copper	ppb	AL = 1,300	300	5	90th Percentile	ND	ND	NA	ND	322	NA	House pipes internal corrosion; erosion of natural deposits; leaching
					90th Percentile	ND	ND	NA	ND	ND	NA	House pipes internal corrosion; erosion of natural deposits; leaching
Lead	ppb	AL = 15	0.2	5	Range	ND	ND - 0.3	ND	ND	ND	ND	Naturally present in the environment
					Average	ND	ND	ND	ND	ND	ND	
Total Coliforms	%	5.0	(0)	NA	Range	4 - 7	ND - 5	NA	-0.50 - 0.74	ND - 6	NA	Erosion of natural deposits
					Average	5	ND	2.3	0.118	ND	NA	
Gross Alpha	pCi/L	15	(0)	3	Range	4 - 6	5	NA	0.0 - 28.61	ND - 5	NA	Decay of natural and man - made
					Average	5	5	NA	10.19	ND	NA	deposits
Gross Beta	pCi/L	20	0.43	4	Range	ND - 0.09	ND	NR	NA	NR	NA	By-product of industrial process
					Average	0.06	ND	NR	NA	NR	NA	
Chromium, Hex	ppb	10	0.02	1	Average	0.06	ND	NR	NA	NR	NA	

Reference No. 3 (continued)

Contaminants Exceeding the Public Health Goals & Maximum Contaminant Level Goals

2017 Water Quality Effluent Report from SDCWA, MWD, OTP, Carlsbad Desal, OMWD and VWD Distribution

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	SDCWA	MWD	OTP	Desal	OMWD	VWD	
Uranium	pCi/L	20	0.43	1	Range	2.7 - 3.1	ND - 3	NA	0.029 - 0.161	NR	NA	
					Average	2.9	ND	2	0.085	NR	NA	Erosion of natural deposits
Arsenic	ppb	10	0.004	2	Single Sample		ND	NA	ND	NR	NA	Natural deposits erosion, glass and electronics production wastes
					Range	2 - 13	ND - 12	NR	NA	NR	NA	
Bromate	ppb	10	0.1	5.0	Average	6	4.1	NR	NA	NR	NA	By-product of drinking water ozonation
					Range	Single Sample	ND - 3.1	NR	NA	NR	NA	By-product of drinking water
NDMA	ppt	NL = 10	3	2	Average	ND	NR	NR	NA	NR	NA	chloramination; industrial processes
					90th Percentile	ND	ND	NA	ND	NA	NA	House pipes internal corrosion; erosion of natural deposits; leaching
Copper	ppb	AL = 1,300	300	5	90th Percentile	ND	ND	NA	ND	NA	NA	House pipes internal corrosion; erosion of natural deposits; leaching
					90th Percentile	ND	ND	NA	ND	NA	NA	House pipes internal corrosion; erosion of natural deposits; leaching
Lead	ppb	AL = 15	0.2	5	Range	ND	0	ND	ND	ND - 1.09	ND - Present	Naturally present in the environment
					Average	ND	0	ND	ND	ND	0.07%	
Total Coliforms	%	5.0	(0)	NA	Range	4 - 7	ND - 4	NA	0 - 2.265	NR	NA	Erosion of natural deposits
					Average	5	ND	2.1	0.075	NR	NA	
Gross Alpha	pCi/L	15	(0)	3	Range	4 - 6	ND - 5	NA	0 - 3.56	NR	NA	Decay of natural and man - made
					Average	5	ND	NA	1.59	NR	NA	deposits
Gross Beta	pCi/L	20	0.43	4	Range	NR	NR	NR	0 - 1.01	NR	NR	Erosion of natural deposits
					Average	NR	NR	NR	0.37	NR	NR	
Radium-226	pCi/L	NA	0.05	1	Range	NR	NR	NR	0 - 0.894	NR	NR	Erosion of natural deposits
					Average	NR	NR	NR	0.261	NR	NR	
Radium-228	pCi/L	NA	0.019	1	Range	NR	NR	NR	0 - 1.01	NR	NR	Erosion of natural deposits
					Average	NR	NR	NR	0.313	NR	NR	
Combined Radium-226 + 228	pCi/L	5	(0)	NA	Range	NR	NR	NR	0 - 0.5	NR	NR	Decay of natural and man - made
					Average	NR	NR	NR	0.112	NR	NR	deposits
Strontium-90	pCi/L	8	0.35	2	Range	0.03 - 0.16	ND	NR	NA	NR	NA	By-product of industrial process
					Average	0.11	ND	NR	NA	NR	NA	
Chromium, Hex	ppb	NA	0.02	1	Average	0.11	ND	NR	NA	NR	NA	

Reference No. 3 (continued)

Contaminants Exceeding the Public Health Goals & Maximum Contaminant Level Goals

2018 Water Quality Effluent Report from SDCWA, MWD, OTP, Carlsbad Desal, OMWD and VWD Distribution

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	SDCWA	MWD	OTP	Desal	OMWD	VWD	
Uranium	pCi/L	20	0.43	1	Range	Sample	ND - 3	NA	ND	NR	NA	Erosion of natural deposits
					Average	2.2	ND	2.0	ND	NR	NA	
Arsenic	ppb	10	0.004	2	Single Sample		ND	NA	ND	NR	NA	Natural deposits erosion, glass and electronics production wastes
					Range	1 - 15	ND -5.9	NR	NA	NR	NA	
Bromate	ppb	10	0.1	5.0	Average	5	3.7	NR	NA	NR	NA	By-product of drinking water ozonation
					Range	Single Sample	4.1	NR	NA	NR	NA	
NDMA	ppt	NL = 10	3	2	Average	2		NR	NA	NR	NA	By-product of drinking water chloramination; industrial processes
					90th Percentile	ND	ND	0.138	ND	NA	270	
Copper	ppb	AL = 1,300	300	5	90th Percentile	ND	ND	0.138	ND	NA	270	House pipes internal corrosion; erosion of natural deposits; leaching
					90th Percentile	ND	ND	0	ND	NA	1.2	
Lead	ppb	AL = 15	0.2	5	90th Percentile	ND	ND	0	ND	NA	1.2	House pipes internal corrosion; erosion of natural deposits; leaching
					Range	ND	NA	ND	ND	ND	ND - Present	
Total Coliforms	%	5.0	(0)	NA	Average	ND	NA	ND	ND	ND	ND	Naturally present in the environment
					Range	4 - 7	ND - 4	NA	ND	NR	NA	
Gross Alpha	pCi/L	15	(0)	3	Average	5	ND	2.1	ND	NR	NA	Erosion of natural deposits
					Range	4 - 6	ND - 5	NA	ND	NR	NA	
Gross Beta	pCi/L	20	0.43	4	Average	5	ND	NA	ND	NR	NA	Decay of natural and man - made deposits
					Range	ND	ND	NR	ND	NR	NR	
Radium-226	pCi/L	NA	0.05	1	Average	ND	ND	NR	ND	NR	NR	Erosion of natural deposits
					Range	ND	ND	NR	ND	NR	NR	
Radium-228	pCi/L	NA	0.019	1	Average	ND	ND	NR	ND	NR	NR	Erosion of natural deposits
					Range	ND	ND	NR	ND	NR	NR	
Combined Radium-226 + 228	pCi/L	5	(0)	NA	Average	ND	ND	NR	0.1804-0.7080	NR	NR	Erosion of natural deposits
					Range	ND	ND	NR	ND	NR	NR	
Strontium-90	pCi/L	8	0.35	2	Average	ND	ND	NR	ND	NR	NR	Decay of natural and man - made deposits
					Range	0.04 - 0.17	ND	NR	NA	NR	NA	
Chromium, Hex	ppb	NA	0.02	1	Average	0.09	ND	NR	NA	NR	NA	By-product of industrial process
					Range	0.04 - 0.17	ND	NR	NA	NR	NA	

MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants**(Units are in milligrams per liter (mg/L), unless otherwise noted.)****Last Update: December 26, 2018**

This table includes:

California's maximum contaminant levels (MCLs)

Detection limits for purposes of reporting (DLRs)

[Public health goals \(PHGs\) from the Office of Environmental Health Hazard Assessment \(OEHHA\)](#)

Also, the PHG for NDMA (which is not yet regulated) is included at the bottom of this table.

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
<i>Chemicals with MCLs in 22 CCR §64431—Inorganic Chemicals</i>				
Aluminum	1	0.05	0.6	2001
Antimony	0.006	0.006	0.001	2016
Arsenic	0.010	0.002	0.000004	2004
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003
Barium	1	0.1	2	2003
Beryllium	0.004	0.001	0.001	2003
Cadmium	0.005	0.001	0.00004	2006
Chromium, Total - OEHHA withdrew the 0.0025-mg/L PHG	0.05	0.01	withdrawn Nov. 2001	1999
Chromium, Hexavalent - 0.01-mg/L MCL & 0.001-mg/L DLR repealed September 2017	--	--	0.00002	2011
Cyanide	0.15	0.1	0.15	1997
Fluoride	2	0.1	1	1997
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*
Nickel	0.1	0.01	0.012	2001
Nitrate (as nitrogen, N)	10 as N	0.4	45 as NO ₃ (=10 as N)	2018
Nitrite (as N)	1 as N	0.4	1 as N	2018
Nitrate + Nitrite (as N)	10 as N	--	10 as N	2018
Perchlorate	0.006	0.004	0.001	2015
Selenium	0.05	0.005	0.03	2010
Thallium	0.002	0.001	0.0001	1999 (rev2004)
<i>Copper and Lead, 22 CCR §64672.3</i>				
<i>Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule</i>				
Copper	1.3	0.05	0.3	2008

Reference No. 4 (Continued)

ATTACHMENT NO. 1

2019 PHG Triennial Report: Calendar Years 2016-2017-2018

Lead	0.015	0.005	0.0002	2009
Radionuclides with MCLs in 22 CCR §64441 and §64443—Radioactivity				
[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]				
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical	15	3	none	n/a
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical	4 mrem/yr	4	none	n/a
Radium-226	--	1	0.05	2006
Radium-228	--	1	0.019	2006
Radium-226 + Radium-228	5	--	--	--
Strontium-90	8	2	0.35	2006
Tritium	20,000	1,000	400	2006
Uranium	20	1	0.43	2001
Chemicals with MCLs in 22 CCR §64444—Organic Chemicals				
(a) Volatile Organic Chemicals (VOCs)				
Benzene	0.001	0.0005	0.00015	2001
Carbon tetrachloride	0.0005	0.0005	0.0001	2000
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999
cis-1,2-Dichloroethylene	0.006	0.0005	0.013	2018
trans-1,2-Dichloroethylene	0.01	0.0005	0.05	2018
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000
1,2-Dichloropropane	0.005	0.0005	0.0005	1999
1,3-Dichloropropene	0.0005	0.0005	0.0002	1999 (rev2006)
Ethylbenzene	0.3	0.0005	0.3	1997
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999
Monochlorobenzene	0.07	0.0005	0.07	2014
Styrene	0.1	0.0005	0.0005	2010
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001
Toluene	0.15	0.0005	0.15	1999
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.0005	1	2006
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009
Trichlorofluoromethane (Freon 11)	0.15	0.005	1.3	2014

Reference No. 4 (Continued)

ATTACHMENT NO. 1

2019 PHG Triennial Report: Calendar Years 2016-2017-2018

1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997 (rev2011)
Vinyl chloride	0.0005	0.0005	0.00005	2000
Xylenes	1.75	0.0005	1.8	1997
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)				
Alachlor	0.002	0.001	0.004	1997
Atrazine	0.001	0.0005	0.00015	1999
Bentazon	0.018	0.002	0.2	1999 (rev2009)
Benzo(a)pyrene	0.0002	0.0001	0.000007	2010
Carbofuran	0.018	0.005	0.0007	2016
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)
Dalapon	0.2	0.01	0.79	1997 (rev2009)
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	0.0000017	1999
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009
Di(2-ethylhexyl)adipate	0.4	0.005	0.2	2003
Di(2-ethylhexyl)phthalate (DEHP)	0.004	0.003	0.012	1997
Dinoseb	0.007	0.002	0.014	1997 (rev2010)
Diquat	0.02	0.004	0.006	2016
Endothal	0.1	0.045	0.094	2014
Endrin	0.002	0.0001	0.0003	2016
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003
Glyphosate	0.7	0.025	0.9	2007
Heptachlor	0.00001	0.00001	0.000008	1999
Heptachlor epoxide	0.00001	0.00001	0.000006	1999
Hexachlorobenzene	0.001	0.0005	0.00003	2003
Hexachlorocyclopentadiene	0.05	0.001	0.002	2014
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)
Methoxychlor	0.03	0.01	0.00009	2010
Molinate	0.02	0.002	0.001	2008
Oxamyl	0.05	0.02	0.026	2009
Pentachlorophenol	0.001	0.0002	0.0003	2009
Picloram	0.5	0.001	0.166	2016
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007
Simazine	0.004	0.001	0.004	2001
Thiobencarb	0.07	0.001	0.042	2016
Toxaphene	0.003	0.001	0.00003	2003
1,2,3-Trichloropropane	0.000005	0.000005	0.0000007	2009
2,3,7,8-TCDD (dioxin)	3x10 ⁻⁸	5x10 ⁻⁹	5x10 ⁻¹¹	2010
2,4,5-TP (Silvex)	0.05	0.001	0.003	2014
Chemicals with MCLs in 22 CCR §64533—Disinfection Byproducts				
Total Trihalomethanes	0.080	--	--	--
Bromodichloromethane	--	0.0010	0.00006	2018 draft

Reference No.4 (Continued)

ATTACHMENT NO. 1

2019 PHG Triennial Report: Calendar Years 2016-2017-2018

Bromoform	--	0.0010	0.0005	2018 draft
Chloroform	--	0.0010	0.0004	2018 draft
Dibromochloromethane	--	0.0010	0.0001	2018 draft
Haloacetic Acids (five) (HAA5)	0.060	--	--	--
Monochloroacetic Acid	--	0.0020	--	--
Dichloroacetic Acid	--	0.0010	--	--
Trichloroacetic Acid	--	0.0010	--	--
Monobromoacetic Acid	--	0.0010	--	--
Dibromoacetic Acid	--	0.0010	--	--
Bromate	0.010	0.0050**	0.0001	2009
Chlorite	1.0	0.020	0.05	2009
<i>Chemicals with PHGs established in response to DDW requests. These are not currently regulated drinking water contaminants.</i>				
N-Nitrosodimethylamine (NDMA)	--	--	0.000003	2006
*OEHHA's review of this chemical during the year indicated (rev20XX) resulted in no change in the PHG.				
**The DLR for Bromate is 0.0010 mg/L for analysis performed using EPA Method 317.0 Revision 2.0, 321.8, or 326.0.				

Table 2
Reference: Other Agencies

COST ESTIMATES FOR TREATMENT TECHNOLOGIES
(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	Estimated 2012 Unit Cost Indexed to 2018* (\$/1,000 gallons treated)
1	Reduction - Coagulation-Filtration	Reference: February 28, 2013, Final Report Chromium Removal Research, City of Glendale, CA. 100-2000 gpm. Reduce Hexavalent Chromium to 1 ppb.	1.74 - 10.97
2	IX - Weak Base Anion Resin	Reference: February 28, 2013, Final Report Chromium Removal Research, City of Glendale, CA. 100-2000 gpm. Reduce Hexavalent Chromium to 1 ppb.	1.79 - 7.47
3	IX	Golden State Water Co., IX w/disposable resin, 1 MGD, Perchlorate removal, built in 2010.	0.55
4	IX	Golden State Water Co., IX w/disposable resin, 1000 gpm, perchlorate removal (Proposed; O&M estimated).	1.19
5	IX	Golden State Water Co., IX with brine regeneration, 500 gpm for Selenium removal, built in 2007.	7.81
6	GFO/Adsorption	Golden State Water Co., Granular Ferric Oxide Resin, Arsenic removal, 600 gpm, 2 facilities, built in 2006.	2.04 - 2.18
7	RO	Reference: Inland Empire Utilities Agency : Chino Basin Desalter. RO cost to reduce 800 ppm TDS, 150 ppm Nitrate (as NO ₃); approx. 7 mgd.	2.67
8	IX	Reference: Inland Empire Utilities Agency : Chino Basin Desalter. IX cost to reduce 150 ppm Nitrate (as NO ₃); approx. 2.6 mgd.	1.49

9	Packed Tower Aeration	Reference: Inland Empire Utilities Agency : Chino Basin Desalter. PTA-VOC air stripping, typical treated flow of approx. 1.6 mgd.	0.45
10	IX	Reference: West Valley WD Report, for Water Recycling Funding Program, for 2.88 mgd treatment facility. IX to remove Perchlorate, Perchlorate levels 6-10 ppb. 2008 costs.	0.62 - 0.88
11	Coagulation Filtration	Reference: West Valley WD, includes capital, O&M costs for 2.88 mgd treatment facility- Layne Christensen packaged coagulation Arsenic removal system. 2009-2012 costs.	0.41
12	FBR	Reference: West Valley WD/Envirogen design data for the O&M + actual capitol costs, 2.88 mgd fluidized bed reactor (FBR) treatment system, Perchlorate and Nitrate removal, followed by multimedia filtration & chlorination, 2012. NOTE: The capitol cost for the treatment facility for the first 2,000 gpm is \$23 million annualized over 20 years with ability to expand to 4,000 gpm with minimal costs in the future. \$17 million funded through state and federal grants with the remainder funded by WVWD and the City of Rialto.	1.84 - 1.94

*Costs were adjusted from date of original estimates to present, where appropriate, using the Engineering News Record (ENR) annual average building costs of 2018 and 2012. The adjustment factor was derived from the ratio of 2018 Index/2012 Index, or 1.188.

For the indexed 2015 costs, please refer to the ACWA PHG Guidance published in March 2016.

ATTACHMENT NO. 3

Table 3

Reference: Updated 2012 ACWA Cost of Treatment Table

COST ESTIMATES FOR TREATMENT TECHNOLOGIES

(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	Estimated 2012 Unit Cost Indexed to 2018* (\$/1,000 gallons treated)
1	Granular Activated Carbon	Reference: Malcolm Pirnie estimate for California Urban Water Agencies, large surface water treatment plants treating water from the State Water Project to meet Stage 2 D/DBP and bromate regulation, 1998	0.63 - 1.19
2	Granular Activated Carbon	Reference: Carollo Engineers, estimate for VOC treatment (PCE), 95% removal of PCE, Oct. 1994, 1900 gpm design capacity	0.29
3	Granular Activated Carbon	Reference: Carollo Engineers, est. for a large No. Calif. surf. water treatment plant (90 mgd capacity) treating water from the State Water Project, to reduce THM precursors, ENR construction cost index = 6262 (San Francisco area) - 1992	1.38
4	Granular Activated Carbon	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility for VOC and SOC removal by GAC, 1990	0.54 - 0.78
5	Granular Activated Carbon	Reference: Southern California Water Co. - actual data for "rented" GAC to remove VOCs (1,1-DCE), 1.5 mgd capacity facility, 1998	2.47
6	Granular Activated Carbon	Reference: Southern California Water Co. - actual data for permanent GAC to remove VOCs (TCE), 2.16 mgd plant capacity, 1998	1.60
7	Reverse Osmosis	Reference: Malcolm Pirnie estimate for California Urban Water Agencies, large surface water treatment plants treating water from the State Water Project to meet Stage 2 D/DBP and bromate regulation, 1998	1.85 - 3.55
8	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 1.0 mgd plant operated at 40% of design flow, high brine line cost, May 1991	4.38
9	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 1.0 mgd plant operated at 100% of design flow, high brine line cost, May 1991	2.70
10	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 10.0 mgd plant operated at 40% of design flow, high brine line cost, May 1991	2.92

No.	Treatment Technology	Source of Information	Estimated 2012 Unit Cost Indexed to 2018* (\$/1,000 gallons treated)
11	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 10.0 mgd plant operated at 100% of design flow, high brine line cost, May 1991	2.26
12	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 1.0 mgd plant operated at 40% of design capacity, Oct. 1991	7.33
13	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 1.0 mgd plant operated at 100% of design capacity, Oct. 1991	4.33
14	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 10.0 mgd plant operated at 40% of design capacity, Oct. 1991	3.24
15	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 10.0 mgd plant operated at 100% of design capacity, Oct. 1991	2.01
16	Reverse Osmosis	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility with RO to remove nitrate, 1990	2.02 - 3.55
17	Packed Tower Aeration	Reference: Analysis of Costs for Radon Removal... (AWWARF publication), Kennedy/Jenks, for a 1.4 mgd facility operating at 40% of design capacity, Oct. 1991	1.16
18	Packed Tower Aeration	Reference: Analysis of Costs for Radon Removal... (AWWARF publication), Kennedy/Jenks, for a 14.0 mgd facility operating at 40% of design capacity, Oct. 1991	0.62
19	Packed Tower Aeration	Reference: Carollo Engineers, estimate for VOC treatment (PCE) by packed tower aeration, without off-gas treatment, O&M costs based on operation during 329 days/year at 10% downtime, 16 hr/day air stripping operation, 1900 gpm design capacity, Oct. 1994	0.31
20	Packed Tower Aeration	Reference: Carollo Engineers, for PCE treatment by Ecolo-Flo Enviro-Tower air stripping, without off-gas treatment, O&M costs based on operation during 329 days/year at 10% downtime, 16 hr/day air stripping operation, 1900 gpm design capacity, Oct. 1994	0.32
21	Packed Tower Aeration	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility - packed tower aeration for VOC and radon removal, 1990	0.50 - 0.82

No.	Treatment Technology	Source of Information	Estimated 2012 Unit Cost Indexed to 2018* (\$/1,000 gallons treated)
22	Advanced Oxidation Processes	Reference: Carollo Engineers, estimate for VOC treatment (PCE) by UV Light, Ozone, Hydrogen Peroxide, O&M costs based on operation during 329 days/year at 10% downtime, 24 hr/day AOP operation, 1900 gpm capacity, Oct. 1994	0.61
23	Ozonation	Reference: Malcolm Pirnie estimate for CUWA, large surface water treatment plants using ozone to treat water from the State Water Project to meet Stage 2 D/DBP and bromate regulation, <i>Cryptosporidium</i> inactivation requirements, 1998	0.14 - 0.29
24	Ion Exchange	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility - ion exchange to remove nitrate, 1990	0.67 - 0.88

*Costs were adjusted from date of original estimates to present, where appropriate, using the Engineering News Record (ENR) annual average building costs of 2018 and 2012. The adjustment factor was derived from the ratio of 2018 Index/2012 Index, or 1.188. For the indexed 2015 costs, please refer to the ACWA PHG Guidance published in March 2016.

DATE: AUGUST 7, 2019
TO: BOARD OF DIRECTORS
SUBJECT: CALL FOR BALLOTS – SAN DIEGO COUNTY CONSOLIDATED REDEVELOPMENT OVERSIGHT BOARD

BACKGROUND:

The San Diego County Local Agency Formation Committee calls for ballots pursuant to California Government Code 56332(f) with respect to electing one special district representative among the three nominated candidates to serve on the San Diego County Consolidated Redevelopment Oversight Board. All independent special districts in San Diego County are eligible to cast one vote through their presiding officers or their alternates as deigned by the governing bodies.

DISCUSSION:

Ballots must be signed by the presiding officers or their designees and returned to San Diego LAFCO no later than Friday, August 30, 2019. A ballot without a signature will not be counted. Should LAFCO receive a quorum of 30 ballots by the August 30th deadline, the nominee with the most votes will be appointed. Should LAFCO not receive a quorum of ballots by the deadline, an automatic 60-day extension to October 30th is required.

LAFCO received three nominations for the special district representative position. The three nominees are: William R. (Bob) Ayres (Grossmont Healthcare District); Mark Baker (Lakeside Fire Protection District); and, Mitch Thompson (Otay Water District). The Special Districts Advisory Committee formed a Nominating Committee to review all three candidates' qualifications and consider making a recommendation as part of the balloting process. The Nominating Committee believes all three candidates are equally qualified and as such, recommends each independent special district cast their ballot as they see fit.

FISCAL IMPACT:

None.

RECOMMENDATION:

Request Board direction.



San Diego County
Local Agency Formation Commission
 Regional Service Planning | Subdivision of the State of California

CALL FOR BALLOTS

July 5, 2019

TO: Independent Special Districts of San Diego County

FROM: Tamaron Lockett, Executive Assistant
 San Diego County Local Agency Formation Commission

SUBJECT: Call for Ballots |
 San Diego County Consolidated Redevelopment Oversight Board

This notice serves as a call for ballots pursuant to California Government Code 56332(f) with respect to electing one special district representative among the three nominated candidates to serve on the San Diego County Consolidated Redevelopment Oversight Board. All independent special districts in San Diego County are eligible to cast one vote through their presiding officers or their alternates as designed by the governing bodies.

The official ballot is attached. Ballots must be signed by the presiding officers or their designees and returned to San Diego LAFCO no later than **Friday, August 30, 2019**. A ballot received without a signature will not be counted. Should LAFCO receive a quorum of 30 ballots by the August 30th deadline the nominee with the most votes will be appointed. Should LAFCO not receive a quorum of ballots by the deadline an automatic 60-day extension to October 30th is required.

Last, and consistent with adopted policy, the Special Districts Advisory Committee formed a Nominating Committee to review all three candidates' qualifications and consider making a recommendation as part of the balloting process. The Nominating Committee believes all three candidates are equally qualified, and as such recommends each independent special district cast their ballot as they see fit.

Ballots and/or any related questions should be directed by e-mail to Tammy Lockett at tamaron.lockett@sdcounty.ca.gov.

Attachment: as stated

Administration Keene Simonds, Executive Officer County Operations Center 9335 Hazard Way, Suite 200 San Diego, California 92123 T 858.614.7755 F 858.614.7766 www.sdlafco.org	Jim Desmond County of San Diego	Mary Casillas Salas City of Chula Vista	Mark Kersey City of San Diego	Jo MacKenzie, Chair Vista Irrigation	Andy Vanderlaan General Public
	Dianne Jacob, Vice Chair County of San Diego	Bill Wells City of El Cajon	Chris Cate, Alternate City of San Diego	Barry Willis Alpine Fire Protection	Harry Mathis, Alternate General Public
	Greg Cox, Alternate County of San Diego	Serge Dedina, Alternate City of Imperial Beach	Erin Lump, Alternate Rincon del Diablo MWD		

ATTACHMENT A

SAN DIEGO COUNTY CONSOLIDATED REDEVELOPMENT OVERSIGHT BOARD
ELECTION BALLOT and VOTE CERTIFICATION

VOTE FOR ONLY ONE NOMINEE

- William R. (Bob) Ayres** (Grossmont Healthcare District) []
Mark Baker (Lakeside Fire Protection District) []
Mitch Thompson (Otay Water District) []

I hereby certify that I cast the votes of the _____
(Name of District)

for the Consolidated Redevelopment Oversight Board Election as:

- [] the presiding officer, or
[] the duly-appointed alternate board member.

(Signature)

(Print name)

(Title)

(Date)

NOTE: The Nominating Committee believes all three candidates are equally qualified and recommends each special district proceed with voting as they see fit. Additionally, a candidate's forum is tentatively scheduled for August 15, 2019 as part of the quarterly meeting of the San Diego Chapter of the California Association of Special Districts (SDCSDA). Separate confirmation of the candidate's forum will be provided by SDCSDA.

Return Ballot and Vote Certification Form to:
San Diego LAFCO
Tamaron Lockett
9335 Hazard Way, Suite 200
San Diego, CA 92123
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Ahead of the Curve

64th Annual Conference
August 21-23, 2019 Manchester Grand Hyatt San Diego

www.CASAWeb.org



Preliminary Program – Subject to Change

Wednesday, August 21

7:30 a.m. – 12:00 p.m. CSRMA Training Seminar (Separate Registration Required)
Location: Regatta ABC

9:00 a.m. – 5:00 p.m. Registration
Location: Coronado Foyer

10:30 a.m. – 12:00 p.m. CASA Board of Directors Meeting
Location: America’s Cup AB

12:00 p.m. – 1:30 p.m. Associates Committee Meeting
Location: America’s Cup CD

12:00 p.m. – 1:30 p.m. Lunch on Your Own

1:30 p.m. – 4:00 p.m. **Concurrent Sessions**

1:30 – 2:30 p.m. **Track 1A:** Lessons from the Trenches: General Manager Roundtable on Leadership Success
Location: Coronado A

- Jason Warner, General Manager, Oro Loma Sanitary District
- Steve Wagner, General Manager, Goleta Sanitary District
- Cari Dale, Water Utilities Director, City of Oceanside
- Eileen White, Director of Wastewater, East Bay Municipal Utility District

2:30 p.m. – 3:00 p.m. **Break**

3:00 – 4:00 p.m. **Track 1B:** Regulatory Hot Topics and Deep Dives

1:30 – 4:00 p.m. **Track 2:** AB 1234 Ethics Training for Public Officials
Location: Coronado B

- Brad Hogin, Woodruff, Spradlin & Smart
- Carl Nelson, Bold, Polisner, Maddow, Nelson & Judson
- John Bakker, Meyers Nave

4:15 p.m. – 5:15 p.m. Federal Legislative Committee Meeting
Location: America’s Cup CD

4:15 p.m. – 5:30 p.m. CSRMA Executive Board Meeting
Location: Regatta A

5:30 p.m. – 6:30 p.m.	Ice Breaker Reception Location: Coronado Foyer & Terrace
Thursday, August 22	
7:30 a.m. – 9:00 a.m.	Breakfast Location: Coronado Foyer & Terrace
7:30 a.m. – 4:30 p.m.	Registration Location: Coronado Foyer
7:45 a.m. – 9:15 a.m.	Communications Committee Meeting Location: America's Cup AB
8:00 a.m. – 9:00 a.m.	CASA Education Foundation Board Meeting Location: Cove
8:00 a.m. – 9:00 a.m.	CSRMA Board of Directors Meeting Location: Regatta ABC
9:15 a.m. – 4:00 p.m.	Communication Lab – Media Training (Sign up Required) Location: America's Cup C&D
9:15 a.m. – 11:45 a.m.	Morning Sessions & Business Meeting Location: Coronado ABC
9:15 – 10:15 a.m.	Keynote Address: Rob Wolff , Building a High Performing Culture
10:15 – 11:30 a.m.	Creating New Water: Identifying and Developing Unique Opportunities Lisa Haney, RWG Water Chair, Moderator <ul style="list-style-type: none"> • Terrie Mitchell, Regional San, Regional San South County Ag Project • Lan Wiborg, Orange County Sanitation District • Ed Othmer, Stantec, POTWs Accepting Stormwater
11:30 – 11:45 a.m.	Annual Business Meeting
12:00 p.m. – 1:30 p.m.	Luncheon Location: Grand A <ul style="list-style-type: none"> • 2019 Awards of Excellence Presentation • CASA Education Foundation 2019 Scholarship Recipients
2:00 p.m. – 4:00 p.m.	Afternoon Sessions Location: Coronado ABC
2:00 – 2:45 p.m.	Crisis Communications <ul style="list-style-type: none"> • Stephanie York, Hennes Communications
2:45 – 3:15 p.m.	Surprising Impacts of Climate Change on Your Bottom Line <ul style="list-style-type: none"> • Paul Fuller, Allied Public Risk
3:15 p.m. – 4:00 p.m.	Policy & Pints – Stone Brewery <ul style="list-style-type: none"> • Scott McClelland, Assistant General Manager, Encina Wastewater Authority • Charlie Arnold, Stone Brewery • John Helminski, Assistant Director, San Diego Public Utilities Department

4:30 p.m. – 5:30 p.m. Bay Area Biosolids Coalition Meeting
Location: Regatta ABC

5:30 p.m. – 6:30 p.m. Associates Reception
Location: Coronado Foyer & Terrace

Friday, August 23

8:00 a.m. – 11:00 a.m. Registration
Location: Coronado Foyer

8:00 a.m. – 9:30 a.m. Continental Breakfast
Location: Coronado Foyer & Terrace

8:00 a.m. – 9:00 a.m. State Legislative Committee Meeting
Location: Coronado DE

9:00 a.m. – 11:00 a.m. **Closing Session**
Location: Coronado ABC

Closing Speaker – Joaquin Esquivel, State Water Resources Control Board

Jared Blumenfeld, CalEPA (*Invited*)

Federal and State Legislative Updates

2019-2020 Board of Director Elections Results

Passing of the Gavel

President's Closing Remarks

11:00 a.m. – 3:00 p.m. Attorneys Committee Meeting
Location: Coronado DE